TOBIN

Tincurry 110kV Substation Amendment

Planning and Environmental Considerations Report (PECR)

BUILT ON KNOWLEDGE

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1. INTRODUCTION

1.1 PROJECT BACKGROUND

TOBIN has been appointed by Lodgewood Solar Farm Ltd., to prepare this Planning and Environmental Considerations Report (PECR) and a Natura Impact Statement (NIS) to assess the environmental considerations of proposed modifications to the consented Tincurry 110kV Substation and associated Grid Connection (hereafter referred to as the 'proposed project'), located in the townlands of Tincurry, Crory, Ballylough and Lodgewood, which lies approximately 2.4km southwest of Ferns, County Wexford. The existing ESB Lodgewood 220kV Substation and the Crory 110kV Substation are located to the immediate west of the consented Tincurry 110kV substation.

The proposed project comprises amendments to the consented Tincurry 110kV Substation which facilitates the transfer of electrical power generated by the Tincurry and Ballylough Solar Farms (collectively referred to as Lodgewood Solar Farm) via an Under-the-Fence (UTF) Grid Connection to the existing ESB Lodgewood 220kV Substation. The Grid Connection will also serve a Battery Energy Storage System (BESS), located adjacent to the Tincurry 110kV Substation which was subject to a separate planning application, (Wexford County Council Planning Ref: 20241593), and which was permitted in May 2025.

The site comprises 1No. land parcel and associated Grid Connection Route (GCR) and grid enabling works in ESB Lodgewood 220kV substation, with an approximate total area of 4.75 ha (Figure 1-1).

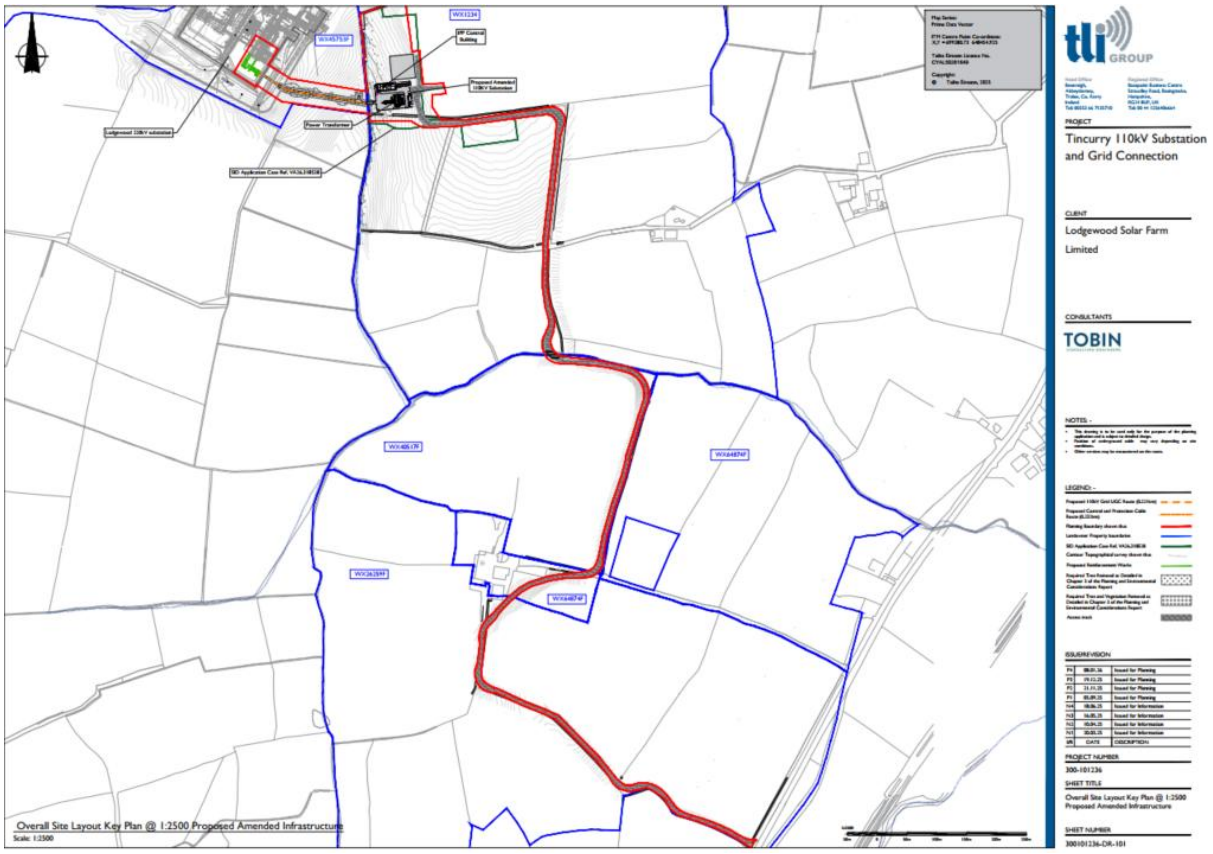


Figure 1--1- Access Track, Substation and Grid Connection Layout (See planning drawing 300101236-DR-101)

The purpose of this PECR is to present the environmental considerations of the proposed project, as researched from the best scientific, geographic, and engineering knowledge. This PECR will accompany the amendment application to An Coimisiún Pleanála for the Tincurry 110kV substation and associated grid works.

An Appropriate Assessment (AA) Screening Report and Natura Impact Statement (NIS) will support this PECR and planning application. An Environmental Impact Assessment (EIA) Screening Report has been prepared on the proposed project and is presented as Appendix A (EIA Screening Report).

1.2 The Applicant

Lodgewood Solar Farm Limited is a wholly-owned subsidiary of Ørsted, a renewable energy company headquartered in Denmark with its Irish division based in Cork. Ørsted develops, builds, operates, and owns offshore wind farms across Europe, and in North America and Asia (Figure 1-2). In recent years, it expanded into onshore wind, solar power and energy storage.

Ørsted already owns and operates a 378MW portfolio of onshore wind farms in local communities across the island of Ireland. The organisation's expansion into Solar developments mark its commitment to helping the Irish Government achieve its target of generating 8GW of renewable energy by 2030.

In 2024, Ørsted began construction on its first solar farm in Ireland – Garreenleen Solar Farm, in Co. Carlow and this 81MW first phase will pave the way for future investments to help Ireland hit carbon targets and become more energy secure and independent.



Figure 1-2 Ørsted's Altenschwand Solar Park in Germany

1.3 PLANNING CONTEXT

Project Ireland 2040 is the Government's high-level strategic plan for Ireland's development through to the year 2040. It acknowledges that new energy systems and transmission grids will be necessary for a more distributed, more renewables-focused energy generating system, from energy sources such as solar.

As part of Project Ireland 2040, the National Development Plan acknowledges that Ireland's energy system requires a radical overhaul to achieve its energy and climate objectives by 2050. This means how energy in Ireland is generated, and how it is used, needs to fundamentally change. Investment in renewable energy sources, ongoing capacity renewal, and future technology affords Ireland the opportunity to comprehensively decarbonise our energy generation. Renewable energy, including solar technology, will play a key role in helping to diversify away from a reliance on fossil fuels.

The Irish Government published the Climate Action Plan 2025 (CAP25). CAP25 builds upon the previous Climate Action Plan 2024 (CAP24) by refining and updating the measures and actions required to deliver the carbon budgets and sectoral emissions ceilings. Increasing solar capacity is driven by the CAPs target to generate 80% of electricity from wind and solar power by 2030.

As well as national plans, the proposed project will further the goals for sustainable energy and climate action as laid out in the Wexford Country Development Plan (2022-2028).

Further detail on planning and policy context, including County Development Plans is presented in Chapter 2 of this PECR.

1.4 NEED FOR AMENDMENT

As outlined in Section 1.1 of this PECR, the consented Tincurry 110kV Substation is associated with the Tincurry and Ballylough Solar Farms. Both solar farms were subject to separate planning applications to Wexford County Council (Respective Planning ref: 20221309 and 20231025) with both obtaining grants of permission in February and November 2023 respectively.

The consented Tincurry 110kV Substation, which will serve both solar farms, was a Strategic Infrastructure Development (SID) application to An Bord Pleanála (now An Coimisiún Pleanála) (ABP ref: No. 318528). Planning amendments to SID projects therefore must pursue the route provided for under Section 146B of the Planning and Development Act 2000.

The rationale for the amendment is due mainly to changes in the connection methodology in the final grid connection offer from EirGrid plc which was received after the original planning application was granted by ABP. The grid offer was for an Under-the-Fence connection as opposed to the originally envisaged Tail-Fed connection. As a result, the infrastructure required at the Tincurry 110kV Substation has changed.

The consented development included Phase 1 of the Grid Connection Route (GCR) which terminated at the property fence of the EirGrid compound in the Tincurry 110kV substation (see figure 1-4). The developer was unable to engage with the grid operators on the proposed grid route until a grid offer was received and a grid agreement was entered into, which meant phase 2 of the GCR could not be included in the original application. The Grid Offer was received in January 2025 and the grid agreement was signed on 31st March 2025. Phase 2 of the GCR, which is fully assessed in this amendment, comprises circa. 221m of 110kV cable running from the Tincurry 110kV substation compound to the new proposed bay at the ESB Lodgewood 220kV Substation (see Figure 1-3). The busbar extension and proposed new bay at the ESB Lodgewood 220kV substation are also included in this amendment application as EirGrid requested Lodgewood Solar Farm Ltd. to obtain planning consent for these elements as part of the grid offer.

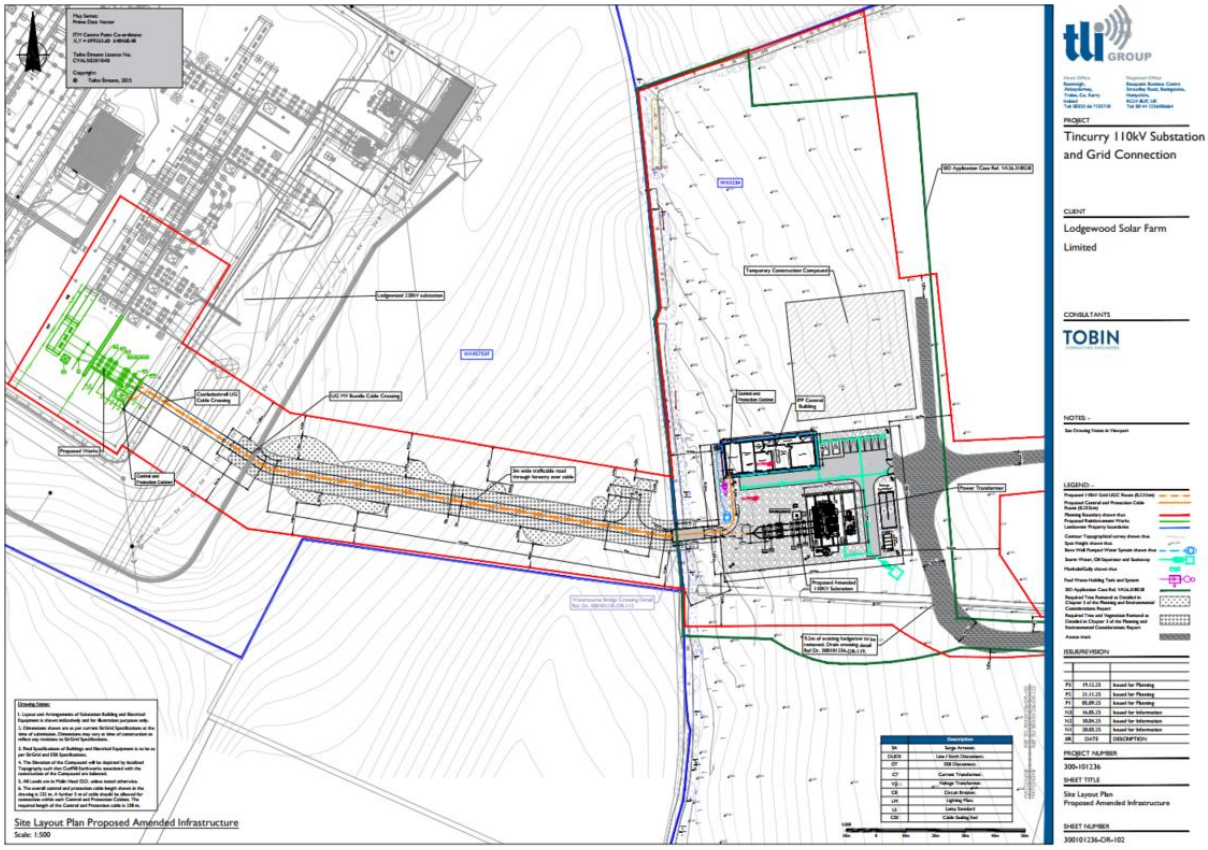


Figure 1-3 Site Layout Plan (see planning drawing 300101236-DR-102)

1.5 PROJECT DESCRIPTION

The proposed project comprises a modification of the permitted Tincurry 110kV Substation and associated Grid Connection to the existing ESB Lodgewood 220kV Substation. The proposed project substation and grid connection layout is outlined in Figure 1-3. This section provides both a summary of the original permitted development and a detailed account of the proposed amendments to the Tincurry 110kV Substation. Table 1-1 presents a comparison of the key infrastructure which comprises the proposed project.

1.5.1 Original Project Description

The permitted Tincurry Substation comprises the following;

> *a 110kV AIS Single Bay Tail-Fed electricity substation (with 33kV customer compound) (including two control buildings, 33kV/110kV transformer and associated structures and apparatus, lightning protection, perimeter security fencing, security lighting, telecoms pole, water and drainage infrastructure, temporary construction compound) to connect to and serve solar farm developments; associated grid connection between the proposed substation and the existing Lodgewood 220/110kV substation comprising 110kV underground electricity cables of c.10 metres in length to be provided in an excavated trench including associated fibre cable and ducting, and all associated site development and reinstatement works; Temporary construction and operational access from the R772, vehicular entrance and access track (including 1 no. drain deck crossing) from this public road; all ancillary site development, landscaping and earth works.*

An underground 110kV grid connection cable was proposed to connect the 110kV substation into the existing ESB Lodgewood 220kV substation. The cable route was calculated at approximately 273m in length in total. The first phase of this cable route being 10m and located within the property fence of the EirGrid side of the substation. The second phase measured 263m and was between the property fence of the substation and a proposed cable bay within the existing ESB Lodgewood 220kV substation. Consent for only Phase 1 of the GCR was sought as part of the original application as the second phase of the GCR could not be finalised at the time because a grid offer had not yet been received.

The permitted development also comprised High Voltage (HV) electrical equipment including a 110/33kV Transformer (TRAFO) with associated equipment along with the following components:

- Cable Sealing End (CSE),
- Surge Arrestor (SA),
- Earth Disconnect (DL/DE, DT/DEM),
- Current Transformer (CT),
- Voltage Transformer (VT),
- House Transformer (HoT),
- Circuit Breaker (CB),
- Lightning Masts (LM),
- Diesel Generator,
- Harmonic filters if required by EirGrid,
- Capacitor Bank if required by EirGrid,
- Fire/Blast Wall,
- Telecoms Pole,
- 110kV underground cable,
- Palisade fencing,
- Concrete post and rail fencing,
- Temporary construction and operational access from the R772,
- Vehicular entrance and access track (including 1 no. drain deck crossing), and
- All associated site development and reinstatement works.

The permitted substation compound had a total area of 8,325m^2 and can be seen in Figure 1-4.



Figure 1-4 Consented Tincurry Substation Site Layout Plan (taken from previous application; drawing TNCY-DR-002)

1.5.2 Proposed Project

While much of the electrical infrastructure outlined above remains part of the proposed project the amended proposal differs from the previously permitted Tincurry 110kV Substation in its updated substation configuration (Under-the-Fence as opposed to Tail-Fed), electrical infrastructure layout and configuration, as well as the connection route to the ESB Lodgewood 220kV Substation. Access roads, drainage details and other associated civil aspects have also been altered. This has required an amendment to the original red line boundary.

The extension of the GCR from the Tincurry 110kV substation compound to the new bay within the ESB Lodgewood 220kV substation was referenced in the original SID application but was not fully assessed as part of the application. The proposed grid connection cable will cross the Lodgewood Stream into the ESB Networks owned lands and will be ducted through the proposed clear span bridge crossing the stream. The GCR continues west passing through a combination of forest and greenfield lands before entering the existing ESB Lodgewood 220kV substation. A corridor, free of trees and roots, will be created for the installation of the cable. A total of 39 individual trees will need to be removed for the GCR including two mature Oaks and one mature beach. The remaining trees comprise early-mature mixed woodland species some of which are windthrown and collapsed. No portion of the underground grid connection cable is located within the public road network (see Figure 1-3). Compensatory planting will be carried out to the north of the proposed substation compound, and this will have a net gain in woodland area.

An amendment to the permitted substation compound site entrance is required as a result of the reconfiguration of the substation layout. The compound entrance will be moved to the eastern side of the proposed amended substation compound to maintain a 10m buffer from the Lodgewood stream. Amendments to the access tracks within the site compound are also proposed in addition to the inclusion of 6No. parking bays and 2No. dedicated disabled parking bays. The proposed site access route has been subject to detailed auto track analysis and has been designed to accommodate the abnormal load (transformer) delivery. Minor adjustments are proposed to the consented site access track to facilitate vehicle overrun during deliveries. Road sightlines remain unchanged from the permitted project at the public road site entrance so do not require amendments. A total of 9.2 m of hedgerow will be removed to the south of the substation where the proposed access track crosses a field boundary at a new location. An additional approximate 4.8 m of hedgerow will be lost due to the altered access track alignment elsewhere. There will be a reduction of approximately 6.8 m of hedgerow loss to the south of the proposed substation, due to the alteration of the access track alignment. This will result in a 7.2 m net loss of hedgerow as a result of this planning amendment application. Approximately 58 m of field boundary/earth bank will be lost due to the access track also.

The temporary construction compound location has changed from the original permitted development as a result of the amendments to the substation, however key components remain the same.

Surface and Foul Water details remain however the locations within the compound differ from that of the permitted development. So too does the potable water detail which will still be provided by means of an on-site bored well.

In summary the amended proposed project now comprises:

- A 110kV substation compound consisting of an Independent Power Producer (IPP) Control Room and operations building (of concrete block structure with slate roof),
- High Voltage (HV) electrical equipment,
- a 110kV grid connection to the ESB Lodgewood 220kV substation, ESB interface kiosk, Busbar extension and new bay in the ESB Lodgewood 220kV Substation and all associated and ancillary infrastructure including access tracks,
- 1 No. temporary construction compound,
- 2 No. Storage Containers,
- 2 No. clear span bridge crossings (one where the access track crosses the Lodgewood Stream, the second to facilitate the GCR crossing of the Lodgewood Stream) and 1No. Dry Drain Culvert Crossing at the substation compound entrance,
- Widening of the access tracks in parts to accommodate the delivery of the transformer (abnormal load),
- Surface water drainage system, foul and potable water systems, and palisade fences.

The proposed project also includes the installation of HV electrical equipment including a 110/33kV Transformer (TRAFO) with associated and ancillary equipment along with:

- Cable Sealing End (CSE);
- Surge Arrestor (SA);
- Earth Disconnect (DA, DB, DL, DT/DEM);
- Voltage Transformer (VT);
- Current Transformer (CT);
- House Transformer (HoT);

- Circuit Breaker (CB);
- Lightning Masts (LM);
- Diesel Generator;
- Harmonic filters if required by EirGrid;
- Capacitor Bank if required by EirGrid;
- Fire/Blast Wall;
- Telecoms Pole; and
- 110kV underground cable.

The proposed project also comprises permanent works at the ESB Lodgewood 220kV Substation including:

- New single bay connection point,
- Busbar extension,
- HV Switchgear,
- Circuit Breaker (CB),
- Isolators,
- Cable Sealing End (CSE),
- Surge Arrestor (SA),
- Earth Disconnect (DT/DEM),
- Current /Voltage Transformer (CT/VT),
- LCC and Control & Protection cabinet, and
- All associated and ancillary civil and electrical infrastructure.

1.5.3 Construction Sequence

A detailed construction methodology is included in Appendix B of this PECR. The construction methodology presents the sequence of works related to the construction of the Tincurry 110kV substation, details of the proposed electrical works, information on the preliminary site investigations to be undertaken, and details of the underground cable construction methodologies for 110kV grid connection and Substation. The construction timeframe is anticipated to be a maximum of 24 months.

The Construction Methodology will largely follow that of the permitted 110kV substation. The following is a high level sequence of the activities involved in constructing the 110kV substation and associated infrastructure.

- Vegetation clearance and hedgerow trimming will be undertaken as part of the initial stage of works.
- Site entrances and internal access tracks will be constructed and surfaced using a permeable gravel surface.
- The 2 no. clear-span stream crossings will be installed over the Lodgewood stream to enable the construction of the substation access road and the grid connection to the Lodgewood 220/110kV substation. A culvert crossing will also be installed over a field drain. These crossings will be constructed at the same time as the site access tracks.
- A temporary construction compound will be constructed for storage of materials required for construction. Materials are generally transported around the site by means of teleporter/small dumpers/tractor and trailer, while specialist vehicles will be used

when transporting abnormal loads (Transformer). The access road will be widened in certain locations to accommodate the delivery of the Transformer.

- Storage containers will be delivered to the site and craned into place using a hiab crane on the trucks.
- The substation compound will be constructed and the associated fencing and gates will be installed.
- Construction of the grid cable and works in Lodgewood 220/110 kV substation will take place.
- Electrical infrastructure will be delivered and installed as outlined in the Construction Methodology;
- Commissioning will take place once construction and installation is complete;
- The temporary construction compound area will be reinstated and the replanting will be carried out.

A Construction Environmental Management Plan (CEMP) has been prepared and appended to this PECR as Appendix C. A Decommissioning and Restoration Management Plan is appended as Appendix D.

1.5.4 Development Comparison

Table 1-1 compares the proposed amendments to the key civil and electrical infrastructure associated with the permitted Tincurry 110kV Substation and Grid Connection. Site Layout Plans are also included in the drawing pack and present a comparison of the permitted and proposed substation. The Site Layout Plans are submitted as part of the planning pack to support this application. Figure 1-5 compares the two substation layouts. The layout drawings accompanying this pack also allow additional comparisons of the two planning applications for the access track and other infrastructure.

Table 1-1 Comparison of Key Infrastructure

Original	Amended	Description of Amendment
Electrical & Civil Infrastructure		
EirGrid Building	Not required for an UTF connection	Removed from the amended design due to reconfiguration.
IPP Control Building	IPP Control Building and Operations Building for the Solar Farm	Retained, redesigned and repositioned.
110/33kV Transformer		Retained and repositioned.
Fire/Blast Wall		Retained and repositioned.
Cable Sealing End (CSE)		Retained and repositioned.
Surge Arrestor (SA)		Retained and repositioned.

Earth Disconnect (DT/DEM)		Retained and repositioned.
Current /Voltage Transformer (CT/VT)		Retained and repositioned.
House Transformer (HoT)		Retained and repositioned.
Circuit Breaker (CB)		Retained and repositioned.
Lightning Masts (LM)		Retained and repositioned.
Diesel Generator		Retained and repositioned.
Harmonic filters if required by EirGrid		Retained and repositioned.
Capacitor Bank if required by EirGrid		Retained and repositioned.
Telecoms Pole		Retained and repositioned.
110kV underground cable		Retained, extended and repositioned.
ESB Lodgewood 220kV Substation Works		
No new infrastructure within the ESB Lodgewood 220kV Substation was proposed as part of the original application.	New single bay connection point	Newly proposed component
	Busbar extension	Newly proposed component
	HV Switch Gear	Newly proposed component
	Circuit Breaker (CB)	Newly proposed component
	Isolators	Newly proposed component
	Cable Sealing End (CSE)	Newly proposed component
	Surge Arrestor (SA)	Newly proposed component
	Earth Disconnect (DT/DEM)	Newly proposed component
	Current /Voltage Transformer (CT/VT)	Newly proposed component
	All associated and ancillary electrical infrastructure	Newly proposed component
Associated and Ancillary Works		
Perimeter security fencing		Retained and repositioned
Security lighting		Retained and repositioned

Water and drainage infrastructure		Retained and repositioned
Temporary construction compound		Retained and repositioned
Site access tracks and parking bays		Retained and repositioned. Access track widened in parts to accommodate deliveries and includes a drain (piped culvert) and stream crossing (clear span bridge).

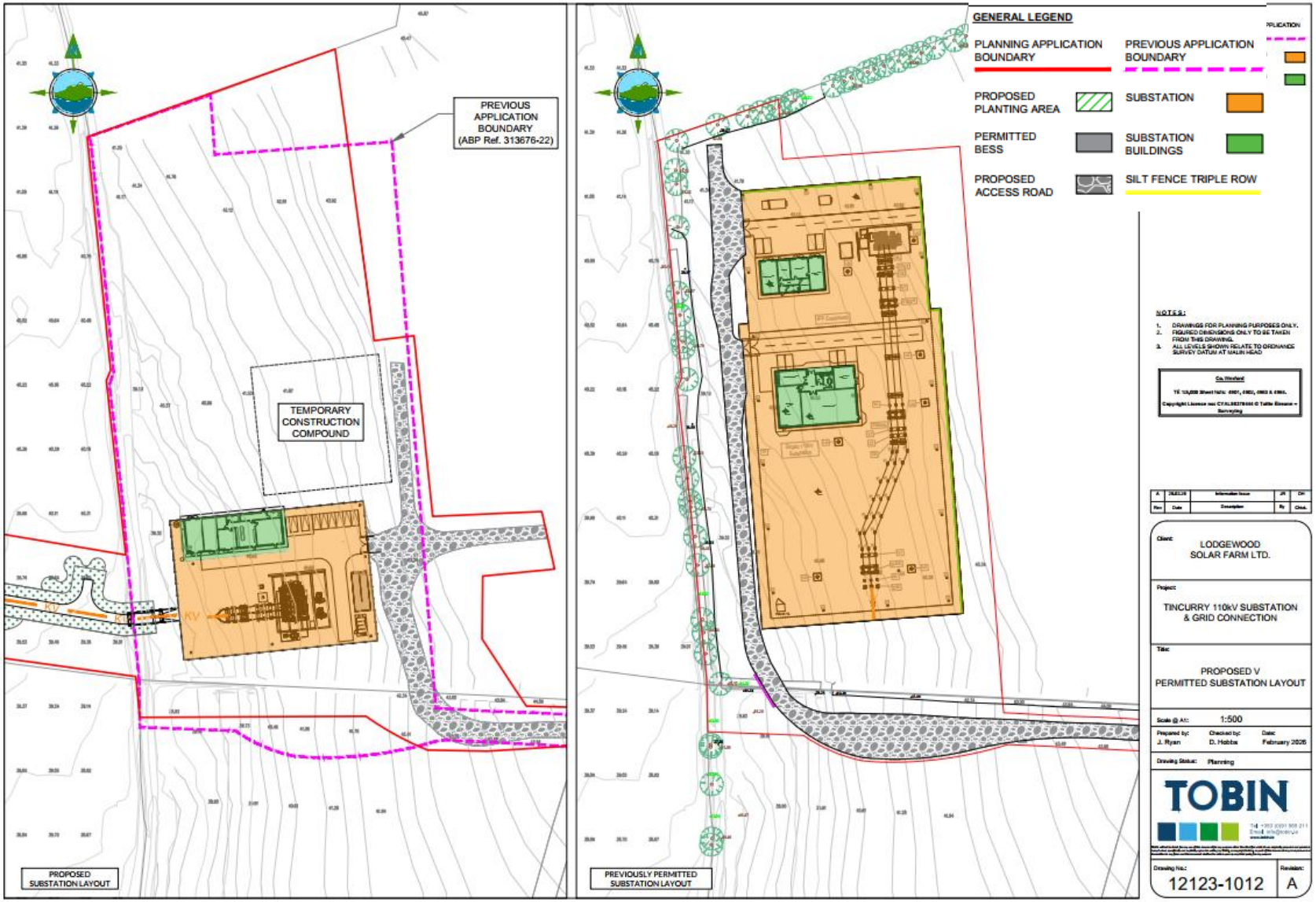


Figure 1-5 Comparison of the Proposed Amended Layout and Permitted Layout of the Tincurry 110kV Substation (see Planning Drawing 12123-1012)

1.6 STRUCTURE OF THIS PECR

This PECR considers the findings of the original Environmental Impact Statement (EIS) which accompanied the original application for Tincurry 110kV Substation. Each section of this PECR assesses the original report and outlines the impact (if any) the proposed amendments will have from a planning and environmental perspective.

The structure of this PECR is set out in Table 1-2 below:

Table 1-2 Structure of the PECR

Chapter No.	Chapter Title
1	Introduction
2	Planning & Policy
3	Biodiversity
4	Land, Soils and Geology
5	Hydrology and Hydrogeology
6	Noise and Vibration (Author: Wave Dynamics)
7	Landscape and Visual Assessment (Author: Macroworks)
8	Archaeology Culture and Heritage (Author: Courtney Deery Archaeology)
9	Traffic and Transport Assessment (Author: CST Group)
Appendices:	
Appendix A	EIA Screening Report
Appendix B	Construction Methodology
Appendix C	Construction Environmental Management Plan
Appendix D	Decommissioning and Restoration Management Plan
Appendix E	Flood Risk Assessment
Appendix F	Arboricultural Impact Assessment
Appendix G	Photomontages

Appendix H	Archaeology Appendix

1.7 STATEMENT OF AUTHORITY

TOBIN has been engaged by the applicant to coordinate and prepare this PECR and to submit it to An Coimisiún Pleanála. Details of the individual competent subject matter experts who contributed to this PECR are outlined herein.

Project Description and Coordination

Darragh Hobbs is a Senior Project Manager in TOBIN with fourteen years of experience in consultancy and research. Darragh is a Chartered Environmentalist, Chartered Scientist and Chartered Water and Environmental Manager. He has experience in project management of renewable energy, water and transmission projects. Darragh was the Project Manager for the delivery of this project.

John Staunton is an Associate Environmental Scientist in TOBIN with more than fourteen years' postgraduate experience in both research and environmental consultancy. John is a Chartered Environmentalist and holds a BSc and PhD in Environmental Science. He has considerable experience in project managing and co-ordinating the environmental deliverables for renewable energy projects and carrying out associated impact assessments. John acted as Project Director for this project.

Planning and Policy

Louise Byrne B.A. (International), MRUP, MRTPI, is an experienced planning consultant having worked public and private planning practice in the UK and Ireland for over 11 years. As a Senior Planner with TOBIN, Louise is skilled in the preparation of Environmental Impact Assessment Screenings, Planning Assessments, Reports and Feasibility. Louise is responsible for the management and delivery of a wide range of project types for public and private sectors including large scale renewable energy developments, industrial and infrastructure projects. She is a chartered member of the Royal Town Planning Institute (RTPI).

Biodiversity and AA/NIS

John Sherry is a Senior Ecologist with TOBIN. He holds a B.Sc. (Hons) in Wildlife Biology from Munster Technological University (formerly the Institute of Technology Tralee) and has over six years of post-graduate experience in ecology and environmental consultancy. John's experience includes the surveying and reporting of large-scale renewable energy and infrastructure projects, with expertise in the preparation of AA Screening Reports, NIS, Environmental Impact Assessment Reports (EIARs), and Ecological Management Plans. He has extensive field experience in the planning and implementation of ecological surveys, including habitat assessments, non-volant mammal surveys, bat surveys, and ornithological surveys. His primary focus has been on the surveying and reporting of wintering and breeding bird associated with wind energy and other large scale infrastructure developments.

Land, Soils and Geology, & Hydrology and Hydrogeology

John Dillon is an Associate Director with TOBIN. John has 18 years of experience in geological, hydrological and hydrogeological assessment for renewable energy, infrastructure and transmission projects. John also has experience in the assessment and supervision of renewable energy projects including Curragh wind farm, Castlebanny windfarm, Lisheen Phase III wind farm, Derryadd wind farm, Ummeras wind farm, Cloon – Lanesboro 110kv uprate, North South 400kV interconnector, Moneypoint substation, Clonymeath Solar Farm and Laois Kilkenny 400/110 kV substation.

Noise and Vibration

Shannon Doherty is a Senior Consultant at Wave Dynamics. Shannon has over 14 years of specialised expertise in environmental noise and building acoustics. He has a BSc (Hons) in Music Technology from Queens University Belfast as well as a Post Graduate Diploma in Acoustics and Noise Control from the Institute of Acoustics. He has a proven track record of delivering large-scale projects across Ireland and the UK, spanning sectors such as residential, healthcare, transport, and renewable energy.

Landscape and Visual

The LVIA was prepared by Jorden Derecourt, Landscape Architect, and reviewed by Cian Doughan, Associate Director at Macro Works Ltd; a consultancy firm specialising in Landscape and Visual Assessment and associated maps and graphics. Jorden has 6 years of experience in LVIA, holds a Masters in Landscape Architecture, and is a registered member of the Irish Landscape Institute. Macro Works' relevant experience includes a broad range of infrastructural, renewable energy, industrial and commercial projects since 1999, including numerous urban, residential, and mixed-use development projects.

Archaeology and Cultural Heritage

Dr Yolande O' Brien is a Cultural Heritage Consultant at Courtney Deery Heritage Consultancy Ltd. Yolande holds a BA, MA and PhD in archaeology from University of Galway (formerly NUI, Galway) and is a member of the Institute of Archaeologists of Ireland. She has 16 years of experience in the field of Cultural Heritage (archaeology, built heritage, history, folklore). Dr O'Brien primarily works in planning, producing desk-studies, constraints reports, options reports, cultural heritage impact assessments and EIARs. She has consulted on numerous large-scale infrastructural projects including solar farms, flood relief schemes, road schemes, greenways, active travel schemes and electrical grid infrastructure.

Traffic and Transport

Francis Fidgeon BE CEng MIEI is a Chartered Engineer with over 35 years' experience in Civil and Traffic Engineering. Francis has worked on a variety of civil and traffic projects including national road construction and improvements, infrastructure and traffic design for commercial developments, institutional and residential developments, educational facilities, and industrial projects including wind and solar farms. Francis has a wealth of experience of dealing with traffic management problems in sites with finite traffic parking and circulation space. Recent similar projects Francis has worked on include Solar PV Farm and BESS near Kinvara, Co Galway, BESS Grid Route & Substation near Shannon, Co Clare, BESS site near Thurles, Co Tipperary, Wind Farms in Co Roscommon, Co Kilkenny and Co Cork. Francis is also experienced in PSDP and a TII Approved Road Safety Auditor.

Arborist

Gary Doherty is the owner and director of GreenTree Arboriculture - he holds a BSc in Arboriculture and Urban Forestry, Certified Professional Tree Inspector, VALID tree risk assessor, L6 in Field Ecology and a professional member of the Arb Ass.

Flood Risk Assessment

Safa Mohammed is a Civil engineer and Hydrologist with a strong background in water science and engineering. She is currently a Design Engineer in the Civil, Design Build, Water Division at TOBIN. She has diverse experience across Ireland, the UAE, and Sudan, includes rainfall–runoff modelling, flood risk assessment, stormwater management and SuDS design, irrigation systems, and water quality analysis/studies. She has also recently completed a PhD in hybrid flood forecasting model development.

Electrical Design

Damien Browne is an experienced Lead Electrical Engineer with extensive expertise in electrical grid connection design, substation and battery compound layout analysis, network rating studies, and detailed

cable system modelling. His background includes delivering feasibility studies, project documentation, specification reviews, and detailed network designs using tools such as CYMCAP, Cableizer, ETAP, AutoCAD, and PowerFactory. Damien has contributed to a wide range of major projects including multiple BESS developments, underground cable design, and large scale energy park planning. His earlier experience spans substation commissioning support, HV/MV panel and services design, protection coordination studies, procurement specifications, and electrical risk assessments. With a BEng (Hons) in Electrical Engineering and strong technical and safety training, Damien brings a proven ability to deliver high quality engineering solutions across complex grid and infrastructure projects.

Conor Harty is a highly experienced Senior Design Technician with a strong track record in supporting project design activities, compiling feasibility studies, and managing CAD standards and deliverables for grid connection and substation projects. Since joining TLI Group in 2016, he has contributed to major works including the Blusheen, Curraghmartin and Coolroe EDF Solar Projects, Avonbeg 38kV Substation, Freagh Substation, and Upperchurch Screggan Substation designs. His earlier career includes over a decade with MRG Consulting Engineers, where he produced technical drawings, carried out geo surveying using Total Station/GPS equipment, and undertook site setting out activities, along with prior roles in sales engineering and timber frame design. Conor brings strong technical proficiency in AutoCAD, PoleCad and Microsoft Office, supported by training in GPS surveying and health and safety standards, and is recognised for his teamwork, work ethic and familiarity with ISO quality procedures.

James Cronin is an experienced Mechanical Engineer with strong capability in preparing technical drawings, managing services data, and producing documentation for feasibility studies, planning applications, and cable pulling calculations. Since 2020, he has supported TLI Group through detailed cross sections, site data handling, and the integration of OSI and aerial imagery into high quality design outputs, contributing to projects such as Ballinagree Wind Farm. His earlier CAD Technician roles strengthened his proficiency in AutoCAD, Cranimax and 3D modelling across electrical schematics, switchgear layouts, site plans and equipment schedules, complemented by adaptability and organisational skills gained from his time as a programming teacher. With a BTech in Materials and Architectural Technology, an MSc in Interactive Media, and strong software skills including AutoCAD, SolidWorks, Unity and multiple programming languages, he consistently delivers accurate and well structured technical designs across multidisciplinary engineering environments.

2. POLICY, PLANNING & LEGISLATIVE CONTEXT

2.1 INTRODUCTION

This chapter outlines the policy, planning, and legislative context for the proposed project, which involves an amendment to the previously consented Tincurry 110kV substation. A full description of the proposed amendments is set out in section 1.5 of this PECR.

This chapter brings together all relevant policy frameworks and demonstrates how the project supports strategic objectives at local, national, and European levels.

The proposed project enables the efficient transfer of solar-generated electricity to the National Grid, contributing to Ireland's legally binding target of achieving 80% renewable electricity generation by 2030, as set out in the Climate Action Plan and the National Energy and Climate Plan. It also aligns with the European Green Deal and the "Fit for 55" package, which aim to reduce greenhouse gas emissions by at least 55% by 2030 and increase renewable energy penetration across the EU.

2.2 EUROPEAN POLICY AND LEGISLATION CONTEXT

This section sets out policy context under a series of sub-headings as follows and covers relevant European climate and energy policy.

2.2.1 The European Green Deal

The European Green Deal 2019 illustrates a commitment by the European Commission on an international level to tackle climate and environmental-related challenges. The aims of the European Green Deal show a sense of urgency around these environmental issues and are as follows:

Climate action initiatives under the Green Deal include:

- *European Climate Law to enshrine the 2050 climate-neutrality objective into EU law;*
- *European Climate Pact to engage citizens and all parts of society in climate action.*

The European Commission adopted "Fit for 55", a set of policy proposals preparing the implementation of the European Green Deal. In particular, "Fit for 55" aims to reduce greenhouse gas emissions (GHG) by at least 55% by 2030. The European Climate Pact seeks to actively engage citizens and all sectors of society in climate action. This initiative shows a strong commitment from Europe to move towards and encourage more sustainable sources of energy.

In December 2018, Renewable Energy Directive established a new target of producing at least 32% of all energy from renewable sources by 2030. This was a revision from the previous target of 20% by 2020, which was achieved in 2019. European Commission stated that energy production accounts for 75% of EU emissions output. Increasing the renewable energy production target can enable the reduction of EU GHG emissions.

The European Commission proposed in its "Fit for 55" package an increase from the preliminary 32% share of renewables to 40%. Following further revisions and adoption of RED III in 2023, the EU now has a binding target of at least 42.5% renewable energy by 2030, with an aspirational goal of 45%. Increasing renewable energy is central to reducing greenhouse gas emissions and achieving the EU's legally binding objective of cutting emissions by 55% by 2030.

A REPowerEU Plan was published by the European Commission in 2022 with the purpose of saving energy, producing clean energy and diversifying the supply of energy. The plan was produced in response to the Ukraine war to reduce Europe's dependence on Russian fossil fuels, with strategies and measures to phase out the dependency by the end of the decade by building on the implementation of the European Green Deal and the EU's "Fit for 55" proposals (seeking to cut emissions by at least 55% by 2030). The Plan focuses on diversifying energy sources.

The proposed project, which will enable a renewable energy development to export its electricity to the grid transmission system, will support the EU's commitment to tackling climate and environmental-related challenges.

2.2.2 2050 Energy Strategy

The EU has set a long-term goal of reducing greenhouse gas emissions by 80-95%, when compared to 1990 levels, by 2050. The Energy Roadmap 2050 examines the transition of the energy system in ways that would be compatible with this greenhouse gas reductions target while also increasing competitiveness and security of supply. It is recognised that in order to achieve these goals, significant investments need to be made in new low-carbon technologies, renewable energy, energy efficiency, and grid infrastructure. The scenarios in the Energy Roadmap 2050 explore routes towards decarbonisation of the energy system. These scenarios examine the impacts, challenges and opportunities of possible ways of modernising the energy system. This includes increasing the share of renewable energy and using energy more efficiently. The Energy Roadmap 2050 recognises that much of the energy infrastructure in the EU built 30 to 40 years ago needs to be replaced and that replacing it with low carbon alternatives immediately can avoid more costly changes in the future.

2.3 National Policy and Legislation Context

The following section sets out the relevant national policies which will influence the development of the country in the coming decades with respect to grid connection, energy production, carbon neutrality and climate change mitigation. These policies are supported by the latest Programme for Government (2025) 'Securing our Future'. This is a programme of investment and reform backed by ambitious actions in order to protect our country but also supporting significant progress in addressing critical social, economic, political, demographic and environmental challenges.

The "Accelerating Renewables" section within the "Protecting Our Environment" part of the Programme for Government 2025 outlines the government's commitment to significantly boost renewable energy production. The key goals include achieving 80% of electricity generation from renewable sources by 2030. This will be achieved through a combination of renewable energy developments, including 9GW of onshore wind, 8GW of solar capacity, and 5GW of offshore wind projects.

Additionally, the government plans to support community energy projects and invest in the necessary infrastructure to facilitate this transition. These efforts are aimed at creating a more sustainable and resilient energy system for Ireland's future. It also aims to utilise the new Planning Act to fast-track developments which further highlights support for renewable energy projects.

Other climate goals outlined within this section aim to 'Empower Communities in Renewable Energy and Make Climate Action Accessible' and 'Support Economic Growth with Renewable Energy'. To achieve this, the government will support battery development and take-up to allow portable energy and reduce grid dependence, and enable the creation of employment opportunities, all to ensure renewable energy benefits all communities.

Overall, it is the government's goal to 'lead a revolution in renewable energy' supported by the above mentioned aims to accelerate renewable energy generation and provide benefits to the local economy.

2.3.1 Climate Action and Low Carbon Development (Amendment) Act 2021

The purpose of the Climate Action and Low Carbon Development (Amendment) Act, 2021 is to provide for the approval of plans '*for the purpose of pursuing the transition to a climate resilient and climate neutral economy by the end of the year 2050'*. The 2021 Climate Act also '*provides for carbon budgets and a decarbonisation target range for certain sectors of the economy'*. The 2021 Climate Act removes any reference to a national mitigation plan and instead refers to both the Climate Action Plan, and a series of National Long Term Climate Action Strategies.

In addition, local authorities shall prepare a 'local authority climate action plan' lasting five years which specifies the mitigation measures and the adaptation measures to be adopted by each local authority. This represents a mandate for Local Authorities to adapt to climate change.

The Act has set a target of a 51% reduction in the total amount of greenhouse gases over the course of the first two carbon periods ending 31 December 2030 relative to 2018 annual emissions. The 2021 Climate Act defines the carbon budget as 'the total amount of greenhouse gas emissions that are permitted during the budget period'.

The Act also outlines duties for certain bodies (which includes consenting authorities) under Article 15 (1) as follows:

- *the most recent approved climate action plan,*
- *the most recent approved national long term climate action strategy,*
- *the most recent approved national adaptation framework and approved sectoral adaptation plans,*
- *the furtherance of the national climate objective, and*
- *the objective of mitigating greenhouse gas emissions and adapting to the effects of climate change in the State.*

2.3.2 National Energy and Climate Plan 2021-2030

The National Energy and Climate Plan (NECP) was prepared in 2019 to incorporate all planned policies and measures that were identified up to the end of 2019, and which collectively deliver a 30% reduction by 2030 in non-ETS greenhouse gas emissions (from 2005 levels). The NECP recognises the commitment set out under the Climate Action Plan 2021, to reduce CO2 eq. emissions from the sector by 50–55% relative to 2030.

In accordance with the Governance of the Energy Union and Climate Action Regulation, a draft updated National Energy & Climate Plan (NECP) 2021-2030 was submitted to the European Commission in December 2023. It outlines Ireland's energy and climate policies in detail for the period from 2021 to 2030 and looks onwards to 2050. This draft was further revised to

incorporate comments from the Commission, public consultation and updated policies and targets. A final version of the NECP was submitted to the European Commission and approved in July 2024.

The NECP recognises that there are urgent grid upgrades and reinforcements required to meet renewable energy targets and timelines. The NECP recognises the importance of alternative energy technology, and specifically the role that solar energy can play in reaching the state's energy targets. Section 2.4.3.3 recognises that Solar PV particularly is considered as vital infrastructure that is key to enabling Ireland to reach its energy targets. Additionally, the section states that there needs to be regulatory streamlining of Grid Development in order to support the renewable energy targets of the country. It asserts that the state must 'ensure that renewable energy and grid connection policy is fit for purpose to deliver on renewable energy targets and community projects, and report annually on the timeliness of grid connection.' Section 2.4.3.4 states that 'a more flexible energy system, which can integrate higher volumes of renewables onto the grid is of paramount importance to meeting the ambitious goals outlined in the *CAP'.* Section 4.2.2 outlines the share of Solar PV developments in the state's gross electricity consumption. In 2023 Solar PV had a 1.9% share of electricity production (644GWh). This marks a 3432% increase in Solar PV since 2018, or a growth of 626 GWh. This highlights the increasing importance of solar energy generation in Ireland. As such the proposed project aligns with these patterns of growth, and the state's policies which acknowledge the need for increased solar development to meet energy targets.

2.3.3 National Planning Framework

The first revision of Ireland's National Planning Framework (NPF), approved by the Government in April 2025, introduced significant updates to support the country's renewable energy ambitions, particularly in relation to onshore wind, solar energy, and grid infrastructure.

NPO 70 promotes the generation and use of renewable energy in suitable locations across both built and natural environments to help meet Ireland's 2050 climate neutrality goals. These objectives ensure that renewable energy development is integrated into spatial planning at all levels, supported by scientific evidence and aligned with legislative requirements. Additional objectives, such as NPOs 87, 89, and 94, reinforce environmental protection, heritage conservation, and noise management, ensuring that renewable energy expansion occurs within sustainable and socially responsible frameworks.

Section 3.4 of the revised NPF discusses the key future planning, development, and place making policies for the Southern Region. One of the policies identified for the region is the need to harness its potential for renewable energy developments, particularly solar.

The revised NPF sets out regional renewable energy capacity allocations, in order to accelerate the implementation of renewable electricity infrastructure for onshore wind and solar generation. These goals are set out in Figure 2-1 below. As the proposed project is located in the Southern region it will contribute towards the regions goal of increasing Solar PV capacity from 138 MW to 3,302 MW. This will mean the Southern region would be providing 43% of the total national share of the state's Solar PV by 2030. These goals are also set out in NPO 74.

Region	Energised capacity 2023 (MW)	Additional Renewable Power Capacity Allocations (MW)	Total % of National Share in 2030	Energised Capacity 2023 (MW)	Additional Renewable Power Capacity Allocations (MW)	Total % of National Share in 2030
	Onshore Wind			Solar PV		
Eastern and Midlands	284	1,966	25%	306	3,294	45%
Northern and Western	1,761	1,389	35%	0.3	959	12%
Southern	2,622	978	40%	138	3,302	43%
Total	**4,667**	**4,333**		**445**	**7,555**	

Figure 2-1: Regional Renewable Energy Capacity Allocations

The revised NPF also emphasized the need for grid development and expansion, recognizing that meeting regional capacity targets will require coordinated upgrades to the electricity grid at both national and local levels. National Policy Objectives (NPOs) 71 and 72 specifically support the development and interconnection of onshore grid infrastructure, while NPO 55 promotes sustainable international grid connectivity enhancements.

The NPF also covers a wide range of national policy objectives and National Strategic Outcomes (NSO) such as NSO 8. The key outcome provided for under NSO 8 is to transition our society to 'competitive, low-carbon, climate-resilient, biodiversity rich, and environmentally sustainable and carbon neutral economy by 2050 'and states that '*new energy systems and transmission grids will be necessary for a more distributed, more renewables focused energy generation system, harnessing both considerable on-shore and off-shore potential from energy sources such as wind, wave and solar and connecting the richest sources of that energy'.*

The NSO further states that *'diversification of our energy production systems away from fossil fuels and towards green energy such as wind, wave, solar and biomass, together with smart energy systems and the conversion of the built environment into both generator/consumer of energy and the electrification of transport fleets will require the progressive and strategic development of a different form of energy grid'.*

In summary the key steps indicated for delivering a low carbon society according to NSO 8 are as follows:

- *Delivery of 80% of our electricity needs from renewable sources by 2030 with a strategic aim to increase renewable deployment in line with EU targets and national policy objectives out to 2030 and beyond;*
- *Reinforce the distribution network and transmission network to facilitate planned growth;*
- *Strengthen energy security and resilience to support an island population of 8 million people;*
- *Consideration of carbon neutral electricity generation that would be facilitated through harnessing carbon capture and storage;*
- *Interconnectors offer the opportunity to connect to the EU Grid system;*
- *Roll out National Smart Grid Plan; and*
- *District heating networks developed where feasible.*

2.3.4 National Development Plan

The National Development Plan 2021–2030 (NDP) originally set out Ireland's investment priorities at national, regional, and local levels to facilitate implementation of the National Planning Framework (NPF). In the context of the energy sector, its principal objective was to ensure a long-term, sustainable, and competitive energy future for Ireland. Targeted investment in regulated network infrastructure aimed to maintain the power grid to the highest international safety standards, ensure it remained fit for purpose to meet projected demand, and enable the integration of world-leading levels of renewable energy. The NDP acknowledged that Ireland's energy system required a radical overhaul to achieve climate objectives by 2050, including a fundamental shift in how energy is generated and consumed. Investment in renewable energy sources, capacity renewal, and future technologies was identified as key to decarbonising electricity generation and reducing reliance on fossil fuels.

National Development Plan Review 2025

In July 2025, the Government published the National Development Plan Review 2025, which supersedes and expands upon the previous NDP. This review represents the largest ever capital investment framework for Ireland, allocating €275.4 billion in public capital investment for 2026–2035, including €102 billion for 2026–2030. Energy infrastructure is identified as a high priority for investment, with a particular focus on grid development and resilience to support Ireland's renewable energy ambitions and climate targets.

Key updates in the NDP Review 2025 include:

- *€3.5 billion in equity funding for ESB Networks and EirGrid, specifically to enhance transmission and distribution capacity and facilitate renewable integration.*
- *Recognition that regulatory and planning reforms are critical to accelerate delivery of energy projects and meet outlined targets.*
- *Strategic emphasis on grid reinforcement, interconnection, and smart grid technologies to enable a renewables-led electricity system.*
- *Integration of energy security measures, ensuring that grid infrastructure supports resilience and flexibility during the transition to low-carbon generation.*

The NDP Review aligns with the revised NPF and CAP25, reinforcing that new transmission routes and grid upgrades are essential to achieving Ireland's legally binding climate objectives. It positions grid development as a priority in national infrastructure planning, ensuring that renewable energy deployment is supported by a modern, resilient, and interconnected electricity network.

2.3.5 Climate Action Plan 2025

CAP25 is the fourth annual update to Ireland's Climate Action Plan and was published on 15 April 2025. CAP25 builds upon the previous Climate Action Plan 2024 (CAP24) by refining and updating the measures and actions required to deliver the carbon budgets and sectoral emissions ceilings and it should be read in conjunction with CAP24. It provides a roadmap for taking decisive action to halve Ireland's emissions by 2030 and achieve climate neutrality by no later than 2050, as committed to in the Climate Action and Low Carbon Development Act 2015 (as amended). It also lays out a roadmap of actions which will ultimately lead us to meeting our national climate objective of pursuing and achieving, by no later than the end of the year 2050,

the transition to a climate resilient, biodiversity rich, environmentally sustainable and climate neutral economy. It aligns with the legally binding economy-wide carbon budgets and sectoral emissions ceilings that were agreed by Government in July 2022.

CAP25 finds that 'rapid and significant reductions in GHG emissions are required if we are to meet the 2015 Paris Agreement and the UN's Sustainable Development Goals'. As such, Section 1.4 of CAP25 sets out the importance of 'accelerating climate action' and stating that 'the economic benefits of the transition to climate neutrality are being recognised and acted upon internationally' and further stating that, 'this points to the need to act now, with urgency, to ensure Ireland's future in a low-carbon world.'

In terms of the current scenario in the electricity sector, CAP25 notes that in the first half of 2024, emissions were down over 17%, (their lowest level for decades) and noting increasingly positive signs across solar and wind energy. It also found that Irish wind farms generated nearly 40% of Ireland's total electricity demand in the first half of 2024, making Ireland third in the world for installed wind power capacity per capita. CAP25 also sets out national targets for renewable energy generation. These include the aim to have a renewable electricity share of 80%, and to generate 8GW of solar energy by 2030.

Section 11.2.1 of CAP25 emphasises that a renewables-led electricity system requires not only accelerated deployment of generation capacity but also reinforcement and expansion of transmission and distribution networks. Without a robust grid, Ireland cannot integrate high volumes of variable renewable energy or maintain system stability. CAP25 also calls for investment in smart grid technologies, energy storage, and demand-side management to enhance flexibility, as well as preparing infrastructure for offshore wind integration and expanding interconnectors to neighbouring markets to strengthen energy security.

The plan places significant emphasis on the revised National Planning Framework (NPF), which introduces regional renewable energy capacity allocations for 2030. These allocations require coordinated upgrades to the electricity grid at both national and local levels. National Policy Objectives (NPOs) 71 and 72 specifically promote the development and interconnection of onshore grid infrastructure, while NPO 55 supports sustainable international grid connectivity enhancements. Regional Assemblies are tasked with preparing Regional Renewable Energy Strategies (RRES) to ensure sufficient grid capacity for planned renewable generation. The target allocations set out in Figure 2-2 are the minimum requirements for renewable energy developments to meet the required 2030 emissions reductions.

Table 12.5 – Key Metrics to Deliver Abatement in Electricity[71]

Theme	2025 KPI	2025 abatement (vs. 2018) $MtCO_2eq.$	2030 KPI	2030 abatement (vs. 2018) $MtCO_2$ eq.	2031-2035 measures
Accelerate Renewable Energy Generation[72]	50% renewable electricity share of demand 6 GW onshore wind capacity Up to 5 GW solar PV capacity, including at least 1 GW of new non-utility solar	2. 21	80% renewable electricity share of demand 9 GW onshore wind capacity At least 5 GW offshore wind capacity 8 GW solar PV capacity, including 2.5 GW of new non-utility solar Green hydrogen production from renewable electricity surplus generation	7.18	Decarbonisation Roadmap for a net-zero power system Green hydrogen production via 2 GW offshore wind
Accelerate Flexibility	Maximum level of renewables at any one time on the grid: 85% Dispatch down (excluding surplus generation) of renewables below 7% Minimise surplus generation Required long term storage (4 hour plus) in place	See above abatement figure	Maximum level of renewables at any one time on the grid: 95-100% Dispatch down (excluding surplus generation) of renewables below 7% Minimise surplus generation Required additional long-term storage (4 hour plus) in place At least 2 GW of new flexible gas-fired generation Zero-emission gas-fired generation from biomethane and hydrogen commencing by 2030	See above abatement figure	Required additional long duration storage technologies in place Increased zero emission gas-fired generation to enable a net zero power system
Demand Management	Demand side flexibility 15-20% Zero carbon demand growth	2.21	Demand side flexibility 20-30% Zero carbon demand growth	7.18	Demand side flexibility 30% Zero carbon demand growth
Total Estimated Abatement Potential					

Figure 2-2 Key Metrics to deliver abatement in electricity (extracted from Table 12.5 in Climate Action Plan 2025)

2.3.6 Ireland's Transition to a Low Carbon Energy Future, 2015 – 2030 (White Paper)

The Government White Paper entitled Ireland's Transition to a Low Carbon Energy Future 2015-2030 sets out a framework to guide Ireland's energy policy development. This White Paper is an update of the 2007 White Paper and sets out a framework to guide policy and actions that the Irish Government intends to take in the energy sector up to 2030 and also reaching out to 2050. The framework was developed in the context of the significant role played by European institutions in determining energy policy, markets and regulation. Similarly, it takes account of European and international climate change objectives, particularly the Renewable Energy Directive.

The Energy Vision 2050 established in the White Paper describes a 'radical transformation' of Ireland's energy system which it is hoped will result in GHG emissions from the energy sector reducing by between 80% and 95%, compared to 1990 levels. This means that the diversification of energy supply during the national transition to a renewable energy system will need to shift away from carbon-intensive fuels such as peat and coal in favour of lower carbon fuels like natural gas.

Chapter 5: Delivering sustainable energy: Efficiency, renewables, technology sets forward actionable plans that will play a vital role in reducing emissions. One identified is:

"We will ensure that grid connection policy has due regard to current and future renewable energy policy, including in relation to community renewable energy projects."

2.3.7 Commission for Regulation of Utilities: Grid Connection Policy

The Commission for Regulation of Utilities (CRU) launched a grid connection policy in March 2018 for renewable and other generators, known as the Enduring Connection Policy (ECP-1), which sought to allow "shovel ready" projects, that already have a valid planning permission, connect to the electricity networks. The principal objective which guides this decision is to facilitate greater opportunities for advanced projects to connect to the network in addition to preparing for future, more regular batches for connection. In August 2018, the successful applicants for new connection capacity under ECP-1 were published.

On the 10th June 2020, the CRU further published the Enduring Connection Policy – Stage 2 (ECP-2) Decision (CRU/20/060). This decision marked a major milestone in the Enduring Connection Policy regime and provides for three batches of new generation connection offers to access the electricity network.

The number of connection offers represents an increase in ambition from ECP-1 and sets a challenging but achievable programme for the System Operators (SO's). This will facilitate new renewable generators competing in forthcoming RESS auctions as well as conventional generators and system service providers.

The application window for the fourth annual batch (ECP-2.4) opened on 1 October 2023 and closed on 30 November 2023. Following the closure of the application window, the batch was formed over the following three months. Three batches were awarded connection offers in May 2024, where projects having the largest volume of GWhrs/yr generated given highest priority under Category A. Maximum number of connection offers were awarded to solar farms, followed by battery and then wind farms. The ECP 2.4 connection report stated that, the SOs

were developing a proposal to commence a pilot of "renewable hubs" to run in parallel with the opening of the ECP-2.4 batch window.

''Renewable Hubs will be developed in areas which strike a balance between grid-optimal locations and renewable resources, thus providing locational signals for project developers. This could include targeted hubs in areas that could release significant renewable capacity. "

The Renewable Hubs pilot aims to accelerate grid connections by creating capacity at substations based on known project pipelines. By 2025, ECP-2.5 and its extension ECP-2.5.1 were completed, and the CRU transitioned to the new Electricity Connection Policy – Generation and System Services (ECP-GSS), introducing bi-annual application windows, streamlined planning requirements for RED III projects, and mandatory pre-engagement processes. The Renewable Hubs pilot advanced significantly, with five initial hub locations identified by ESB Networks and EirGrid, enabling anticipatory investment and shared infrastructure costs to connect multiple renewable projects efficiently; hubs are now seen as a strategic feature for future grid planning, targeting areas that balance grid optimization and renewable resource potential, with annual performance reporting required by the CRU to inform scalability and long-term integration into Ireland's decarbonization strategy.

2.3.8 Grid Implementation Plan 2023–2028

The Grid Implementation Plan (GIP) 2023–2028 was published in September 2024. It sets out EirGrid's strategic approach to transmission system development over a five-year period. The plan prioritises reinforcement and expansion of the electricity grid to accommodate significant volumes of renewable generation, including onshore and offshore wind. It identifies regional upgrades, interconnection projects, and the adoption of smart grid technologies as essential measures to maintain system stability and security. By explicitly mandating new transmission infrastructure, the GIP provides a clear policy basis for the construction of additional grid connection routes.

2.3.9 Policy Statement on Security of Electricity Supply (November 2021)

This policy statement remains the cornerstone of Ireland's approach to electricity security. It explicitly endorses the expansion of transmission and distribution infrastructure, interconnection, and storage as national priorities. The policy recognises the importance of the existing grid, and that a key challenge to ensuring security of supply is providing adequate grid infrastructure, and the development of grid infrastructure. One of the key policy decisions of the document is that there is a need for very significant investment in electricity grid infrastructure, recognising grid development as essential to maintaining security of supply during the transition to low-carbon generation. Additionally, the government has approved that

'it is appropriate for additional electricity transmission and distribution grid infrastructure, electricity interconnection and electricity storage to be permitted and developed in order to support the growth of renewable energy and to support security of electricity supply'

2.4 Regional and Local Policy

2.4.1 Regional Spatial Economic Strategy (RSES) for the Southern Region

The RSES is a link between the National Planning Framework, the City & County Development Plans, and the Local Economic & Community Plans. Each assembly is centrally involved in the

formulation of policies geared towards achieving a greater dispersal of economic growth and development throughout the region. Local Authorities must update their development plans to be in accordance with the RSES. Draft plans or proposed variations to development plans are referred by the Local Authority to the Regional Assembly to ensure alignment.

The proposed project is located within the Southern Region. The Southern Regional Assembly RSES sets out a vision for the Southern Region to:

- 'Nurture all our places to realise their full potential;
- Protect, and enhance our environment;
- Successfully combat climate change;
- Achieve economic prosperity and improved quality of life for all our citizens;
- Accommodate expanded growth and development in suitable locations;
- Make the Southern Region one of Europe's most creative, innovative, greenest, and liveable regions'.

The Southern RSES seeks to achieve balanced regional development and full implementation of Project Ireland 2040 – the National Planning Framework and came into effect on 31st January 2020. The Region has nine counties Cork, Clare, Kerry, Limerick, Tipperary, Waterford, Carlow, Kilkenny, and Wexford which are administered by 10 local authorities. The region is further divided into three sub-regional areas, called Strategic Planning Areas (SPAs) - the Mid-West, Southeast and South-West and Wexford belongs to Southeast Area.

Policies in the RSES relevant to the proposed project are outlined as follows:

- **RPO 87 Low Carbon Energy Future**: The RSES is committed to the implementation of the Government's policy under Ireland's Transition to a Low Carbon Energy Future 2015-30 and Climate Action Plan 2019. It is an objective to promote change across business, public and residential sectors to achieve reduced GHG emissions in accordance with current and future national targets, improve energy efficiency and increase the use of renewable energy sources across the key sectors of electricity supply, heating, transport, and agriculture.
- **RPO 89 Building Resilience to Climate Change:** A. It is an objective to support measures to build resilience to climate change throughout the Region to address impact reduction, adaptive capacity, awareness raising, providing for nature-based solutions and emergency planning.
- **RPO 90 Regional Decarbonisation:** It is an objective to develop a Regional Decarbonisation Plan to provide a framework for action on de-carbonisation across all sectors. The Plan shall include existing and future targets for each sector. Implementation mechanisms and monitoring structures shall be established with stakeholders, including the Climate Action Regional Offices, following the adoption of the RSES to identify the scope and role of the Plan, the requirements for SEA, AA and the timescale for its preparation.
- **RPO 95 Sustainable Renewable Energy Generation:** It is an objective to support implementation of the National Renewable Energy Action Plan (NREAP), and the Offshore Renewable Energy Plan and the implementation of mitigation measures outlined in their respective SEA and AA and leverage the Region as a leader and innovator in sustainable renewable energy generation.
- **RPO 96 Integrating Renewable Energy Sources:** It is an objective to support the sustainable development, maintenance and upgrading of electricity and gas network

grid infrastructure to integrate renewable energy sources and ensure our national and regional energy system remains safe, secure and ready to meet increased demand as the regional economy grows.

- **RPO 100 Indigenous Renewable Energy Production and Grid Injection**: It is an objective to support the integration of indigenous renewable energy production and grid injection.
- **RPO 219 New Energy Infrastructure:** It is an objective to support the sustainable reinforcement and provision of new energy infrastructure by infrastructure providers (subject to appropriate environmental assessment and the planning process) to ensure the energy needs of future population and economic expansion within designated growth areas and across the Region can be delivered in a sustainable and timely manner and that capacity is available at local and regional scale to meet future needs.
- **RPO 222 Electricity Infrastructure:** It is an objective to support the development of a safe, secure and reliable supply of electricity and to support and facilitate the development of enhanced electricity networks and facilitate new transmission infrastructure projects that might be brought forward in the lifetime of this plan under EirGrid's (2017) Grid Development Strategy (subject to appropriate environmental assessment and the planning process) to serve the existing and future needs of the Region and strengthen all-island energy infrastructure and interconnection capacity.

2.4.2 Wexford County Development Plan 2022-2028

The proposed project is located entirely within the boundaries of Wexford County and is thus primarily informed by the Wexford County Development Plan (CDP) 2022-2028. The Wexford CDP, which was adopted on the 13 June 2022 came into effect on the 22 July 2022.

The CDP, and its supporting 'Energy Strategy' under Volume 10 of the CDP, seeks to support innovation and development of new technologies, synergies and concepts that will support ways, for example to generate renewable energy, to ensure carbon sequestration, to deliver energy storage etc.

Chapter 2 of the CDP sets out the county's policies with regards to Climate Action. Increasing renewable energy developments, and solar capacity has been identified as a key priority in national and local policy. Section 2.4 of that CDP chapter includes the county's climate action spatial planning strategy. This section of the CDP emphasises the county's focus on reducing Greenhouse Gas (GHG) emissions, and the necessity of using renewable energy sources to do so. Grid infrastructure has been recognised on a national level as being a key aspect in the delivery of renewable energy. As such it is also required to aid the state in reaching their renewable energy and climate targets. Thus, the proposed project is required to reach climate targets on a county level and on a statewide level.

The relevant policy for the proposed project has been set out below:

- **Objective CA01** To ensure that the spatial planning of County Wexford provides for a county that is resilient to climate change, encourages development along existing transport corridors, enables the decarbonisation of the county's economy and reduces the county's carbon footprint in support of national targets for climate mitigation and adaptation objectives as well as targets for greenhouse gas emissions reductions.
- **Objective CA06** To continue to reduce energy related CO_2 emissions of Wexford County Council, to improve energy efficiencies and to achieve the commitment under

the European Climate Alliance to reduce greenhouse gas emissions by 10% every five years. Chapter 9 of the CDP sets forth the county's policies for Infrastructure Strategy. Power transmission and grid connectivity is identified in this chapter, and the county asserts its commitment to reinforce the electricity transmission grid. The importance of renewable energy is identified again in the objectives of this chapter. The relevant policies for the proposed grid connection route are listed below:

- **Objective PT01** To facilitate the provision of and improvements to energy networks in principle, provided that it can be demonstrated that:
  - The development is required in order to facilitate the provision or retention of significant economic or social infrastructure.
  - The route proposed has been identified with due consideration for social, environmental and cultural impacts.
  - The design is such that will achieve least environmental impact consistent with not incurring excessive cost.
  - Where impacts are inevitable mitigation features have been included.
  - Proposals for energy infrastructure should be assessed in accordance with the requirements of Article 6 of the Habitats Directive.
- **Objective PT02** To support, subject to the objectives of this section and Volume 10 Energy Strategy, connecting infrastructure for the integration of low carbon and renewable energy generation projects including community scaled projects with power transmission infrastructure.
- **Objective PT04** To support the upgrade of existing and development of new electricity substations in locations that do not have a significant negative impact on nearby residents and are subject to landscaping screening.

The Wexford 'Energy Strategy' (WES) forms Volume 10 of the CDP, which recognises that to adequately increase levels of renewable energy generation substantial new infrastructure, grid reinforcement and interconnection are required. Grid connectivity is identified as integral to the success of solar farm developments, which are essential to meeting our renewable energy targets.

The following policy from the WES is relevant as the proposed project facilitates solar PV development:

- **Objective ES01:** To facilitate the development of solar PV developments in the area open for consideration as shown on Map 6 subject to the renewable energy target set for the County, the proper planning and sustainable development of the area and the Development Management standards set out below.

Grid connection policies as outlined in Chapter 8 (Supporting Infrastructure) of the WES provide a clear framework for aligning renewable energy development with the necessary grid infrastructure, ensuring that solar farm projects can be successfully connected to the electricity network and contribute to national and regional decarbonisation targets. The following policy is relevant:

- **Objective ES35** To facilitate the provision of and improvements to energy networks in principle, provided that it can be demonstrated that:
  - The development is required in order to facilitate the provision or retention of significant economic or social infrastructure.

- The route proposed has been identified with due consideration for social, environmental and cultural impacts.
- The design is such that will achieve least environmental impact consistent with not incurring excessive cost.
- Where impacts are inevitable mitigation features have been included.
- Proposals for energy infrastructure should be assessed in accordance with the requirements of Article 6 of the Habitats Directive.

Development management standard 2.11 of the CDP states the following in terms of 'undergrounding of services'

> *''In order to preserve the amenity and visual character of an area and in the interests of public safety, all services including electricity, broadband, public lighting, telephone and television cables shall be provided underground in all new developments.*
> *Provision should be made for the unobtrusive siting of transformer stations, pumping stations and other necessary service buildings. Pole mounted equipment (such as transformers) will not be permitted."*

In line with the policy requirement to preserve amenity and visual character and ensure public safety, the proposed grid connection will be provided via an underground cable.

Substation infrastructure is designed to minimize visual impact.

The proposed project is located entirely within a landscape which has been designated as a 'Lowland' area. These areas are identified in Chapter 11 of Wexford CDP as having a high capacity to absorb developments without intrusion.

The proposed project thus aligns with the CDP's policies and will avoid obstructive developments in sensitive landscapes.

2.5 CONCLUSION

Local, National, and European policies collectively support the development of renewable energy projects and supporting infrastructure. When specific plans' environmental implications are deemed acceptable or can be mitigated, government policy encourages the development of both large- and small-scale renewable energy projects, together with the necessary electrical infrastructures that support them.

The proposed project supports Ireland's approach to renewable energy generation, and the requirement to lower carbon emissions in compliance with municipal, regional, and national policies. Ireland has committed to the EU that 80% of its electricity consumption must come from renewable energy sources, and the proposed project will directly help achieve this goal. Ireland has also recognised that one of the key challenges facing the provision of renewable energy is the State's existing grid infrastructure. This has led to large scale investment in grid infrastructure being identified as a key government policy in the coming years.

Overall, the proposed project will help achieve local policy goals for renewable energy targets, and national aims to improve grid infrastructure and resilience. As such it is considered in compliance with the proper planning and sustainable development of the area.

3. BIODIVERSITY

3.1 SUMMARY OF ORIGINAL ASSESSMENT RESIDUAL EFFECTS AND CONCLUSIONS

The Ecological Impact Assessment (EcIA) informing the consented application for the Tincurry 110kV Substation (An Bord Pleanála case reference 318528[1]) identified that, in the absence of mitigation, the construction and operational phases of the development had the potential to result in likely significant effects on certain key ecological receptors. These receptors included habitats and species of local importance (higher ecological value) or greater; with potential effects on same, arising primarily from habitat loss (via vegetation clearance), habitat degradation (via siltation, eutrophication and contamination), and/or habitat disturbance (via construction activities).

The EcIA therefore set out a comprehensive suite of mitigation measures designed to avoid, reduce, and/or where possible offset these potential effects, as summarised in Table 3-1. These measures included; site-specific construction management practices, timing restrictions to protect sensitive species, habitat protection and reinstatement measures, and ongoing ecological supervision during construction works.

Following the incorporation and implementation of these mitigation measures into the project, the EcIA concluded that the magnitude of effects would be substantially reduced, ranging from slight neutral to slight positive.

Table 3-1: Potential Effects on Biodiversity and Corresponding Mitigation Measures for the Consented Tincurry Substation[1]

Phase	Ecological Receptor	Impact	Mitigation/Compensation
Construction	Designated sites	Habitat deterioration (hydrological pathways)	▪ Delineation of a 10m protective riparian buffer. ▪ Establishment of a 5m buffer from drainage ditches (for the interconnector cables). ▪ Pre-construction Invasive Alien Plant Species (IAPS) survey. ▪ Implementation of Landscaping and Biodiversity Plan.
	Habitats and Flora	Habitat loss (7.2m of hedgerow and 58.1m of field boundary/earth bank)	▪ Planting of 25m of native hedgerow. ▪ Pre-construction IAPS survey.
	Fauna (Yellowhammer, *Emberiza citronella*)	Habitat loss (arable lands)	▪ Planting of 25m of native hedgerow. ▪ Reseeding of grass in disturbed areas.
	Fauna (breeding birds; bats)	Destruction breeding sites/disturbance to breeding birds and roosting bats	▪ Timing for tree-felling and vegetation removal to be between late August to late October/early November. ▪ Appointment of a suitably qualified Ecological Clerk of Works (ECoW) to coordinate and oversee all measures.

[1] Available at https://www.pleanala.ie/en-ie/case/318528. Accessed in January 2026

Phase	Ecological Receptor	Impact	Mitigation/Compensation
			▪ Covering of excavations/trenches at night.
			▪ Best practice waste disposal.
			▪ Regular emptying all skips and bins.
			▪ Cordoning off any breeding/roosting sites until advice from suitably qualified/experienced ecologist.
			▪ Erection of mammal-proof security fencing around live areas.
	Aquatic species	Siltation	▪ Delineation of a 10m protective riparian buffer.
			▪ Use of bunded fuel containers.
			▪ Establishment of a 5m buffer from drainage ditches (for the interconnector cables).
			▪ Covering of excavations/trenches at night.
		Eutrophication	▪ Designated refuelling areas.
			▪ Best practice waste disposal.
			▪ Regular emptying all skips and bins.
			▪ Base layer of construction compound to mimic a soakaway scenario.
		Contamination	▪ Installation of a Class 1 Full Retention Oil Separator to collect water generated in the bunded areas, which will discharge to the soakaway.
			▪ Provision of a foul holding tank, to be emptied regularly.
			▪ Fencing off stream from livestock.
Operation	Aquatic species	Erosion	▪ Lower intensity habitat management practices (e.g. sheep grazing), as opposed to tillage farming (current land use).
		Siltation	
		Contamination	

3.2 ASSESSMENT OF PROPOSED ALTERATION

Section 1.5 of this PECR details the proposed amendments to the Tincurry 110kV Substation and Grid Connection. This Biodiversity Chapter has been prepared to examine the possible residual effects arising from the amendments on flora and fauna, both within and surrounding the development area. This Chapter follows on from the conclusions of the EcIA informing the consented application, adding specific information of relevance to existing site conditions, and the assessment of potential effects of the amended Tincurry 110kV Substation and Grid Connection during its Construction and Operational Phases. Mitigation measures are

recommended, where appropriate, to avoid, reduce, or offset potential adverse impacts and to enhance positive outcomes, where possible.

3.3 METHODOLOGY

3.3.1 Legislation and Guidelines

The Wildlife Act 1976 (as amended) allows for the protection of designated wild animals and birds. Licenses are required for interference with protected species, and this Act makes it illegal to interfere with or damage the resting or breeding places of any protected wild animal.

The Flora Protection Order 2022 (S.I. No. 235/2022) provides protection in Ireland to several rare plant species from being purposefully cut, picked, uprooted, or damaged. It is also illegal under this Protection Order to interfere, alter or damage the relevant habitats.

There are three main types of designation for nature conservation in Ireland: Special Areas of Conservation (SACs), and Special Protection Areas (SPA), designated under the Habitats Directive (92/43/EEC) and Birds Directive (79/409/EEC), respectively; and Natural Heritage Areas (NHAs), designated under the Wildlife Act 1976 (as amended), which are protected from damage due to the presence of nationally important habitats and protected plant and animal species. As NHAs are not part of the Natura 2000 network, these sites are not subject to the Appropriate Assessment (AA) process required under Article 6(3) of the Habitats Directive. Proposed Natural Heritage Areas (pNHAs), which are sites identified as important for nature conservation but have not yet been given legal protection, were also considered herein.

The Water Framework Directive (WFD) (2000/60/EC) was transposed into Irish law by the European Communities (Water Policy) Regulations 2003 (S.I. 722, 2003), with the objective of all water bodies achieving *Good* water quality status. It forms a framework for community involvement in the topic of water policy. The WFD is implemented in 6-year cycles, in which the water bodies' conditions are assessed, and actions are set to achieve the water quality objectives. Currently, Ireland is in the 3rd Cycle of the WFD (2022-2027).

Beyond assuring compliance with the above legislation, this PECR Biodiversity Chapter is cognisant of the Environmental Protection Agency (EPA) (2022) and Chartered Institute of Ecology and Environmental Management (CIEEM) (2018) guidelines, as well as:

- Chartered Institute of Ecology and Environmental Management (CIEEM, 2023) - Biodiversity Enhancement for New Developments in Ireland;
- Chartered Institute of Ecology and Environmental Management (CIEEM, 2024) - Biodiversity Net Gain in Ireland;
- National Roads Authority (NRA, 2006a) - Guidelines for the Protection and Preservation of Trees, Hedgerows and Scrub Prior To, During and Post Construction of National Road Schemes;
- National Roads Authority (NRA, 2006b) - Guidelines for the treatment of Badgers prior to the Construction of National Road Schemes;
- National Roads Authority (NRA, 2006c) - Guidelines for the treatment of Otters prior to the Construction of National Road Schemes;
- National Roads Authority (NRA, 2009a) - Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes;
- National Roads Authority (NRA, 2009b) - Guidelines for Assessment of Ecological Impacts of National Road Schemes;

- Smith *et al.* (2011) - Best Practice Guidance for Habitat Survey and Mapping;
- Fossitt (2000) - A Guide to Habitats in Ireland; and
- Collins (2023) - Bat Surveys for Professional Ecologists: Good Practice Guidelines.

3.3.2 Likely Significant Effects Assessment

To assess the likely significant effects on biodiversity from the proposed project, a source-pathway-receptor conceptual model was used. This is a standard tool used in environmental assessments (e.g. Holdgate, 1979), in which:

- Source - A 'source' is defined as the individual element of the proposed works that has the potential to significantly affect a Key Ecological Receptor (KER);
- Pathway - A 'pathway' is defined as the means, or route, by which a source can affect the KER; and,
- Receptor – A 'receptor' is defined as a protected, or designated, ecological feature (classified as a KER).

3.3.3 Key Ecological Receptors

The National Roads Authority (NRA) guidelines (NRA, 2009b) include an indicative valuation of ecological receptors under five geographical scales: International Importance; National Importance; County Importance; Local Importance (Higher Value); and Local Importance (Lower Value). This Chapter follows this classification, while also adopting the consideration that "(…) *ecological resources of below 'Local Importance (higher value)' should not be selected as 'key ecological receptors'* [KER] *for which detailed assessment is required*" (NRA, 2009b).

3.3.4 Cumulative Effects

Cumulative effects are those that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the proposed development (European Commission, 1999). These changes can result from individually insignificant but collectively significant actions taking place over a period of time, or concentrated in a location, that create larger and more significant effects. Different types of actions can cause cumulative effects, but they may be, generally, characterised as per CIEEM (2018):

- Additive/incremental – in which multiple activities/projects (each with potentially insignificant effects) add together to contribute to a significant effect due to their proximity in time and space; and
- Associated/connected – a development activity 'enables' another development activity, e.g. phased development as part of separate planning applications. Associated developments may include different aspects of the project which may be authorised under different consent processes. It is important to assess the potential impacts of the 'project' as a whole and not ignore impacts that fall under a separate consent process.

Together with the characterisation of the KER and the description of effects, information regarding other relevant plans and projects was gathered to assess the potential for cumulative effects, as well as effect interactions, having regard to geographical and time boundaries.

3.3.5 Residual Effects

After characterising the KER and assessing the potential effects from the proposed project, mitigation measures are proposed, if necessary, to avoid and/or reduce the significance of the identified ecological effects. Residual effects are those effects on biodiversity that remain upon the implementation of mitigation measures and are considered herein (Section 3.10).

3.3.6 Zone of Influence

The Zone of Influence (ZoI) is defined as the area over which ecological features may be affected by biophysical changes as a result of the proposed project. For its identification, as its extent is dependent on the sensitivities of the ecological features to an environmental change, as well as the pathways connecting the proposed project to the relevant ecological features, it may be appropriate to define different ZoI for each ecological feature (CIEEM, 2018).

The ZoIs were therefore defined through a desk-based assessment with regard to the sensitivity of habitats and species likely to be present/previously recorded at the proposed project site and surrounding areas, and potential connectivity (physical, hydrological or ecological) with the proposed project site. The process of establishing the ZoI of the proposed project is summarised hereunder:

- On the basis of the desk-based assessment, the main habitats located within the proposed project site and surrounding lands were found to likely comprise of agricultural, woodland, built land and riverine habitats. Given the location of the proposed project site and having regard to the habitats likely to be present, protected species likely to be present within the environs of the proposed project site include Badger (*Meles meles*), Otter (*Lutra lutra*), and common farmland bird species;
- Impacts associated with the loss of habitats, and therefore the ZoI, is confined to the proposed project area (i.e. the habitats located within the redline boundary);
- The extent of the survey area for protected non-volant mammal species was defined taking into account that disturbance effects on these ecological features from construction works may occur up to 150m from the source of disturbance (NRA, 2006c, 2006b);
- The survey area for volant mammals (i.e. bats) relates to their commuting/foraging routes, as well as the location of roost sites. An assessment of potential bat roosts within the proposed project site was undertaken.
- The extent of the survey area for protected bird species was established based on potential impacts to birds from the proposed project. The main potential effects to birds include: habitat loss, fragmentation of habitats, and disturbance of breeding birds and their nests/eggs (including their potential destruction). Therefore, the survey area for birds has been defined as within and up to 150m from the proposed project site boundary;
- The ZoI for potential aquatic effects is confined to surface water features (e.g., drainage ditches, rivers) intersected by the proposed project, and the water bodies located downstream that could be hydrologically connected (Figure 3-3).

3.3.7 Data Collection Methods

This amendment report derives from the granted application for the Tincurry 110kV Substation (An Bord Pleanála case reference 318528[1]), and for this chapter, the specific case of the

Biodiversity Section from the EcIA of the Proposed Tincurry Substation & Grid Connection, Co. Wexford which informed the granted planning application. However, as the proposed amendment includes additional areas than those surveyed and assessed for the aforementioned EcIA, the description of the receiving environment (Section 1.1) details all of its elements surveyed for the original EcIA, as well as the additional areas associated with the amendment.

3.3.7.1 Desk Study

A desk study of available databases was carried out to identify potential ecological constraints. The following databases were consulted to retrieve ecological data:

- National Parks and Wildlife Service (NPWS) database[2];
- National Biodiversity Data Centre (NBDC) database[3];
- Environmental Protection Agency (EPA)[4];
- Catchments.ie[5];
- Ireland's National Geospatial Data Hub (GeoHive)[6];
- Geological Survey Ireland (GSI)[7];
- Botanical Society of Britain and Ireland (BSBI) database[8];
- Mammal Atlas[9];
- Regional Red Lists for the Island of Ireland of Threatened Species[10];
- The Status of EU Protected Habitats and Species in Ireland (NPWS, 2025a, 2025b, 2025c); and,
- Irish Butterflies[11].

The results of the desk study were used to identify ecological features that could be potentially affected by the proposed project, and to inform the scope of the field survey. Relevant environmental data gathered during the desk study was collated and used to assist with the ecological assessment and evaluation, but no impact assessments were made, or conclusions were drawn based upon the results of the desktop studies alone.

3.3.7.2 Field Survey

In addition to the surveys undertaken to inform the Planning Application 318528[1], a multidisciplinary walkover survey was undertaken at the proposed project site and immediate surroundings on the 6th of June and 23rd of September 2025, covering previously surveyed habitats, as well as new areas associated with the proposed amendment.

3.3.7.2.1 Habitats and Flora

The areas associated with the proposed project were surveyed and mapped, in good weather conditions and unconstrained. Habitats surveyed within the site were classified upon the

[2] Available at https://www.npws.ie/maps-and-data. Accessed in October 2025
[3] Available at https://maps.biodiversityireland.ie/. Accessed in October 2025
[4] Available at https://www.epa.ie/. Accessed in October 2025
[5] Available at https://www.catchments.ie/. Accessed in October 2025
[6] Available at https://www.geohive.ie/. Accessed in October 2025
[7] Available at https://www.gsi.ie/. Accessed in October 2025
[8] Available at https://database.bsbi.org/maps/. Accessed in October 2025
[9] Collated by the National Biodiversity Data Centre from different sources, Atlas of Mammals in Ireland 2010-2015, National Biodiversity Data Centre, Ireland, accessed in October 2025, https://maps.biodiversityireland.ie/Dataset/252
[10] Available at https://www.npws.ie/publications/red-lists. Accessed in October 2025
[11] Available at https://www.irishbutterflies.com/general_information.html. Accessed in October 2025

qualitative consideration of the plant species abundance, diversity, structure, and protection status; the predominant plant species were identified and named according to Parnell & Curtis (2012) and Stace (1991) for higher plans; Fitter and Fitter (1989) for grasses, sedges and rushes; and Lockhart *et al.* (2012) and Hodgetts *et al.* (2024) for bryophytes.

Habitats were classified according to Fossitt (2000), while satellite imagery assisted with habitat delineation and interpretation, following Smith *et al.* (2011). Particular attention was dedicated in the identification of plant species protected under the Flora Protection Order (S.I. No. 235/2022), listed in Irish Red List Series (Wyse Jackson *et al.*, 2016), while guidance for the identification of habitats compliant with Annex I of the Habitats Directive (Council Directive 92/43/EEC) classification was also used (European Commission, 2013; O'Neill and Barron, 2013; Martin *et al.*, 2018; Daly *et al.*, 2023).

In addition, a search for Invasive Alien Plant Species (IAPS) listed under the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011, as amended) was also conducted throughout the proposed project area.

3.3.7.2.2 Protected Fauna

During the multidisciplinary walkover survey, particular attention was dedicated to the detection of evidence (primary – e.g. direct sightings; or secondary – e.g. breeding/resting habitat) indicating the presence, or likely presence of protected mammal species likely to occur within the proposed project site. The search focused on habitats within 150m of the proposed project site (as defined by each of the ZoI – Section 3.3.6), where habitats were searched for field signs and/or usage by fauna, such as well-used tracks, droppings, places of shelter and features/areas likely to be of particular value as foraging resources, in accordance with NRA (2009a).

Otter (*Lutra lutra*) is afforded protection under Annex II, and IV of the Habitats Directive, and Wildlife Act (as amended), and evidence for its presence was searched along suitable habitat within the proposed project site (e.g. drainage ditches, river). The survey area encompassed a 150m buffer surrounding the proposed project site to account for noise disturbance impacts (as per Chanin, 2003; and NRA, 2006c).

The multidisciplinary walkover survey also included a daytime preliminary roost assessment survey, which was undertaken on all trees present within the proposed project site. Information was gathered on potential roost features on trees (e.g. cavities; cracks; Ivy, *Hedera Hibernica*, cover), following methods outlined by Collins (2023).

3.3.7.2.3 Aquatics

First and second Strahler stream order streams (Strahler, 1957) are not specifically monitored for the WFD (rivers with catchments of less than 10km^2 are not included in Annex II of the WFD), but may be very important resources in terms of spawning for salmonid fish, and in terms of providing clean dilution water for main-stem rivers (Kavanagh *et al.*, 2006). As there is a watercourse intercepting the proposed project (Figure 3-1) which is of such typology, the use of a specific methodology developed for the assessment of this type of watercourse is appropriate – the Small Streams Risk Score (SSRS), a methodology solely based on macroinvertebrates and their well known response to pollution (Ryan *et al.*, 2015). The level of taxonomy required for SSRS is less rigorous than that required for full ecological status assessment using the EPA's Q-Value system (Toner *et al.*, 2005), but it is not sensitive enough to provide a full ecological status assessment for macroinvertebrates. However, it provides an

extremely useful method for the identification of diffuse pollution sources (McGarrigle, 2014), in catchments of the size and land use as in the proposed project local area.

The simple methodology consists of (Ryan *et al.*, 2015):

- Site selection at the Lodgewood stream (EPA Code: 12L55), within the Bann_070 WFD river water body (IE_SE_12B011000) - Figure 3-1;
- Two minute kick sample (Pollard, 1981);
- One minute stone wash;
- Weed sweep (depending on the nature of the river);
- Macroinvertebrate taxa identification of collected sample (minimum of 20 minutes); and
- Filling of SSRS field sheet, and calculation of SSRS scores, which are categorised as:
  - >7.25 – stream 'probably not at risk';
  - >6.5 to 7.25 – stream 'probably at risk'; and
  - <6.5 – stream 'at risk'.

These features were used to assess the physical suitability of each channel for supporting salmonids, lampreys and other fish, and complement the SSRS assessment.

It is important to reiterate that the SSRS is not a method for assigning an 'ecological status' to rivers, being solely developed for the identification of streams at risk of being affected by point source and/or diffuse pollution (Kavanagh *et al.*, 2006).





Legend

- Site Boundary
- Rivers Sites
- Aquatic Sampling Locations

0 50 100
Meters

Spatial Reference
Datum: IRENET95
EPSG: 2157

Copyrights:
Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community,

Rev	Date	Description	By	Chkd
A	04/02/2026	First issue	K.K	D.B

Client: Ørsted

Project:
Lodgewood Solar

Title:
Figure 3-1:
Selected Location for SSRS Assessment

Scale @ A3: 1:3,000

Prepared by:	Checked by:	Date:
K.Kale	D.Hobbs	February 2026

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Map Ref: 12123-016-Aq.Loc-S.BO-TOB-A

Draft: A

3.4 RECEIVING ENVIRONMENT

3.4.1 Desk Study Results

3.4.1.1 Sites of International Importance

Similarly to the conclusions on the EcIA informing the granted application for the Tincurry 110kV Substation and Grid Connection (An Bord Pleanála case reference 318528[1]), the proposed project is located approximately 1.4km from the Slaney River Valley SAC [000781], while the Wexford Harbour and Slobs SPA [004076] is located further downstream, approximately 9.8km away (Table 3-2, and Figure 3-2). These are the European sites hydrologically connected with the proposed project (i.e. are located within the hydrological pathway of the proposed project), and a complete assessment of likely significant and/or adverse effects on these European sites from the proposed project has been undertaken and reported in the AA.

No other sites of international importance (e.g. Ramsar sites) are located within the ZoI of the proposed project.

3.4.1.2 Sites of National Importance

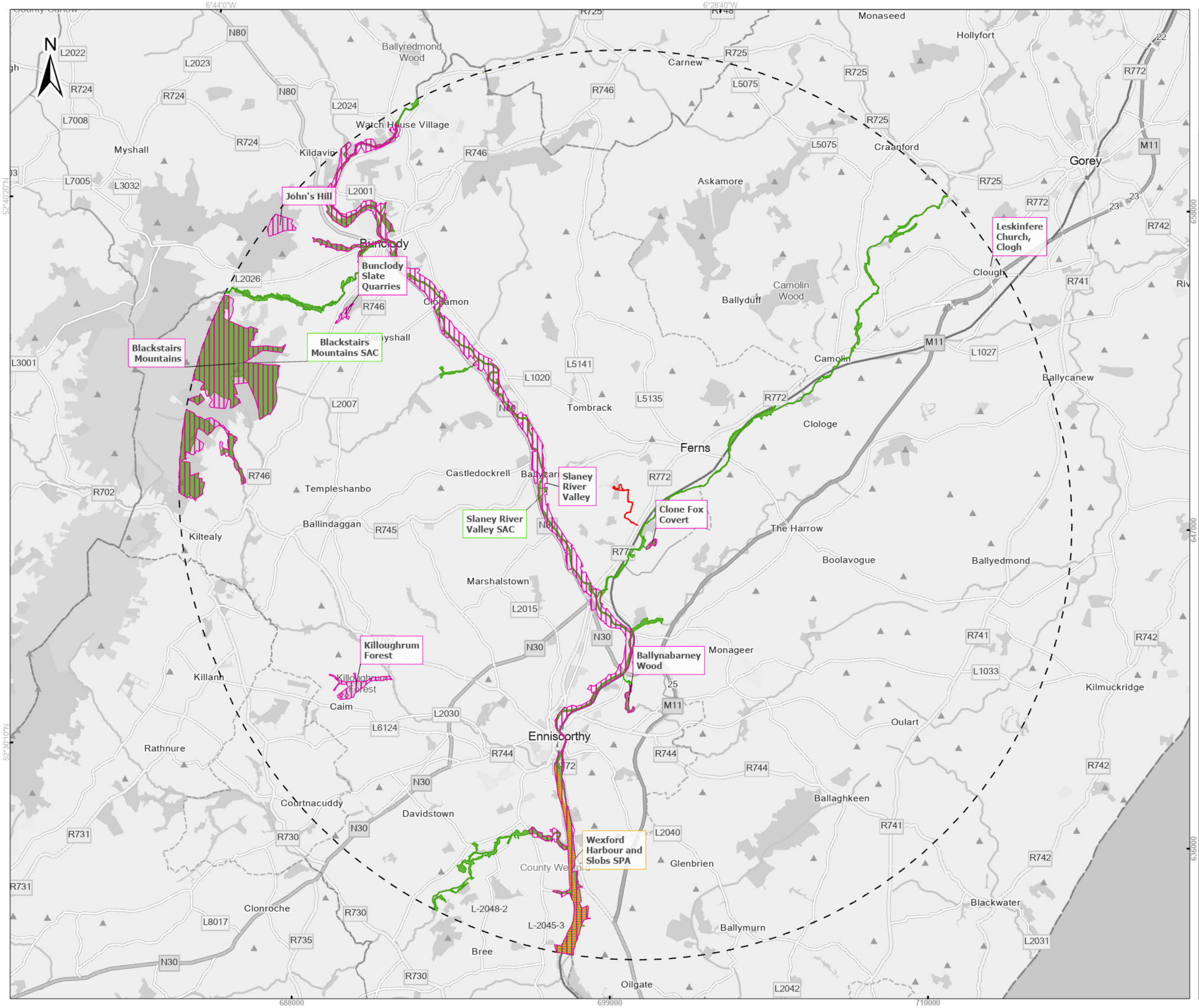
Three nationally important sites for biodiversity are within, or in near proximity to the ZoI/hydrological pathway (detailed in Section 3.4.1.4) of the proposed project (Table 3-2): the Clone Fox Covert pNHA [000755]; the Slaney River Valley pNHA [000781]; and the Ballynabarney Wood pNHA [000746]. Connectivity between these nationally important sites and the proposed project has been assessed, and concluded that only the Slaney River Valley pNHA, separated from the proposed project by approximately 2.3km, is connected with the proposed project (through hydrological pathways - Table 3-2).

None of the National Parks, or Nature Reserves in Ireland are located within the ZoI of the proposed project.

Table 3-2: Important Conservation Sites for Biodiversity and Connectivity with the Proposed Project

Site Name [Code]	Approximate Distance from Proposed project	Summary Description	Connectivity with Proposed Development
International Sites			
Slaney River Valley SAC [000781]	1.4km	This site comprises the freshwater stretches of the River Slaney as far as the Wicklow Mountains, and a number of tributaries. The site presents a good and rare variety of floating river vegetation, wet woodland, old oak woodlands, estuarine and salt marsh habitats, as well as several species listed either on Annex II of the Habitats Directive, on Annex I of the Birds Directive, and on the Irish Red Data Book, being considered, overall, a site of considerable conservation significance (DAHG, 2015).	**Yes** The proposed project intersects the Lodgewood Stream, part of the Bann_070 WFD river water body (Section 3.4.1.4), which flow into the Slaney River Valley SAC (Figure 3-2).
Wexford Harbour and Slobs SPA [004076]	9.8km	Wexford Harbour is the lowermost part of the estuary of the River Slaney. The site is of international importance for several species of waterbirds but also because it regularly supports well in excess of 20,000 waterbirds, being one of the top three sites in the country for numbers and diversity of wintering birds. Of particular importance is that it is one of the two most important sites in the world for Greenland White-fronted Goose (*Anser albifrons flavirostris*), internationally important for Mute Swan (*Cygnus olor*), Light-bellied Brent Goose (*Branta bernicla hrota*), Bar-tailed Godwit (*Limosa lapponica*) and Black-tailed Godwit (*Limosa limosa*), nationally important for 26 other wintering waterbirds, and regular location for scarce passage waders, and some birds of prey (NPWS, 2014).	**Yes** The Wexford Harbour and Slobs SPA extent encompasses the Upper Slaney Estuary WFD transitional water body (Figure 3-2), which is part of the hydrological pathway from the proposed project (Section 3.4.1.4). Therefore, there is hydrological connectivity between the proposed project and this SPA.
National Sites			
Clone Fox Covert pNHA [000755]	2.1km	Clone Fox Covert pNHA is a small area of Oak woodland on a slope above the River Bann. The soil is a moderately freely draining brown earth. The canopy is dominated by Pedunculate Oak (*Quercus robur*), with occasional Beech (*Fagus sylvatica*) and Sycamore (*Acer pseudoplatanus*). Along the boundary ditch, Wych Elm (*Ulmus glabra*) and Wild Cherry (*Prunus avium*) are present. A large Badger sett is located here. The species and structural diversity of the woodland is poor. Holly (*Ilex aquifolium*) and Hazel (*Corylus avellana*) are the principal shrub layer components. The field layer is dominated by Brambel (*Rubus fruticosus* agg.) and Bracken (*Pteridium aquilinum*) and appears highly disturbed in places. The oaks are widely spaced and even aged (Perrin *et al.*, 2008).	**No** As Perrin *et al.*, (2008) describe, the Clone Fox Covert pNHA occupies a relatively small area (approximately 5ha) above the River Bann (i.e., the Bann_070 WFD river water body), thus, upstream from any hydrological influence from the proposed project.
Slaney River Valley pNHA [000781]	2.3km	Similar to the description of the Slaney River Valley SAC [000781] above.	**Yes** Similarly to the Slaney River Valley SAC above, the proposed project intersects the Lodgewood Stream, part of the Bann_070 WFD river water

Site Name [Code]	Approximate Distance from Proposed project	Summary Description	Connectivity with Proposed Development
			body (Section 3.4.1.4), which flow into the Slaney River Valley pNHA.
Ballynabarney Wood pNHA [000746]	6.8km	The site supports a mosaic of Old Oak woodland and Oak-Ash-Hazel woodland in a valley of a tributary of the River Slaney (Wexford County Council, 2013).	**No** The Ballynabarney Wood pNHA is located within the Corbally Stream_040 WFD river water body (IE_SE_12C040900), upstream from the hydrological pathway from the proposed project. Therefore, there is no hydrological connectivity between the proposed project and this nationally important site.





Legend

- Site Boundary
- Initial 15Km Buffer

Designated Sites

- Special Areas of Conservations (SACs)
- Special Protected Areas (SPAs)
- Protected National Heritage Areas (pNHAs)

0 2 4
Kilometers

Spatial Reference
Datum: IRENET95
EPSG: 2157

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Rev	Date	Description	By	Chkd.
A	27/01/2026	First issue	K.K	D.B

Client: Ørsted

Project: Lodgewood Solar

Title: Figure 3-2: International and National Important Sites Within the ZoI of the Proposed Development

Scale @ A3: 1:120,000

Prepared by:	Checked by:	Date:
K.Kale	D.Hobbs	January 2026

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Map Ref: 12123-017-EU.S-S.BO-TOB-A

Draft: A

3.4.1.3 Biodiversity Records

A search was conducted on the available ecological databases (as described in Section 3.3.7.1) for protected fauna species records within the ZoI of the proposed project.

The spatial datasets for the fourth cycle of the Article 17 assessments (NPWS, 2025a; 2025b; 2025c) have not yet been made publicly available, therefore, the spatial datasets for the third cycle were reviewed. The spatial data for the third cycle of Article 17 of the Habitats Directive reports include records of two protected mammal species: Eurasian Otter (*Lutra lutra*), and Irish Hare (*Lepus timidus* subsp. *hibernicus*), each separated from the proposed project by a minimum of approximately 2.5km (Table 3-3). It is important to note that one of the Eurasian Otter records is located within the Bann_070 (IE_SE_12B011000) WFD river water body, i.e., within the hydrological pathway from the proposed project (Section 3.4.1.4).

Table 3-3: Protected Faunal Species Within the ZoI of the Proposed project

Grid Reference	Common Name	Scientific Name	Most Recent Record	Designation
Article 17 spatial data (2019)[2]				
Mammals				
S966477	Eurasian Otter	*Lutra lutra*	03/12/2008	▪ Annex II and IV of the Habitats Directive ▪ Wildlife Act (as amended)
S967488				
S983450				
S987448				
S983451			01/12/2015	
T021485			02/12/2015	
T013500	Irish Hare	*Lepus timidus* subsp. *hibernicus*	12/11/2011	▪ Wildlife Act (as amended)

3.4.1.4 Aquatic Environment

The proposed project is located within the Slaney & Wexford Harbour WFD Catchment (12), at the Bann[Wexford]_SC_010 (12_13) WFD SubCatchment.

The proposed project intersects the Bann_070 (IE_SE_12B011000) WFD river water body, which flows into the Slaney_170 WFD river water body (IE_SE_12S022300), establishing the freshwater component of the hydrological pathway from the proposed project. This pathway is completed immediately downstream, by the Upper Slaney Estuary WFD transitional water body (IE_SE_040_0300) (Figure 3-3).

From the WFD water quality status data of the surface water bodies included in the hydrological pathway from the proposed project (Table 3-4) it is possible to verify that only the Bann_070 WFD river water body did not fail the WFD objective, reaching a *Good* water quality status for the latest WFD monitoring period (2019-2024). However, both river water bodies within the hydrological pathway from the proposed project (i.e. Bann_070, and Slaney_170; Table 3-4) failed the WFD objectives regarding 'Nitrates', being classified at *Moderate* for this parameter[5], commonly associated with agricultural pressures (i.e., point or diffuse Nitrate pollution from agricultural fields). The 'Nitrates' pressures are augmented in the case of the Slaney_170 WFD river water body by also *Moderate* status for 'Supporting Chemistry Conditions' and 'Specific Pollutant Conditions'.

The Nitrates role as a driver of local river water quality is confirmed by the latest EPA report on the Slaney & Wexford Harbour Catchment, which identifies 'agriculture' as the most common significant pressure affecting surface water bodies in the catchment in 2021 (EPA, 2024). Perhaps as a partial consequence of this pressure on the local aquatic environment, one of the limiting factors for the Upper Slaney Estuary WFD transitional water body not achieving its WFD objectives (it is classified as *Moderate* WFD water quality status) is the 'Nutrient Conditions' (Table 3-4).

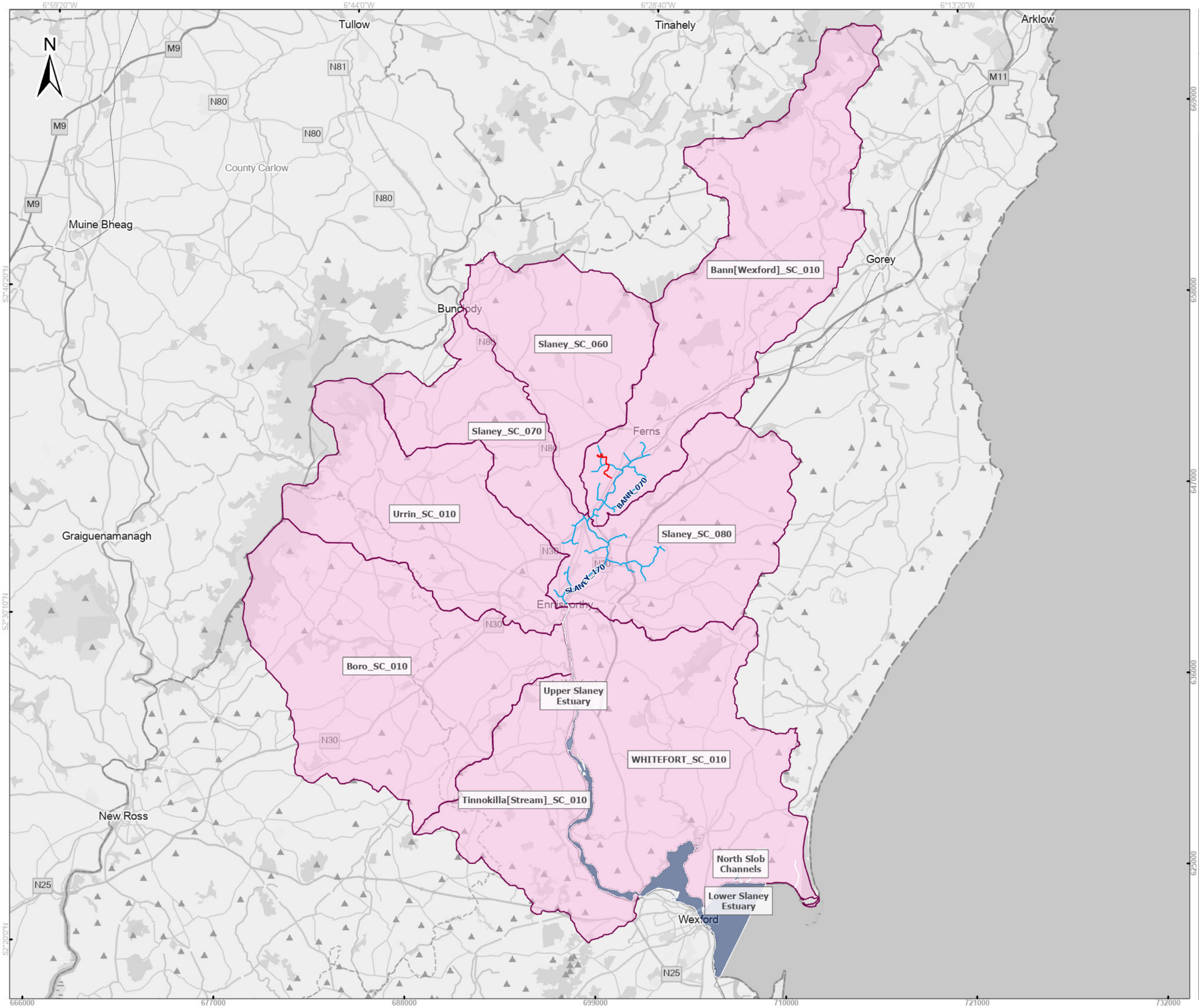
In terms of groundwater, the proposed project lies near the southeastern limit of the Ballyglass WFD groundwater body (SE_G_011). The Ballyglass is a large groundwater body, stretching under an area of approximately 1,390km^2, from County Wicklow to Carlow and Wexford. Although the available description of the Ballyglass WFD groundwater body is quite broad considering the groundwater body extent[5], it refers to a thick subsoil (>5m) around the proposed project general area (i.e., near the River Slaney), overlaying a siliceous bedrock, while the groundwater flow paths are generally short, and directed to the nearest surface water body. The Ballyglass WFD groundwater body has been classified with *Good* WFD water quality status for the latest assessment period (2019-2024; Table 3-4).

Table 3-4: Relevant WFD Water Bodies, and Latest WFD Water Quality Status[5]

Unassigned | Bad | Poor | Moderate | Good | High

Water Body Name	WFD Reference	WFD Water Quality Status	Limiting Factor
Bann_070	IE_SE_12B011000	M*	▪ Nitrate
Slaney_170	IE_SE_12S022300	M*	▪ Supporting Chemistry Conditions ▪ Nitrogen Conditions & Nitrate ▪ Specific Pollutant Conditions
Upper Slaney Estuary	IE_SE_040_0300	M*	▪ Biological Status or Potential ▪ Phytoplankton Status or Potential ▪ Nutrient Conditions ▪ Other determinant for nutrient conditions
Ballyglass	IE_SE_G_011		

* M – Monitoring





Legend

- Site Boundary
- WFD - River water bodies
- WFD - Subcatchments
- WFD - Transitional water bodies

0 2 4
Kilometers

Spatial Reference
Datum: IRENET95
EPSG: 2157

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Rev	Date	Description	By	Chkd.
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Client: Ørsted

Project: Lodgewood Solar

Title: Figure 3-3: Hydrological and Hydrogeological Pathway from the Proposed Development

Scale @ A3: 1:200,000

Prepared by:	Checked by:	Date:
K.Kale	D.Hobbs	January 2026

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Map Ref: 12123-018-HYDRO..StA-S.BO-TOB-A

Draft: A

3.4.2 Field Survey Results

As described in Section 3.3.7.2, a multidisciplinary walkover and aquatic surveys were conducted on the 5th and 6th of June 2025 at the proposed project, with regard to the defined ZoIs (Section 3.3.6). The multidisciplinary walkover survey was later complemented with a second visit, in September 2025.

3.4.2.1 Habitats and Flora

Five habitat types were identified within the proposed project site during the field surveys. The two most representative habitats within the studied area, occupying similar extents, are (Table 3-5; Figure 3-4):

- BC1 – Arable crops: two fields planted with a Wheat monoculture (*Triticum* spp.), with low diversity and limited ecological value;
- WD1 – (Mixed) Broadleaved woodland: highly diverse woodland, representing a rare habitat in the local area. It showed signs of historical management, such as the presence of excavated drainage ditches (L1, L2, L3), which may have been introduced to regulate the local hydrology

The space mediating the habitat P2 (BC1 – Arable crops) and P4 (WD1 – (Mixed) Broadleaved woodland) (Figure 3-4) was occupied by a narrow area of a dry grassy meadow habitat (P5: GS2 – Dry meadows and grassy verges), a rare habitat in the local area (i.e., not recently managed grasslands, important for pollinators). It is likely to reflect management cessation in the area, as, although with relevant diversity, is mostly occupied by ruderal graminoid species, typical of early stages of vegetation recolonisation.

Another relevant feature in the landscape at this location is the area occupied by the Lodgewood 220kV substation. Its surface is largely artificial (more than 50%), with managed rank vegetation around its boundary.

In terms of linear habitats, the most notable feature within the surveyed area was the FW1 – Eroding/upland rivers (L5; Table 3-5) habitat – the Lodgewood stream (EPA code 12L55), which is part of the Bann_070 WFD river water body (results of aquatic surveys of this stream are included in Section 3.4.2.3). It is a small stream, but its importance is heightened due to the pathway it assumes in connecting the proposed project site and the Slaney River Valley SAC and pNHA (Section 3.4.1.1 and 3.4.1.2), and in particular to the existing Freshwater Pearl Mussel populations located downstream (as identified in the 'EcIA of the Proposed Tincurry Substation & Grid Connection, Co. Wexford' which informed the granted planning application[1]). Furthermore, FW1 habitats are listed in the most up-to-date County Wexford Biodiversity Action Plan (Wexford County Council, 2013) as a threatened habitat.

The surveyed area also included several drainage ditches, both within the P4 habitat and dividing the two P2 agricultural fields (Figure 3-4). These drainage ditches were either dry during the field survey (L6; Figure 3-4), or occasionally held standing water (L1-L4; Figure 3-4) although not connecting to the Lodgewood stream. These artificial channels did not include any distinctive vegetation from their surroundings but could be of some local importance for wildlife. Habitat along the access road comprised largely of arable crops and artificial surfaces (an existing farm track), with small sections of hedgerow and dry vegetated drainage ditches or earth mounds.





Legend

- Site Boundary
- Bat Potential

Habitats

- FW4 - Drainage ditches
- WL2 - Treelines
- FW1 - Eroding/Upland River
- GS2 - Dry meadows and grassy verges
- BC1 - Arable crops
- WD1 - (Mixed) broadleaved woodland
- BL3 - Buildings and artificial surfaces

0 20 40
Meters

Spatial Reference
Datum: IRENET95
EPSG: 2157

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A	26/02/2026	First issue	K.K	D.B

Client: Ørsted

Project:

Lodgewood Solar

Title:

Figure 3-2:
Relevant Field Study Observations
at the Proposed Project

Scale @ A3: 1:1,500

Prepared by:	Checked by:	Date:
K.Kale	D.Hobbs	February 2026

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Map Ref: 12123-022-HAB-S.BO..NIS-TOB-A

Draft: A

Table 3-5: Species Composition of the Terrestrial Habitats Recorded within the Proposed project Site

Map Ref.	Dominant Habitat Code	Dominant Habitat Name	Extent (ha or m)	DAFOR*	Common Name	Scientific Name	Ecological Valuation (NRA, 2009b)
Polygon Habitats							
P2 - Plate 3.1	BC1	Arable crops	4.68	D	Wheat	*Triticum* spp.	Local Importance (lower value)
				R	Knotgrass	*Polygonum aviculare*	
					Greater Plantain	*Plantago major*	
P4 - Plate 3.4	WD1	(Mixed) Broadleaved woodland	4.22	A	Scots Pine	*Pinus sylvestris*	**Local Importance (higher value)**
					Holly	*Ilex aquifolium*	
					Bramble	*Rubus fructicosus* agg.	
					Pedunculate Oak	*Quercus robur*	
					Downy Birch	*Betula pubescens*	
					Ivy	*Hedera hibernica*	
				F	Bracken	*Pteridium aquilinum*	
					Gorse	*Ulex europaeus*	
					Beech	*Fagus sylvatica*	
				O	Honeysuckle	*Lonicera periclymenum*	
					Hard Fern	*Blechnum spicant*	
					Common Tamarisk-moss	*Thuidium tamariscinum*	
					Common Haircup	*Polytrichum commune*	
					Broad Buckler-fern	*Dryopteris dilatata*	
					Male Fern	*Dryopteris filix-mas*	
				R	Wood Horsetail	*Equisetum sylvaticum*	
					Sheep's Sorrel	*Rumex acetosella*	
					Ground-ivy	*Glechoma hederacea*	
					Lesser Celandine	*Ficaria verna* ssp *verna*	

Map Ref.	Dominant Habitat Code	Dominant Habitat Name	Extent (ha or m)	DAFOR*	Common Name	Scientific Name	Ecological Valuation (NRA, 2009b)
					Remote Sedge	*Carex remota*	
					Yew	*Taxus baccata*	
					Bilberry	*Vaccinium myrtillus*	
					Lords-and-Ladies	*Arum maculatum*	
					Devil's-Bit Scabious	*Succisa pratensis*	
P5 - Plate 3.2	GS2	Dry meadows and grassy verges	0.3	D	Yorkshire Fog	*Holcus lanatus*	**Local Importance (higher value)**
				A	Cocksfoot	*Dactylis glomerata*	
				F	Meadow Buttercup	*Ranunculus acris*	
					Sweet Vernal-grass	*Anthoxanthum odoratum*	
					False Oat-grass	*Arrhenatherum elatius*	
				O	Rosebay Willowherb	*Chamaenerion angustifolium*	
					Common Nettle	*Urtica dioica*	
				R	Bush Vetch	*Vicia sepium*	
					Meadow Vetchling	*Lathyrus pratensis*	
P6 - Plate 3.3	BL3	Buildings and artificial surfaces	2.72	-	-	-	Local Importance (lower value)

Map Ref.	Dominant Habitat Code	Dominant Habitat Name	Extent (ha or m)	DAFOR*	Common Name	Scientific Name	Ecological Valuation (NRA, 2009b)
Linear Habitats							
L1- Plate 3.5	FW4	Drainage ditches		O	Holly	*Ilex aquifolium*	Local Importance (lower value)
					Ivy	*Hedera hibernica*	
					Broad Buckler-fern	*Dryopteris dilatata*	
					Hard Fern	*Blechnum spicant*	
L2 - Plate 3.6	FW4	Drainage ditches			Holly	*Ilex aquifolium*	Local Importance (lower value)
					Ivy	*Hedera hibernica*	
					Broad Buckler-fern	*Dryopteris dilatata*	
L3 - Plate 3.7	FW4	Drainage ditches		O	Holly	*Ilex aquifolium*	Local Importance (lower value)
					Ivy	*Hedera hibernica*	
					Broad Buckler-fern	*Dryopteris dilatata*	
					Hard Fern	*Blechnum spicant*	
L4 - Plate 3.8	FW4	Drainage ditches		-	-	-	Local Importance (lower value)
L5 - Plate 3.9	FW1	Eroding/upland rivers		Riparian gallery at the sampled reach (Section 3.3.7.2.3)	Common Alder	*Alnus glutinosa*	**County importance**
					Downy Birch	*Betula pubescens*	
					Grey Willow	*Salix cinerea*	
					Bracken	*Pteridium aquilinum*	
					Holly	*Ilex aquifolium*	
					Bramble	*Rubus fructicosus* agg.	
					Sessile Oak	*Quercus petraea*	

Map Ref.	Dominant Habitat Code	Dominant Habitat Name	Extent (ha or m)	DAFOR*	Common Name	Scientific Name	Ecological Valuation (NRA, 2009b)
L6 - Plate 3.10	FW4	Drainage ditches		F	Rosebay Willowherb	*Chamaenerion angustifolium*	Local Importance (lower value)
					Bramble	*Rubus fructicosus* agg.	
					Yorkshire Fog	*Holcus lanatus*	
					Buttercup	*Ranunculus* sp.	

* D – Dominant; A – Abundant; F – Frequent; O – Occasional; R - Rare



Plate 3.1: Habitats P2 & P3





Plate 3.2: Habitat P5



Plate 3.3: Habitat P6









Plate 3.4: Habitat P4

Linear Habitats



Plate 3.5: Habitat L1



Plate 3.6: Habitat L2



Plate 3.7: Habitat L3



Plate 3.8: Habitat L4





Plate 3.9: Habitat L5





Plate 3.10: Habitat L6

Considering the descriptions above, the following ecological valuations of the existing habitats were defined as (following NRA, 2009b):

- BC1 (Arable crops) - semi-natural habitat that is of some local importance for wildlife: Local Importance (lower value);
- WD1 ([Mixed] Broadleaved woodland) - semi-natural habitat with high biodiversity in a local context and a high degree of naturalness, and populations of species that are uncommon in the locality: Local Importance (higher value);
- GS2 (Dry meadows and grassy verges) - semi-natural habitat with high biodiversity in a local context: Local Importance (higher value);
- FW1 (Eroding/upland rivers) - natural heritage features identified in the National or Local Biodiversity Action Plan: County Importance

3.4.2.2 Protected Fauna

During the multidisciplinary walkover survey, secondary evidence of Badger (*Meles meles*) activity was identified at six locations (Table 3-6): four Badger setts (Plate 3.12, Plate 3.14, Plate 3.15, and Plate 3.16) and, although no latrines were recorded (along with setts, their presence is indicative of important Badger territories; Harris *et al.*, 1989), fresh Badger dung/scat was identified at two locations (Plate 3.11 and Plate 3.13), indicative of recent presence.

The identified Badger setts displayed signs of relative recent usage (i.e. active) and appear to be outlier Badger setts. Outlier setts are used sporadically by Badger, although they can still be used for breeding. Attending to a visible slight accumulation of debris at the entrance of some of these setts (e.g. Plate 3.14, Plate 3.15), these setts were classified as *Partially used (PU)* (Scottish Badgers, 2018). Badger is listed as a 'protected wild animal' under the Fifth Schedule of the Wildlife Acts (as amended).

Furthermore, several trees have been identified as holding relevant bat roost potential within the P4 woodland habitat (Figure 3-4), which are indicative for the potential local presence of bat roosts. The trees with Potential Roost Features (PRFs) listed in Table 3-6 should be interpreted as illustrative, and not an exhaustive representation of PRFs of the P4 woodland habitat. The presence of favoured habitat for bat species indicates the potential regular occurrence of species designated for protection under Annex IV of the Habitats Directive, assessed as important within the local setting.

Table 3-6: Mammal Activity Recorded at the Proposed project Site

Mammal Species	Map Ref.	Recorded sign	Notes	Ecological Valuation (NRA, 2009b)
Badger (*Meles meles*)	**B1 - Plate 3.11**	Scat	Fresh scat with berries.	Local Importance (higher value)
	B2 - Plate 3.12	Sett	Badger sett with soil heap on earth bank along drainage ditch within woodland. Appeared active - no debris or webs. Mammal tracks recorded through woodland leading to sett.	
	B3 - Plate 3.13	Scat	Fresh Badger scat on earth bank.	
	B4 - Plate 3.14	Sett		

Mammal Species	Map Ref.	Recorded sign	Notes	Ecological Valuation (NRA, 2009b)
	B5 - Plate 3.15	Sett	Badger setts (3) on earth banks along drainage ditches within woodland. Appeared active - no webs, and mammal tracks through woodland leading to each of the setts.	
	B6 - Plate 3.16	Sett		
Bats	**BAT1 9- Plate 3.17**	PRF-I	Mature Beech tree with notches and Ivy cover.	Local Importance (higher value)
	BAT20 - Plate 3.18	PRF-I	Scots Pine tree within significant broken limbs and some peeling bark. Although only two examples of trees with PRF are presented, they are abundant throughout the P4 woodland habitat – potentially indicating the presence of a roost (Collins, 2023).	

Finally, birds species identified within woodland habitat P4 included; Eurasian Wren (*Troglodytes troglodytes*), Common Blackbird (*Turdus merula*), Eurasian Chaffinch (*Fringilla coelebs*), Goldcrest (*Regulus regulus*), Song Thrush (*Turdus philomelos*), Coal Tit (*Periparus ater*), Common Woodpigeon (*Columba palumbus*), and Eurasian Blackcap (*Sylvia atricapilla*). None of these species are designated under Annex I of the Birds Directive, and are listed as Green (with the exception of Goldcrest, which is Amber) in the Birds of Conservation Concern in Ireland 2020-2026 (Gilbert *et al.*, 2021), these species are considered as local importance (higher value).

3.4.2.3 Aquatics

Results from the aquatic survey conducted at the Lodgewood stream (EPA code 12L55), within the Bann_070 WFD river water body, reflect the local pressures identified in Section 3.4.1.4. SSRS results along the Lodgewood Stream show a downstream decline, with Sampling Point C (which was determined to be 'probably at risk') scoring higher than Sampling Point D (which was determines to be 'at risk'). This pattern likely reflects the influence of the Tincurry 12, which enters the Lodgewood Stream between these locations, together with localised downstream pressures at Sampling Point D, including channel modification, culverts, steep banks, and limited riparian vegetation.



Plate 3.11: Location B1





Plate 3.12: Location B2



Plate 3.13: Location B3





Plate 3.14: Location B4





Plate 3.15: Location B5



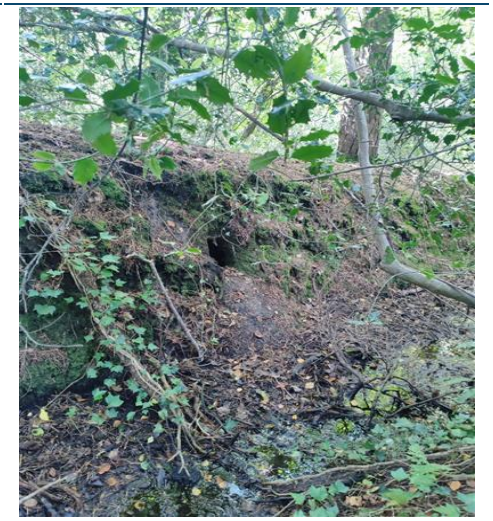


Plate 3.16: Location B6



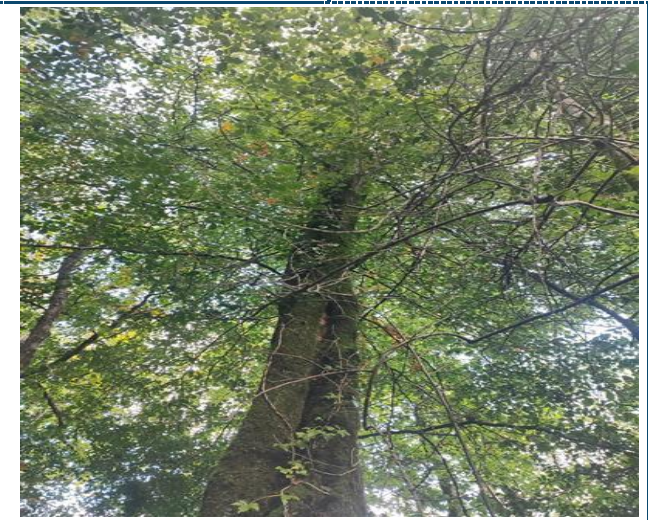


Plate 3.17: Location BAT1



Plate 3.18: Location BAT2

Table 3-7: SSRS Results at the Sampled Reach of the Lodgewood Stream

WFD River Water Body		Bann_070			
EPA River		Lodgewood			
Sampling Point		C		D	
		Left Bank	Right Bank	Left Bank	Right Bank
Sampled Reach (m)		20		20	
Bank Features		Absent riparian/bank vegetation	-	Riparian vegetation absent	Riparian vegetation absent
Shading (%)		>75%		0%	
Bank Height (m)		1.5	2	4.5	3.5
Bank width (m)		3.5		6.5	
Wetted Width (m)		2.5		3.5	
Average Depth (cm)		10.0		7.0	
Substrate (%)	Boulder (26-200cm)	5		5	
	Cobble (6-26cm)	10		15	
	Gravel (0.4-6 cm)	80		65	
	Sand (0.06-0.4 cm)	5		10	
	Mud/Silt (<0.06cm)	-		5	
Ephemeroptera		▪ Baetidae		▪ Baetidae	
Plecoptera		▪ Leuctridae		-	
Trichoptera		▪ Hydropsychidae ▪ Rhyacophilidae ▪ Limnephilidae ▪ Sericostomatidae		▪ Hydropsichidae ▪ Rhyacophila ▪ Limnephilidae	
G.O.L.D.		▪ Lumbriculidae ▪ Other		▪ Planorbis ▪ Lumbriculidae ▪ Chironomidae ▪ Simuliidae ▪ Tipulidae	
Aselus		Few		Few	
Small Stream Risk Score		7.2 - stream 'probably at risk'		6.4 – Stream at risk	

<table>
<tr><td>WFD River Water Body</td><td colspan="4">Bann_070</td></tr>
<tr><td>EPA River</td><td colspan="4">Lodgewood</td></tr>
<tr><td rowspan="2">Sampling Point</td><td colspan="2">C</td><td colspan="2">D</td></tr>
<tr><td>Left Bank</td><td>Right Bank</td><td>Left Bank</td><td>Right Bank</td></tr>
<tr><td>Comments</td><td colspan="2">▪ Clear water
▪ Medium slope
▪ Mud over stones
▪ Loose substrate
▪ Slight siltation
▪ Depth of mud: 0cm
▪ No litter
▪ No filamentous algae
▪ Brown Trout parr caught in the kick-sample</td><td colspan="2">▪ Reach in between two culverts;
▪ Straightened and deepened channel, with high banks;
▪ Deep mud (silt) under cobble/gravel</td></tr>
<tr><td rowspan="2">Photos</td><td colspan="2"> 
Plate 3.19: Location AQ-C</td><td colspan="2"> 
Plate 3.20: Location AQ-D</td></tr>
<tr><td colspan="2"> 
Plate 3.21: Location AQ-C</td><td colspan="2"> 
Plate 3.22: Location AQ-D</td></tr>
</table>

G.O.L.D = Gastropods (Snails), Oligochaetes (Worms), Leeches, Diptera (True flies)

3.5 SUMMARY OF RELEVANT KEY ECOLOGICAL RECEPTORS

In summary, following the methodology set in Section 3.3, the relevant KERs scoped for impact assessment (i.e., with an ecological valuation of 'Local Importance (higher value)' or higher) are listed in Table 3-8. It includes the relevant habitats, species, and designated sites described in the desk study and field surveys, including the relevant findings included in the 'EcIA of the Proposed Tincurry Substation & Grid Connection, Co. Wexford' which informed the granted planning application[1] (e.g., Otter, *Lutra lutra*, foraging activity near the proposed project), that will be subject to impact assessment (following NRA, 2009b).

Table 3-8: Relevant KERs of the Receiving Environment of the Proposed project

Type of Receptor	KER	Ecological Valuation (NRA, 2009b)
International sites	Slaney River Valley SAC	International Importance
National sites	Slaney River Valley pNHA	National Importance
Habitats	WD1 - (Mixed) broadleaved woodland	Local Importance (higher value)
	GS2 - Dry meadows and grassy verges	
	FW1 - Eroding/upland rivers	County Importance
Species	Otter	International Importance
	Badger	Local Importance (higher value)
	Bats	
	Birds	

3.6 POTENTIAL EFFECTS ASSOCIATED WITH THE PROPOSED ALTERATION

3.6.1 Construction Phase Effects

3.6.1.1 Important Conservation Sites

3.6.1.1.1 Sites of International Importance

As outlined in Section 3.4.1.1, the proposed project is hydrologically connected with the Slaney River Valley SAC [000781] and the Wexford Harbour and Slobs SPA [004076]. These sites were identified as having a potential pathway for significant effects in the original EcIA through potential silt and contaminant run-off. Although there will be an amendment to the original substation design, the pathways for potential effects still remain the same and therefore the mitigations proposed within the original EcIA remain valid, therefore, the proposed design changes will not result in any additional effects either alone or cumulatively with other plans or projects.

3.6.1.1.2 Sites of National Importance

As outlined in Section 3.4.1.2, the proposed project is hydrologically connected to the Slaney River Valley pNHA (Site Code 000781) via identified hydrological pathways (Table 3-2). While no site synopsis is available for this pNHA, it is intrinsically linked to the Slaney River Valley SAC. Therefore as described in Section 3.6.1.1.1, with the implementation of all prescribed mitigation measures set out in the original EcIA, the construction and operational phases of the proposed project, either alone or cumulatively with other plans or projects, will not have a significant effect on the Slaney River Valley SAC and, by extension, the Slaney River Valley pNHA.

3.6.1.2 Habitats and Flora

3.6.1.2.1 Habitat Loss

As outlined in Chapter 1, the permitted substation compound had a total area of 8,325m^2. The proposed project will require a smaller land take area, reducing to approximately 2,633m^2 as part of this amendment, but will require the addition of a new Grid Connection Route (GCR) to the Lodgewood 220kV substation and the removal of hedgerow (net loss of 7.2m) following adjustments to the access track to the Tincurry 110kV substation. The GCR will require approximately 800m^2 of vegetation clearance which will translate into the permanent and temporary loss of part or some of the existing habitats and, potentially, affect their ecological value.

The previously permitted access road required the removal of approximately 12.2m of hedgerow on the access track and a further 6m of hedgerow adjacent to the existing access point along the R772 to achieve adequate sightlines as well as the loss of Arable Crop habitat along the route of the access road. This impact remains unchanged, however, the proposed project will require the removal of an additional approximately 7.2m (net loss figure accounting for the permitted infrastructure and proposed alterations) of hedgerow and 58.1m of field boundary/earth bank, together with minor loss of BC1 – Arable Crops habitat where the track extends beyond the previously consented alignment, at bends in the road to allow for abnormal loads. These works will similarly result in long term and temporary habitat loss and may affect the ecological value of the affected habitat.

To estimate the extents of habitats that will be lost as a consequence of the Construction Phase of the proposed project, the following items were considered:

- The felling of trees, more details of which can be found in Appendix F - Arboricultural Impact Assessment;
- The cabling along the Grid Connection Route will be laid in trenches with dimensions of approx. 1.3m wide and 1.35m deep, a 3m wide road will then be constructed on top of the cable trench;
- The removal of hedgerow following the adjustments to the entrance to the previously consented Tincurry 110kV substation, as well as the use of a culvert to cross a drainage ditch;
- No instream works will be required while crossing the Lodgewood stream. This crossing will be done via a mix of pre-cast and poured concrete clear span bridges with cables ducted through it. It is estimated that the construction of the clear span bridges will require bank vegetation clearance of approximately 10m on both banks;
- Localised widening of the permitted access track to facilitate overrun of the vehicle transporting Abnormal Indivisible Loads (AILs) requiring the removal of hedgerow habitat and BC1 – Arable Crops habitat and;
- Assessment of a second stream crossing along the access road. Similar to that of the stream crossing for the Grid Connection Route, localised bank vegetation clearance will be required of approximately 10m of bank vegetation on both banks.

While the area of habitat removal associated with the originally consented substation was larger than that of the proposed project, it was mostly confined to habitat of lower ecological value (BC1 – arable crop). In contrast, the proposed amendment will necessitate the removal of habitat of higher ecological value (WD1 – mixed broadleaved woodland). As a result, the nature

and significance of the potential effects have changed. Accordingly, habitat loss arising during the Construction Phase of the proposed project is assessed as likely to give rise to significant effects at the local geographical scale (Table 3-9).

Table 3-9: Description of Potential Habitat loss Effects During the Construction Phase of the Proposed project

Descriptor	Effect		
	P2, P5, L1 – L4 and L6 (Figure 3-4) and BC1 Arable Crop habitat and field boundary/earth banks along access road	P4 (Figure 3-4)	WL1 Hedgerow habitat along the access road and substation entrance
Quality of Effect	Negative	Negative	Negative
Significance	Slight	**Significant**	**Significant**
Extent and Context	4,300m^2 of habitat area plus 58.1m of field boundary/earth bank.	800m^2 of habitat area	Approximately 7.2m of linear habitat net loss
Probability	Likely	Likely	Likely
Duration	Temporary/Long term	Temporary/Long term	Long term

3.6.1.2.2 Habitat Degradation

Dust dispersion from typical construction works is influenced by a range of environmental and operational factors, including soil type, prevailing weather conditions, particularly wind speed and direction. Construction activities such as excavation, earthworks, and machinery movement have the potential to generate levels of airborne dust, particularly during dry and windy conditions. These activities disturb surface soils and create loose particulate matter that can become airborne due to wind action, or the movement of construction machinery (IAQM, 2024). In aquatic ecosystems in particular, dust settling on water surfaces can contribute to increased turbidity, reducing light penetration and negatively impacting aquatic plant photosynthesis. Additionally, dust may introduce nutrients or other contaminants into water bodies, leading to nutrient enrichment (eutrophication), which can disrupt the ecological balance, promote algal blooms, and reduce oxygen levels. These effects can hinder the feeding, breeding, and movement of fish, amphibians, aquatic invertebrates, and other organisms (Henley *et al.*, 2000).

In the case of the proposed project, a portion of the proposed project is adjacent to linear vegetated terrestrial habitats and an aquatic feature which will be traversed as part of this amendment (i.e. habitats L1 to L6; Figure 3-4). For the first group of linear habitats, the anticipated effects from dust deposition generated by the Construction Phase of the proposed project relate to a potential reduction of evapotranspiration, and photosynthetic rates to the affected plants. However, this reduction is likely to be slight and temporary (Table 3-10) as, because of the general good structure and thickness of habitats L1, L6 and L7 (Table 3-5), it is likely that only the most proximate plants to the proposed works will be affected (i.e. these plants are likely to screen the most interior plants within these habitats), and that the dust coating is likely to dissipate during the first rain event. In any case, the dust potentially generated by the proposed construction works will not differ significantly from the dust generated from the current land use (i.e. agriculture), which does not appear to be significantly affecting these habitats (i.e. no signs of degradation attributable to dust were detected during the field survey).

With regards to linear habitats L2, L3, L4 and L5 (Figure 3-4), it is likely that some of the dust generated during the construction works will settle on these aquatic habitats. Excessive sediment inputs can have detrimental effects on aquatic systems, negatively affecting a variety of complex natural processes, from reducing primary productivity to altering faunal abundance, diversity and community structure (Lawler *et al.*, 2017). In the case of the proposed project local area, considering the presence of Freshwater Pearl Mussel populations approximately 1km (on the Bann_070 WFD river water body) and 3km (on the Slaney_160 WFD river water body) downstream of the proposed project (as identified in the 'EcIA of the Permitted Tincurry Substation & Grid Connection, Co. Wexford', which informed the granted planning applications[12,13]), these negative effects from anthropogenic sediment inputs, although restricted in their duration, become even more detrimental as this species, being sedentary, is particularly susceptible to limited interstitial oxygen supply as a consequence of deposited sediment accumulation (Geist and Auerswald, 2007; Österling *et al.*, 2008). Therefore, the potential effects of dust generation and deposition from the Construction Phase of the proposed project are assessed as likely significant to the local aquatic ecology, particularly to the nearby Freshwater Pearl Mussel populations (Table 3-10).

Table 3-10: Description of Potential Dust Generation and Deposition Effects During the Construction Phase of the Proposed project

Descriptor	Effect	
	L1, L6 and L7 (Figure 3-4	L2, L3, L4 and L5 (Figure 3-4)
Quality of Effect	Negative	Negative
Significance	Slight	**Significant**
Extent and Context	1,877m – total extent of the linear habitats potentially affected.	1km to 3km upstream of the Bann_070 and Slaney_160 WFD river water bodies, where live Freshwater Pearl Mussel was recorded.
Probability	Likely	Likely
Duration	Temporary/reversible	Temporary/reversible

3.6.1.3 Protected Species

3.6.1.3.1 Disturbance

3.6.1.3.1.1 Otter

The potential for impacts on Otter during the Construction Phase was identified for the consented substation, primarily in relation to disturbance and habitat degradation. However, Otter was not recorded during the updated surveys undertaken for the proposed amendment / proposed project. It is not considered that the proposed project will introduce any additional potential impacts of significance beyond those previously identified; therefore, the nature and significance of the potential effects on Otter remain unchanged from those assessed in the original EcIA.

[12] Available at https://planning.agileapplications.ie/wexford/application-details/124276#documents. Accessed in January 2026

[13] Available at https://planning.agileapplications.ie/wexford/application-details/125899#documents. Accessed in January 2026

3.6.1.3.1.2 Badger

Badgers were not recorded during previous surveys within or adjacent to the consented substation, and as such no potential impacts were assessed as part of the original EcIA. However, badgers were recorded during updated surveys undertaken for this proposed amendment/proposed project. As described in Section 3.4.2.2, these records comprised active setts and signs of badger activity confined entirely within WD1 – broadleaved woodland (Figure 3-4). The Construction Phase of the proposed project will involve works approximately 5m away from the nearest Badger sett identified during the field study (B6 – Section 3.4.2.2).

Additional evidence of badger foraging activity was also recorded in the immediate vicinity of the proposed project (e.g. snuffle hole at B9; Section 3.4.2.2). While it is unlikely that Badger foraging activity will be significantly affected during the Construction Phase of the proposed project, i.e. works will be undertaken during daylight hours, whereas badgers are predominantly nocturnal (Scottish Badgers, 2018), construction activities within 150m of an active badger sett may still give rise to significant disturbance (NRA, 2006b).

Therefore, considering that all badger setts identified during the field survey were located within 150m from the proposed project (B2, B4, B5, and B6; Figure 3-4), there is potential for significant disturbance effects to Badger in these locations. Considering the duration of the Construction Phase of the proposed project (i.e. maximum of 24 months; Chapter 1), this potential disturbance effect to Badger would be of a short-term duration (Table 3-11).

Table 3-11: Description of Potential Disturbance Effects to Badger During the Construction Phase of the Proposed project

Descriptor	Effect
Quality of Effect	Negative
Significance	**Significant**
Extent and Context	All the Badger setts identified in Figure 3-4
Probability	Likely
Duration	Short-term

3.6.1.3.1.3 Bats

There was limited bat activity, and no bat roosts were identified within or adjacent to the consented substation, and so potential impacts were assessed as slightly neutral or positive as part of the original EcIA. However, potential bats roosts were recorded during updated surveys undertaken for this proposed amendment/proposed project. As described in Section 3.4.2.2, these records comprised mature trees, with broken limbs, peeling bark or dense ivy cover and were confined entirely within WD1 – broadleaved woodland (Figure 3-4). The Construction Phase of the proposed project will involve works approximately 10m away from the nearest potential bat roost feature identified during the field survey (BAT20; Section 3.4.2.2).

During the Construction Phase of the proposed project, bats may be significantly affected by disturbance (Marnell *et al.*, 2022). The Construction Phase of the proposed project will require increased human presence at the site, vehicle and machinery movement and operation, extra noise, and, potentially, lighting. All of these activities can be sources for disturbance to bats, whether it is regarding access to roosts potentially located in proximity to the construction areas, or by impeding established foraging or commuting flight paths. However, considering the short-term duration of the Construction Phase of the proposed project (i.e. maximum of 24

months; Chapter 1), the lack of roost features near the proposed project, and that the majority of construction activity will be occurring during daylight hours, any potential disturbance would be temporary and, therefore, not significant (Table 3-12).

Table 3-12: Description of Potential Disturbance Effects on Bats During the Construction Phase of the Proposed project

Descriptor	Effect
Quality of Effect	Negative
Significance	Not Significant
Extent and Context	Extent of the proposed project
Probability	Unlikely
Duration	Short-term

3.6.1.3.1.4 Birds

The potential for impacts on birds during the Construction Phase was identified for the consented substation and assessed as including habitat loss and disturbance. Similar bird species were recorded during the updated surveys undertaken for the proposed amendment / proposed project, and, as the proposed project will not introduce any additional potential impacts of significance beyond those previously identified, the nature and significance of the potential effects on birds remain unchanged from those assessed in the original EcIA.

3.6.1.3.2 Direct Mortality/Destruction of Breeding Sites

3.6.1.3.2.1 Badger

Badgers were not recorded during previous surveys within or adjacent to the consented substation, and as such no potential impacts were assessed as part of the original EcIA. However, badgers were recorded during updated surveys undertaken for this proposed amendment/proposed project. As described in Section 3.4.2.2, these records comprised active setts and signs of badger activity confined entirely within WD1 – broadleaved woodland (Figure 3-4). The Construction Phase of the proposed project will involve works approximately 5m away from the nearest Badger sett identified during the field study (B6 – Section 3.4.2.2).

During the Construction Phase of the proposed project, the removal of the woodland and associated ground disturbance by trenching activities could result in degradation or collapse of the sett structure, potentially causing sett collapse or rendering the setts unsuitable for future occupation, impacting on badger which may be within or occupy setts since surveys in 2025. As such, this would represent a long-term loss of potential breeding or refuge habitat for Badger within the local area.

Table 3-13: Description of Potential Mortality Effects on Badger During the Construction Phase of the Proposed project

Descriptor	Effect
Quality of Effect	Negative
Significance	**Significant**
Extent and Context	All the Badger setts identified in Figure 3-4
Probability	Likely
Duration	Potentially permanent/irreversible

3.6.1.3.2.2 Bats

As described in Section 3.4.2, there was limited bat activity and no bat roosts were identified within or adjacent to the consented substation, however, potential bats roosts were recorded during updated surveys undertaken for this proposed amendment/proposed project.

During the Construction Phase of the proposed project, bats may be significantly affected by roost loss (Marnell *et al.*, 2022). Due to the felling of woodland as part of this proposed project, there is potential for roost loss effects. There are two PRFs that are intersected by the proposed project, and whose felling is likely to be required (i.e. BAT19 and BAT20; Figure 3-4). If these PRFs are used by bats during the felling works, the effects from felling these trees may be significant (Marnell *et al.*, 2022), and persist until the surviving bats find an alternative roost (Table 3-14).

Table 3-14: Description of Potential Mortality Effects on Bats During the Construction Phase of the Proposed project

Descriptor	Effect
Quality of Effect	Negative
Significance	**Significant**
Extent and Context	BAT19 and BAT20; Figure 3-4
Probability	Likely
Duration	Brief/irreversible

3.6.1.4 Water Quality

The potential for impacts to water quality during the Construction Phase were identified within the consented substation, and so were assessed as potentially having significant effects on aquatic habitats and species as part of the original EcIA.

During the Construction Phase of the proposed project, there is additional potential for impacts on the water quality of the Lodgewood Stream. This may arise from the discharge of silt-laden runoff from works areas during the installation of two proposed clear-span bridges: one associated with the GCR and one associated with the access road.

The GCR bridge will require the placement of a support within the dry FW4 drainage ditch (L4), which introduces a specific risk of sediment mobilisation at this location. In addition, vegetation clearance along the banks and ground disturbance required to facilitate both crossings may further increase the risk of sediment runoff to receiving waters.

There is also potential for the accidental release of cementitious materials and other contaminants, including fuels and oils associated with plant and machinery, during construction of both crossings, which could adversely affect receiving waters.

Fine sediment release to rivers and streams can affect their water quality, as it can, for example, cause a loss of abundance and diversity in macroinvertebrate communities (Harrison *et al.*, 2007), and significantly affect populations of sensitive species (e.g., Atlantic Salmon (*Salmo salar)*, O'Connor and Andrew, 1998; Freshwater Pearl Mussel (*Margaritifera margaritifera)*, Moorkens, 1999).

The release of toxic contaminants (e.g., hydrocarbons or cement) to receiving water bodies could negatively affect aquatic organisms, as most of hydrocarbon constituents are bioavailable and bioaccumulated (Sekhar *et al.*, 2003; Li *et al.*, 2009). These substances can also become adsorbed in sediment, prolonging their persistence in the environment and, consequently, further increasing exposure for the biota (McGrath *et al.*, 2019; Wu *et al.*, 2019).

Therefore, the Construction Phase of the proposed project has the potential to give rise to negative effects on water quality of receiving water bodies.

Table 3-15: Description of Potential Water Quality Effects During the Construction Phase of the Proposed project

Descriptor	Effect
Quality of Effect	Negative
Significance	**Significant**
Extent and Context	The Lodgewood Stream (within the Bann_070 river water body)
Probability	Likely
Duration	Potentially permanent/irreversible

3.6.2 Operational Phase Effects

3.6.2.1 Disturbance

The potential for impacts from disturbance during the Operational Phase were identified within the consented substation. However, considering the restricted nature of the activities planned for the Operational Phase of the proposed project (i.e. intermittent vegetation management, and inspection of newly constructed water crossings – Section 3.5), it is unlikely that any significant effects on any biodiversity receptor will occur.

3.6.2.2 Water Quality

The potential for impacts to water quality during the Operational Phase were identified within the consented substation, and so were assessed as potentially introducing silt, hydrocarbons and other chemicals into watercourses, as well as inducing hydromorphological change in watercourses. The proposed project will not introduce additional potential impacts on top of this and so the potential effects remain as they are from the original EcIA.

3.7 CUMULATIVE EFFECTS

Legislation, guidance and case law (Section 3.3.1) requires that cumulative effects with other plans or projects are considered. On this basis, relevant plans and projects within the ZoI of the

proposed project were considered in terms of their potential to have cumulative effects with the proposed project.

The assessment of cumulative effects has regard for developments potentially affecting similar ecological receptors as those assessed as being potentially significantly affected by the Construction Phase of the proposed project (which was the proposed project phase associated with likely significant effects; Section 3.6), namely:

- Habitats (Habitat Loss, Dust Generation and Deposition, Spread of IAPS);
- Water Quality (Siltation, Contamination); and
- Protected Species (Badger, Bats; Disturbance, Mortality).

3.7.1 Plans

3.7.1.1.1 National Development Plan

The National Development Plan 2021-2030 (Government of Ireland, 2021) designates "*significant expansion and strengthening of the electricity transmission and distribution grid onshore and offshore, including transmission cables and substations, to link renewable electricity generation to electricity consumers and to accommodate higher levels of renewables on the electricity system* (…)" as one of the National Strategic Investment Priorities. In the National Development Plan Review 2025, €3.5 billion was noted as being provided to fund energy grid capacity in 2025 (Government of Ireland, 2025).

This Strategic Priority carries the potential for cumulative effects with the proposed project on KERs, specifically designated sites/habitats and species. However, the National Development Plan 2021-2030 assures compliance with the National Biodiversity Action Plan 2023-2030 and its commitment on the protection of biodiversity, expressed in all of its five objectives: 1) Adopt a Whole-of-Government, Whole-of-Society Approach to Biodiversity; 2) Meet Urgent Conservation and Restoration Needs; 3) Meet Urgent Conservation and Restoration Needs; 4) Enhance the Evidence Base for Action on Biodiversity; and 5) Enhance the Evidence Base for Action on Biodiversity.

This compliance will, inevitably, implicate that all potential cumulative effects with other developments are contemplated and mitigated. Therefore, the cumulative effects from the proposed project with the National Development Plan 2021-2030 are deemed null.

3.7.1.1.2 Wexford County Development Plan

Similarly to the National Development Plan 2021-2030, the Wexford County Development Plan 2022-2028 also appoints improvements to the electric grid in its objectives, such as (Wexford County Council, 2022):

Objective PT01 "*To facilitate the provision of and improvements to energy networks in principle, provided that it can be demonstrated that:*

- The development is required in order to facilitate the provision or retention of significant economic or social infrastructure;
- The route proposed has been identified with due consideration for social, environmental and cultural impacts.

- The design is such that will achieve least environmental impact consistent with not incurring excessive cost.
- Where impacts are inevitable mitigation features have been included.
- Proposals for energy infrastructure should be assessed in accordance with the requirements of Article 6 of the Habitats Directive."

With regards to potential cumulative effects with the proposed project, despite that the Wexford County Development Plan 2022-2028 holds "Environmental Strategic Objectives", which include, in Objective EM01, that environmental impact assessments required by law (e.g. Directive 2014/52/EU) "(…) *shall identify, describe and assess in an appropriate manner, the direct, indirect and cumulative significant effects of a project on* (…)", amongst other factors, biodiversity, it also contains the objective of provision of a segregated (where possible) cycle way between, amongst others, Camolin, Ferns and Enniscorthy (Objective TS29). This cycle way is likely to run on, or parallel, to the R772, in close proximity to the Bann_070 WFD river water body, which is hydrologically connected to the proposed project.

If the works associated with the construction of this cycle way are unmitigated, and coincide with the Construction Phase of the proposed project, they are likely to significantly affect, cumulatively with the proposed project, the water quality of downstream receptors through siltation and/or contamination, including the Freshwater Pearl Mussel population of the Bann_070 WFD river water body.

3.7.2 Projects

A search was conducted of planning applications (projects) within the ZoI of the proposed project, using the Wexford County Council planning portal map viewer[14] and the National Planning Application Database[15]. The search was limited to the five year period preceding the date of issue of this PECR, and excluded retention applications (i.e. typically local-scale residential or commercial developments where an impact has already occurred), incomplete, withdrawn, and refused applications. The relevant projects with potential for cumulative adverse effects on KERs, are detailed in Table 3-16. Furthermore, a search of An Bord Pleanála's database[16] was completed to identify any relevant applications, in close proximity to the proposed project.

Overall, the proposed project local area is profusely sought for green energy developments. Upon their construction, one potential consequence is that the current land-use will change, from intensely-managed tillage to solar energy production. During the operation phases of these solar farm development, this change in land-use is expected to reduce the locally identified pressures of siltation and eutrophication on the aquatic environment, responsible for the failure of some river water bodies within the hydrological pathway from the proposed project in accomplishing the WFD objectives and, particularly, for the low SSRS results obtained by the Lodgewood Stream (Section 3.3.7.2.3). However, if the construction phases of the developments in Table 3-16 coincide with the Construction Phase of the proposed project, the

[14] Available at https://planning.agileapplications.ie/wexford/search-applications/. Accessed in December 2025
[15] Available at https://housinggovie.maps.arcgis.com/apps/webappviewer/index.html?id=9cf2a09799d74d8e9316a3d3a4d3a8de. Accessed in December 2025
[16] Available at https://www.pleanala.ie/en-ie/case-search. Accessed in December 2025

significant effects anticipated on water quality (Table 3-15), Badger (disturbance - Table 3-11), and bats (roost loss - Table 3-14) could be aggravated. Therefore, in this scenario, it is likely the proposed project will give rise to likely significant effects during its Construction Phase cumulatively with the construction phases of the considered projects in Table 3-16.

Table 3-16: Summary of Projects Considered for Assessment of Cumulative Effects with the Proposed project

Planning Application Reference Number	Project/ Applicant Name	Brief Development Description	Approximate Distance from Proposed project	Date Planning Application Granted	Relevant Information
20160595	Power Capital Renewable Energy Limited	Extension of duration for the construction of an up to 5MW solar pv farm comprising approximately 20,000 no. photovoltaic panels on ground mounted frames within a site area of 10.84 hectares and associated ancillary development including 4 no. transformer stations, 4 no. auxiliary transformer stations, 4 no. inverters, 1 no. client side substation, 1 no. single storey storage building, 1 no. single storey communications building, 1 no. single storey DNO building, 3 no. CCTV security cameras mounted on 4 metre high poles, perimeter security fencing (2 metres high) and the formation of an access road to the site from the adjoining road.	450m	20/07/2016 Extension of duration application granted on the 15/08/2025 (20160595EE)	A Screening for Appropriate Assessment informed the planning decision, which concludes that the scale and character of a solar photovoltaic farm is too small to give rise to water quality effects to the Slaney_160 WFD river water body, which runs approximately 2km away. The solar development has since been constructed and is fully operational. As such, there will be no temporal overlap between construction activities associated with that development and those of the proposed project. Accordingly, there is no potential for cumulative construction-phase impacts to arise in combination with the solar development.
20241558	Carney Stability Ltd	Permission for a battery energy storage system (BESS) facility.	200m	14/05/2025	An Environmental Report was issued in support of the planning application, which assessed potential effects during the development's construction phase related to: 1) habitat loss/alteration (removal of 60m of hedgerows); 2) Indirect water quality effects (siltation/contamination); 3) direct and indirect protected species disturbance/displacement. The Environmental Report prescribed: pre-construction surveys for Badger, Otter, amphibians, and birds; the elaboration of a Construction Environmental Management Plan (CEMP) by the appointed contractor, to include unspecified environmental controls (water quality/sediment and erosion control; noise, vibration, dust and air control; management of construction and demolition waste; fuels and oils management; management of concrete; emergency response plan); and the appointment of an Ecological Clerk of Works (ECoW). The Environmental Report concludes that, with the

Planning Application Reference Number	Project/ Applicant Name	Brief Development Description	Approximate Distance from Proposed project	Date Planning Application Granted	Relevant Information
					implementation of the unspecified avoidance and mitigation measures, one slight negative residual impact, and six moderate residual impacts (to terrestrial habitats and to drainage ditches) could be mitigated.
20241593	Orsted Onshore Ireland Midco Limited	A BESS with associated infrastructure including a new internal access road approximately 100 metres in length; A 100 metre 33kV double circuit underground cable grid connection to the permitted Lodgewood 110kV substation (Planning Ref ABP-318528-23), to be installed in an excavated trench including underground ducting; Modular office and welfare buildings; Three steel storage containers and all associated site development and reinstatement works.	0m	27/06/2025	An Ecological Impact Assessment (EcIA) accompanied the planning application, which included the identification of potential likely significant effect associated with the construction (habitat loss/alteration; indirect water quality effects; direct and indirect species disturbance/ displacement), and operational (direct/indirect species disturbance/ displacement), and decommissioning phase (similar to construction phase). The EcIA assesses none of the potential effects as likely significant, but includes the prescription of mitigation measures during the construction phase, such as: 1) the elaboration of a CEMP by the appointed contractor, to include unspecified environmental controls (water quality/sediment and erosion control; noise, vibration, dust and air control; management of construction and demolition waste; fuels and oils management; management of concrete; emergency response plan); 2) the appointment of an 'Environmental Officer'; 3) restriction of vehicle parking; 4) specific conditions for the storage of contaminants (e.g. fuel, oils); 5) the instruction for the development of a 'Construction Phase Waste Management Plan', to be incorporated into the CEMP; 6) the use of a 'waste water holding tank' to be used onsite to store the effluent from toilet(s); 7) specified conditions for excavation works, and storage of materials; 8) restriction of vegetation cutting to take place outside the breeding bird season ("April to August, inclusive"); 9) specified construction-site biosecurity measures; management of IAPS onsite; 10) specified bat protection measures (recommendation of inclusion of native plants in the landscaping plan; pre-felling tree survey, and restriction of felling outside of September/October; lighting conditions); 11) Badger pre-construction survey, and

Planning Application Reference Number	Project/ Applicant Name	Brief Development Description	Approximate Distance from Proposed project	Date Planning Application Granted	Relevant Information
					unspecified measures for the protection of setts; 12) demarcation of construction areas. It also prescribes unspecified measures for lighting during the operation phase; and the recommendation of mitigation measures for the decommissioning phase similar to the construction phase. The EcIA concludes that "*with the implementation of the avoidance and mitigation measures* (…)*, the overall ecological impact of the proposed project (relative to the 'do-nothing' scenario) is considered to be a permanent, slight, negative effect at a local level*".
20221309	Lodgewood Solar Farm Limited	Permission for a 10 year planning permission for a solar farm with a total area of circa 108 hectares consisting of solar photovoltaic panels on ground mounted frames, 13 no. single storey electrical inverter/transformer stations, 13 no. single storey energy storage modules, 3 no. single storey spare parts containers, 4 no. weather stations, underground electrical ducting and cabling within the development site, private lands and within the R745 and L5130 public roads to connect solar farm field parcels, security fencing, CCTV, access tracks, 12 no. stream and drain deck crossings, temporary construction compounds, landscaping and all associated ancillary development and drainage works.	0m	22/02/2023	This planning application was informed by an EcIA, which included a comprehensive field study encompassing surveys on habitats and flora, protected fauna, and aquatic ecology (which identified live Freshwater Pearl Mussel specimens within both the Bann_070 and Slaney_160 WFD river water bodies – Figure 3-4 of the published EcIA). Potential likely significant effects on biodiversity receptors were assessed as a consequence of works and activities during its construction phase: 1) habitat loss (e.g. removal of 105m of hedgerow and two mature trees); 2) disturbance to faunal species; and 3) water quality (siltation, eutrophication, contamination, hydromorphological change). The report includes specific and detailed mitigation measures (creation of settlement ponds to provide for primary treatment for the drainage ditches effluents) and a Biodiversity Management Plan, which, adding to the change in land-use (i.e. from tillage to sheep grazing), is concluded to significantly reduce the sediment and nutrient inputs to local streams, decreasing the intensity of this historical local pressure on the aquatic environment. The EcIA concludes that "*no significant residual effects on designated sites, habitats, flora, fauna or aquatic species*" from the development in the planning application.

Planning Application Reference Number	Project/ Applicant Name	Brief Development Description	Approximate Distance from Proposed project	Date Planning Application Granted	Relevant Information
20231025	Lodgewood Solar Farm Limited	A 10 year planning permission for a solar farm with a total area of circa 55 hectares, consisting of solar panels on ground mounted frames, 9 no. single storey electrical inverter/transformer stations, 5 no. single storey energy storage modules, 2 no. single storey spare parts containers, 2 no. ring main units, 2 no. weather stations, underground electrical ducting and cabling within the development site, private lands and within the L5130 public road to connect solar farm field parcels, security fencing, CCTV, access tracks, 5 no. stream and drain deck crossings as well as 6 no. cabling open trench undercrossings and 2 no. horizontal directional drills, temporary construction compounds, landscaping, netting adjacent GAA playing fields and all associated ancillary development and drainage works.	0m	22/11/2023	This planning application was informed by an EcIA partially based on the field study carried out for planning application 20221309 above, including the findings of live Freshwater Pearl Mussel specimens within both the Bann_070 and Slaney_160 WFD river water bodies – Figure 3-5 of the published EcIA). Potential likely significant effects on biodiversity receptors were assessed as a consequence of works and activities during its construction phase: 1) habitat loss (e.g. removal of 43m of hedgerow – 8m of which has already been granted with planning application 20221309 - and one mature tree); 2) disturbance to faunal species; and 3) water quality (siltation, eutrophication, contamination, hydromorphological change). The report includes specific and detailed mitigation measures (creation of settlement ponds to provide for primary treatment for the drainage ditches effluents) and a Biodiversity Management Plan, which, adding to the change in land-use (i.e. from tillage to sheep grazing), is concluded to significantly reduce the sediment and nutrient inputs to local streams, decreasing the intensity of this historical local pressure on the aquatic environment. The EcIA concludes that "*no significant residual effects on designated sites, habitats, flora, fauna or aquatic species*" from the development in the planning application.
20161097	Crory Energy Limited	Permission for the construction of up to 5mw solar PV farm development within a site area of up to 9.66 ha to include a single storey electrical substation building, electrical transformer/ inverter station modules, solar PV panels ground mounted on steel support structures, access roads, fencing and associated electrical cabling, ducting and ancillary infrastructure.	0m	18/11/2016 Extension of duration application submitted on the 31/10/2025 (20161097EE)	The planning application was accompanied by an Ecological Impact Statement (EIS), which included a walkover field survey in 2016. It identifies siltation and contamination as the potential likely significant effects on biodiversity from the development, but, with the changes in land-use (from tillage to sheep grazing) and enhancement measures (e.g. seeding with native grasses), the EIS concludes that, upon other general mitigation measures, the development will not result in any significant adverse effect. The solar development has since been constructed and is fully operational. As such, there will be no temporal overlap

Planning Application Reference Number	Project/ Applicant Name	Brief Development Description	Approximate Distance from Proposed project	Date Planning Application Granted	Relevant Information
					between construction activities associated with that development and those of the proposed project. Accordingly, there is no potential for cumulative construction-phase impacts to arise in combination with the solar development.
20160594	Power Capital Renewable Energy Limited	Construction of an up to 5 MW solar PV farm comprising approximately 20,000 no. photovoltaic panels on ground mounted frames within a site area of 12.94 hectares and associated ancillary development including 4 no.transformer stations, 4 no. auxiliary transformer stations, 4 no. inverters, 1 no. client side substation, 1 no. single storey storage building, 1 no. single storey communications building, 1 no. single storey DNO building, 3 no. CCTV security cameras mounted on 4 metre high poles, perimeter security fencing (2 metres high), site access road and the construction of a site access onto R745.	0m	20/07/2016 Extension of duration application granted on the 15/08/2025 (20160594EE)	This planning application was informed by a Screening for Appropriate Assessment, which implicitly included a field survey. It concludes that, given the minor nature of the photovoltaic farm development and absence of identified pathways for likely significant effects on Natura 2000 sites, the development will not give rise to any likely effects. The solar development has since been constructed and is fully operational. As such, there will be no temporal overlap between construction activities associated with that development and those of the proposed project. Accordingly, there is no potential for cumulative construction-phase impacts to arise in combination with the solar development.
20161231	Solas Eireann Developmen t Limited	Development of a solar PV panel array comprising photovoltaic panels on ground mounted frames within a site area of 7.96 hectares , 4 no. single storey mv substations, 1 no. single storey DSO substation, 1 no. single storey customer substation with 1 no. communications pole attached, 1 no single storey spares building, boundary security fencing, CCTV, associated, electrical cabling and ducting, alteration to existing entrance to include access gates, access track and all associated ancillary development and landscaping works.	250m	16/12/2016 Extension of duration application submitted on the 31/10/2025 (20161231EE)	The planning application was informed by a Screening for Appropriate Assessment report, which included a field survey of the site. Potential effects on aquatic ecology associated with siltation and contamination, and foraging and roosting habitat loss or change were assessed, but the report concludes that the development will not give rise to any likely significant effects on Natura 2000 sites, alone or in-combination with other developments. The solar development has since been constructed and is fully operational. As such, there will be no temporal overlap between construction activities associated with that development and those of the proposed project. Accordingly, there is no potential for cumulative construction-phase impacts to arise in combination with the solar development.

Planning Application Reference Number	Project/ Applicant Name	Brief Development Description	Approximate Distance from Proposed project	Date Planning Application Granted	Relevant Information
VA26.318528	Lodgewood Solar Farm Limited	10 year planning permission for the proposed 110kV AIS Single Bay Tail-Fed electricity substation (with 33kV customer compound) and associated grid connection and site works.	0m	04/06/2024	This planning application was informed by an EcIA partially based on the field study carried out for planning application 20221309 above, including the findings of live Freshwater Pearl Mussel specimens within both the Bann_070 and Slaney_160 WFD river water bodies – Figure 3-4 of the published EcIA). Potential likely significant effects on biodiversity receptors were assessed as a consequence of works and activities during its construction phase: 1) habitat loss (e.g. removal of 6m of hedgerow); 2) disturbance to faunal species; and 3) water quality (siltation, eutrophication, contamination, hydromorphological change). The report includes specific and detailed mitigation measures which, adding to the change in land-use (i.e. from tillage to sheep grazing), is concluded to significantly reduce the sediment and nutrient inputs to local streams, decreasing the intensity of this historical local pressure on the aquatic environment. The EcIA concludes that "*no significant residual effects on designated sites, habitats, flora, fauna or aquatic species*" from the development in the planning application. This is the original application for the Tincurry 110kV Substation and Grid Connection and as such will be superseded by this amendment application if it is consented.
SU26.306909	ESB International	Application for substitute consent for Wind Farm.	180m	12/04/2024	This application for substitute consent relates with works and activities carried out historically for a 20kV underground and overhead cable. As the construction works and activities were finalised in 2013, no cumulative effects with the proposed project are anticipated.
20251224W	Stego Storage Ltd	A 10-year planning permission for the provision of a Battery Energy Storage System and compound on a site of c. 0.73ha to support the adjacent permitted solar	150m	Submitted 26/09/20205.	This planning application was informed by an EcIA and NIS, which included a comprehensive field study encompassing surveys on habitats and flora, protected fauna, and aquatic ecology. Potential likely significant effects on biodiversity

Planning Application Reference Number	Project/ Applicant Name	Brief Development Description	Approximate Distance from Proposed project	Date Planning Application Granted	Relevant Information
		farm (WCC Reg. Ref.: 20160595). The Battery Energy Storage System (BESS) compound will accommodate self-contained Lithium Ion Phosphate batteries, within 14 no. BESS units, 3 no. twin skid units and a single skid unit. A control room (c. 27.6m2) is proposed to the west of the compound. The proposed development includes for all associated development, boundary treatments, security fencing, site access works, ducting and cabling, and all associated ancillary works.		Decision pending	receptors were assessed as a consequence of works and activities during its construction and operation phases and included habitat loss, disturbance to faunal species; and water quality (siltation, eutrophication, contamination, hydromorphological change). The report includes specific and detailed mitigation measures and a Biodiversity Management Plan, which is concluded to significantly reduce the sediment and nutrient inputs to local streams, decreasing the intensity of this historical local pressure on the aquatic environment. The EcIA concludes that " *While negative effects on habitats and wildlife are anticipated as part of the proposed development, the implementation of the mitigation measures provided will ensure that significant, negative, long-term effects do not arise*"

3.8 Summary of the Proposed Project Likely Significant Effects on Biodiversity

A comprehensive assessment of the proposed amendments to the permitted Tincurry 110kV Substation, including the Construction, and Operational Phases, identified the following KERs that may be significantly affected during the Construction Phase of the proposed project (Table 3-17). A Cumulative assessment with other plans and projects was also undertaken, which concludes that the significance of the effects in Section 3.6 may be exacerbated if the Construction Phase of the proposed project coincides in time with the construction phase of any of the planning applications considered.

Table 3-17: Summary of Likely Significant Effects from the Proposed project in the Absence of Mitigation

Phase	KER	Effect	Significance of effect in the absence of mitigation	
Construction	Habitats	Habitat Loss	Quality of Effect	Negative
			Significance	**Significant**
			Extent and Context	800m^2 of WD1 habitat (P4 - Figure 3-4)
			Probability	Likely
			Duration	Long term/reversible
			Quality of Effect	Negative
			Significance	**Significant**
			Extent and Context	Net loss of 7.2m of WL1 habitat along the access road and entrance to the substation
			Probability	Likely
			Duration	Long term/reversible
		Dust Deposition	Quality of Effect	Negative
			Significance	**Significant**
			Extent and Context	1km and 3km downstream of the Bann_070 and Slaney_160 WFD river water bodies, where live Freshwater Pearl Mussel was recorded
			Probability	Likely
			Duration	Temporary/reversible
	Water Quality	Siltation and Contamination	Quality of Effect	Negative
			Significance	**Significant**
			Extent and Context	The Lodgewood (within the Bann_070 river water body)
			Probability	Likely
			Duration	Long term/irreversible
	Badger	Disturbance	Quality of Effect	Negative
			Significance	**Significant**
			Extent and Context	All the Badger setts identified in Figure 3-4
			Probability	Likely
			Duration	Temporary
		Direct Mortality/Destruction of Breeding Sites	Quality of Effect	Negative
			Significance	**Significant**
			Extent and Context	All the Badger setts identified in Figure 3-4
			Probability	Likely
			Duration	Long term/irreversible
	Bats	Roost Loss	Quality of Effect	Negative
			Significance	**Significant**
			Extent and Context	BAT19, BAT20 in Figure 3-4
			Probability	Likely
			Duration	Brief/irreversible

3.9 Mitigation Measures

All construction works will comply with relevant Best Practice/Industry Standards, such as from IFI (IFI, 2016), Construction Industry Research and Information Association (CIRIA)[17], and 'Guidance for Pollution Prevention' documents (GPPs)[18], particularly in respect of the protection of water quality, and the prevention of noise, such as:

- CIRIA Report C502 Environmental Good Practice on Site;
- CIRIA Report C532 Control of Water Pollution from Construction Sites;
- CIRIA Report C648 Control of Pollution from Linear Construction Project; Technical Guidance;
- CIRIA Handbook C650 Environmental Good Practice on Site;
- CIRIA Handbook C651 Environmental Good Practice on Site Checklist;
- GPP 1: Understanding your Environmental Responsibilities – Good Environmental Practices;
- GPP 2: Above Ground Oil Storage Tanks;
- GPP 5: Works and Maintenance in or Near Water;
- GPP 6: Working at Construction and Demolition Sites;
- GPP 8: Safe Storage and Disposal of Used Oils;
- GPP 13: Vehicle Washing and Cleaning;
- GPP 21: Pollution Incident Response Planning; and
- GPP 22: Dealing with Spills.

This section presents general and specific mitigation measures to reduce or, if possible, eliminate the risk for significant effects to ecological receptors, as identified in Table 3-8, which significance could be further augmented when considering the cumulative effect assessment (Section 3.7). Consequently, prior to commencement of the works associated with the Construction Phase of the proposed project, the appointed contractor will comply with the Construction Environmental Management Plan (CEMP) - Appendix C - which contains all the mitigation measures included herein, and will ensure they are fully implemented. The CEMP is a live document that will be updated according to changing circumstances on the proposed project, and to reflect activities on site in compliance with all relevant legislation, planning conditions, and best practice guidance. Furthermore, a suitably qualified and experienced Ecological Clerk of Works (ECoW) will be employed by the appointed contractor to oversee the construction works, and monitor any possible sources for likely significant effects. The ECoW will ensure the Construction Phase of the proposed project will be undertaken in strict agreement with the methods prescribed in the CEMP, and will have the power to stop the works in case any activities/works are not compliant with the CEMP and/or the above-mentioned best practise guidelines.

[17] Available at https://www.ciria.org/. Accessed in December 2025
[18] Available at https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/. Accessed in December 2025

Table 3-18: Specific Mitigation Measures During the Construction Phase of the Proposed project

Potential Effect	Source of the Potential Effect	Proposed Mitigation Measure	Further Description
Habitat Loss	▪ Excavation/ trenching	▪ Creation and management of alternative habitat	▪ As compensation for the loss of the P4 habitat, an alternative area with a minimum of 1,600m^2 will be planted with native shrub and tree species, i.e. Blackthorn, Ash, Goat Willow, Hawthorn, Holly; ▪ The rooted saplings to be used will have a minimum stem diameter of 1-3cm (4.5cm above ground); ▪ The appointed minimal area (1,600m^2) will be planted in an irregular distribution (i.e. not in rows, or regular spaced trees), in clumps separated by 7m to 20m, and will include gaps (minimum of 10m wide), following a flexible and irregular approach, in line with Little *et al.* (2009); ▪ No fertilisers will be used; ▪ More details can be found in APPENDIX F – Arboricultural Impact Assessment.
Dust Deposition	▪ Excavation/ trenching ▪ Machinery/ vehicles movement and operation	▪ Minimising significant dust creation, and containment of its spread	▪ Site induction to site personnel and contractors will be mandatorily provided regarding dust control measures; ▪ Where the cable trench/works area is running adjacent and parallel to river water bodies, a minimum 10m buffer will be maintained between the proposed works area and the watercourse edge; ▪ Considering the proximity of the proposed project to river water bodies, no dust suppressants will be used; ▪ Material handling systems and stockpiling of materials will be designed and laid out to minimise exposure to wind; ▪ Vehicle speed within the proposed working areas will be restricted to 10km/h, and signs illustrating this restriction will be erected at the entrances to these areas; ▪ No trenches will be left open overnight, unless absolutely necessary. Once the proposed works cabling for the GCR are completed on a trench stretch, the trench will be reinstated with the excavated material, and compacted.
Water Quality - Siltation	▪ Excavation/ trenching	▪ Prevention; ▪ Secluding works and stock piling areas from rivers.	▪ Weather forecasting resources will be used (e.g. Met Éireann), and works will be planned for when a dry spell of weather is forecasted. Excavation work will not be undertaken during periods of high rainfall. This will minimise the risk of entrainment of suspended sediment in surface water runoff and transport via this pathway to nearby rivers; ▪ During periods of heavy rainfall, a sheet of polyethene or geotextile will be used to cover the full extent of the stockpiled material; ▪ A minimum of 10m distance will be kept between the trenches/stockpiled material and any rivers or aquatic features – the stockpiled material will be laid parallel to the trench, along the trench side opposite to the river; ▪ Double silt fencing will be placed at the outer edge of the 10m protective buffer mentioned above, between the trenches and any river or aquatic features. The silt fencing will be extended at least 10m upstream and downstream of the two proposed watercourse crossings; ▪ Silt fencing will be embedded into the soil to ensure all site water is captured and filtered.

Potential Effect	Source of the Potential Effect	Proposed Mitigation Measure	Further Description
Water Quality - Contamination	▪ Pouring of cement	▪ General best-practice ▪ Minimising and containment of spread/spillage	▪ Prior to pouring, all joints in the pre-cast beams will be sealed using mortar; ▪ Shuttering will be installed under the bridge as well as polythene sheeting, to prevent excess run off into the watercourse; ▪ There will be no batching or storage of cement allowed onsite; ▪ No washing out of any plant or equipment used in concrete transport will be allowed within 100m of watercourses.
	▪ Storage of contaminants	▪ Designating secluded storage areas	▪ There will be no storage of fuel, or any other toxic materials (e.g. oils and other lubricants, paint, cement), permitted within 50m of a watercourse; ▪ Any toxic materials stored at the Construction Compound (e.g. fuel, lubricants, paint) will be stored in bunded storage tanks with a volume of, at least, 110 % of the volume of such materials stored.
	▪ Refuelling operation	▪ Restriction	▪ There will be no refuelling allowed within 100m of a watercourse.
	▪ Machinery/ vehicle movement, operation, and maintenance	▪ General best-practice	▪ Emergency drip trays and spill kits will be kept available on site, to ensure that any accidental spills from vehicles and machinery are contained and removed off site. The ECoW will keep a log (which will be made available for the competent authority inspection) of all accidental spills of toxic materials, detailing the approximate volume spilled and the corrective measures undertaken. All machinery and vehicle operators will be appropriately trained for managing such accidental events; ▪ Equipment, vehicle and machinery will be checked weekly by the respective operators for any potential defects that could generate accidental leaks. These checks, and any required maintenance, will be exclusively undertaken at the Construction Compound.
Badger - Disturbance Badger – Direct mortality/Destruction of breeding sites	▪ All works and activities within 150m from habitat P4 (Figure 3-4)	▪ Exclusion of Badger setts for the duration of the Construction Phase	▪ The ECoW will conduct a pre-construction survey to determine the status (active/inactive) of the identified Badger setts (Section 3.4.2.2), and to determine if any new setts have been established. The pre-construction survey can be undertaken at any time of the year, but ideally during the spring, summer and autumn months, as Badger are less active during colder weather (NRA, 2006b); ▪ For setts identified by the ECoW during the pre-construction survey, their reoccupation during the Construction Phase of the proposed project will be prevented by (NRA, 2006b): – Soft-blocking the sett(s) entrance(s): the entrances will be lightly blocked with vegetation (e.g. small twigs) and a light application of soil; – The sett(s) will be re-visited upon five days of being 'soft-blocked', upon which: → If the 'soft-blocked' entrances remain undisturbed, 'hard-blocking' of those sett entrances will be applied (buried fencing material, firmly fixed). At the end of the Construction Phase of the proposed project, the ECoW will remove all the 'hard-blocking' used to exclude Badger setts; → If the 'soft-blocked' entrances suggest Badger activity, one-way gates will be installed (plus, proofing/fencing around sides of gates to prevent access other than the gate) to allow individuals to exit, but not to return. The gates should be tied open for three days, and be left

Potential Effect	Source of the Potential Effect	Proposed Mitigation Measure	Further Description
			installed, with regular inspections, over a minimum period of 21 days (including period with gates tied open) before the sett is deemed inactive. Any activity at all will require the procedure to be repeated from the start; – Only upon confirmation by the ECoW that the Badger setts are inactive, the proposed works within 150m of the identified setts may proceed.
Bats - Roost Loss	▪ Felling of trees with PRFs	▪ Identification of PRFs being used by bats during the Construction Phase	▪ Three weeks ahead of the beginning of the Construction Phase of the proposed project, a pre-construction survey of the trees within the proposed project will be conducted to identify PRFs and, most importantly, confirm the presence of bats. ▪ The survey will be conducted by a minimum of two experienced bat specialists, suitably trained in the use of tree-climbing equipment (e.g. ladders, cherry pickers). All PRFs will be inspected using torches, mirrors and endoscopes, and information will be collected on (Marnell *et al.*, 2022; Collins, 2023): → the diameter of the stem or limb where the PRF is; → whether there are multiple entrances to the PRF; → the PRF entrance width; → the internal height, width and depth of the PRF; → the substrate within the PRF; → the PRF apex shape; → whether the PRF is dry, damp or wet; → whether any competitors are present; → whether bats are absent or present; → whether droppings are absent or present; → if evidence of bats is lacking; → if present – bat species, number of bats, whether bats are awake or torpid, location of bats, distance of bats from entrance; → any odour; and → photographic evidence of any bats encountered. ▪ Where trees with PRFs are to be removed, an emergence survey will be conducted the night immediately preceding felling to determine if bats are present. ▪ If bats are absent, trees will be section-felled or soft felled within 24 hours of the emergence survey, under supervision of an ECoW. ▪ In the event of a bat roost being discovered the following measure will be implemented: → Tree removal works will not commence. The ECoW (or a bat specialist) will complete the surveys necessary to characterise the roost, and solutions will be developed. A derogation licence will be sought from the NPWS to allow works to proceed. → Where trees with PRFs are being lost, alternative roosting sites will be provided in the form of replacement bat boxes. The location of these bat boxes will be within the consented project

Potential Effect	Source of the Potential Effect	Proposed Mitigation Measure	Further Description
			site, and the type, location and height of the bat boxes will be determined by a bat specialist/ECoW

3.10 Residual Effects Following Proposed Alteration

Upon the full implementation of the mitigation measures described in Section 3.9, the 'Significance', 'Extent and Context', 'Duration', and/or the 'Probability' of the likely significant effects from the proposed amendments to the permitted substation has been reduced (Table 3-19). Therefore, it can confidently be concluded that there will not be any likely significant residual effects from the proposed project.

Table 3-19: Summary of Residual Effects from the Proposed project (descriptors altered by the implementation of mitigation measures are listed in Bold)

Phase	KER	Effect	Residual Significance of Effects	
Construction	Habitats	Habitat Loss	Quality of Effect	Negative
			Significance	**Slight**
			Extent and Context	800m^2 of WD1 habitat (P4 - Figure 3-4)
			Probability	Likely
			Duration	**Short-term**
			Quality of Effect	Negative
			Significance	**Slight**
			Extent and Context	net loss of 7.2m of WL1 habitat along the access road and entrance to the substation
			Probability	Likely
			Duration	**Short-term**
		Dust Deposition	Quality of Effect	Negative
			Significance	**Slight**
			Extent and Context	1km and 3km downstream of the Bann_070 and Slaney_160 WFD river water bodies, where live Freshwater Pearl Mussel was recorded
			Probability	Likely
			Duration	**Brief**
	Water Quality	Siltation and Contamination	Quality of Effect	Negative
			Significance	Significant
			Extent and Context	The Lodgewood Stream (within the Bann_070 river water body)
			Probability	**Unlikely**
			Duration	Potentially permanent/irreversible
	Badger	Disturbance	Quality of Effect	Negative
			Significance	Significant
			Extent and Context	All the Badger setts identified in Figure 3-4
			Probability	**Unlikely**
			Duration	Temporary
		Direct mortality/Destruction of breeding sites	Quality of Effect	Negative
			Significance	Significant
			Extent and Context	All the Badger setts identified in Figure 3-4
			Probability	**Unlikely**
			Duration	Temporary
	Bats	Roost Loss	Quality of Effect	Negative
			Significance	Significant
			Extent and Context	BAT19, BAT20 in Figure 3-4
			Probability	Unlikely
			Duration	Brief/irreversible

3.11 CONCLUSION

This Chapter presents an assessment of the potential likely significant effects of the proposed project on biodiversity, and details appropriate mitigation measures to avoid or reduce the 'Significance', 'Extent and Context', 'Duration', and/or the 'Probability' of potential effects. The residual effects assessment, post implementation of the proposed mitigation, concludes that the proposed project, either individually or cumulatively with other plans or projects, will not result in likely significant effects on any of the identified KERs.

4. SOILS AND GEOLOGY

4.1 SUMMARY OF ORIGINAL ASSESSMENT RESIDUAL EFFECTS AND CONCLUSIONS

The original consented application for the Tincurry 110kV Substation and Grid Connection contained a Planning and Environmental Report with a section dedicated to Water and Drainage Considerations. It outlined the methodology for Flood Risk Assessment and provided commentary on suitable sustainable drainage systems. While there was no specific Soil and Geology Chapter, it can be deduced from the summary conclusions presented in the report that there will be no significant effects on the proposed site or its surrounding environment as a result of the proposed construction and operational activity.

This section includes an assessment of any potential impact on the geological environment (soils, subsoils and bedrock), as a result of the proposed project as described in Chapter 1 of this PECR.

The proposed project comprises the amendment of the previously consented Tincurry 110kV Substation which facilitates the transfer of electrical power generated by the Tincurry and Ballylough Solar Farms (collectively referred to as Lodgewood Solar Farm) and the connection of a BESS, via an Under-the-Fence (UTF) Grid Connection to the existing ESB Lodgewood 220kV Substation.

Mitigation measures for the proposed project area are proposed, where required, to ensure that any planned activities at the site will not adversely impact upon the geological environment outside of the site boundary.

4.2 ASSESSMENT OF PROPOSED ALTERATION

4.2.1 Methodology

The assessment of soils and geology consisted of:

- A desk study of soils, subsoils and bedrock;
- A site walkover; and
- Interpretation of all data and reporting.

Guidelines used in the preparation of the report included the Environmental Protection Agency (EPA) document 'Guidelines on the Information to be obtained in Environmental Impact Assessment Reports' (2022) and the Institute of Geologists of Ireland (IGI) publication 'Guidelines for the Preparation of Soils, Geology and Hydrogeology Chapters of Environmental Impact Statements' (2013).

Publicly available information held by the Geological Survey Ireland (GSI) and the Environmental Protection Agency (EPA) was accessed to provide the geological setting of the site, including the GSI Spatial Resources Viewer and the EPA/ Teagasc soil mapping datasets.

4.2.2 Receiving Environment

The proposed project is located in County Wexford in the townlands of Crory, Tincurry, Lodgewood and Ballylough. The site is located to the east of the existing ESB Lodgewood 220kV Substation (see Figure 4-1).

The land use is predominantly tillage with some forestry on the proposed project site and in the surrounding area. The general development pattern in the wider area predominantly consists of one-off housing along local roads, renewable infrastructure with some dispersed houses and associated farm buildings.

4.2.2.1 Topography

The proposed substation site is located at an elevation of approximately 39 to 43 mOD. The topography of the site and surrounding area is generally flat and gently sloping towards the southwest. The access point entrance is at approximately 31 mOD, while the access track varies along its length with some gentle slopes.

4.2.2.2 Soils

The underlying soil types at the proposed project site (see Figure 4-1) consist of acidic mineral soils with varying drainage characteristics. Poorly drained soils (AminPD) are present at the proposed substation location and along the section of the proposed access road that runs parallel to the Lodgewood stream. Deep, well-drained soils (AminDW) underlie the proposed access road immediately to the East of the proposed substation and at the entrance/exit where the proposed access road would join with the R772. Shallow, well-drained soils (AminSW) are found beneath the midsection of the proposed access road.

4.2.2.3 Subsoils

The mapped subsoils (see Figure 4-2), also known as quaternary sediments, underlying the proposed project site are predominantly mapped as Till derived from Lower Palaeozoic shales, with short section in the middle of the proposed access road having no significant quaternary sediments present overlying the bedrock.

There are few quaternary geomorphology features in the area of the proposed project. A mega scale glacial lineation orientated in a general north to south direction.

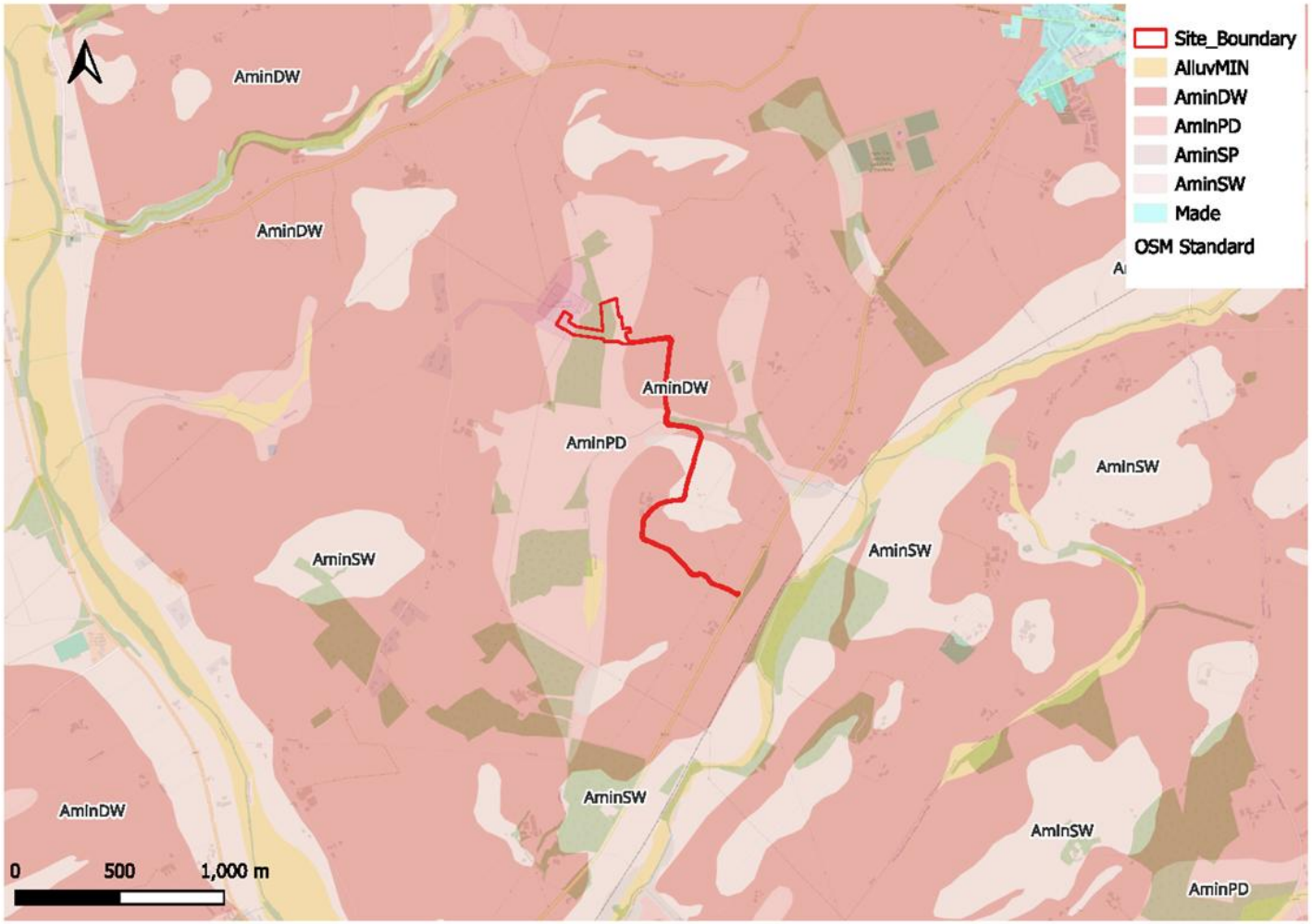


Figure 4-1 Soils Map

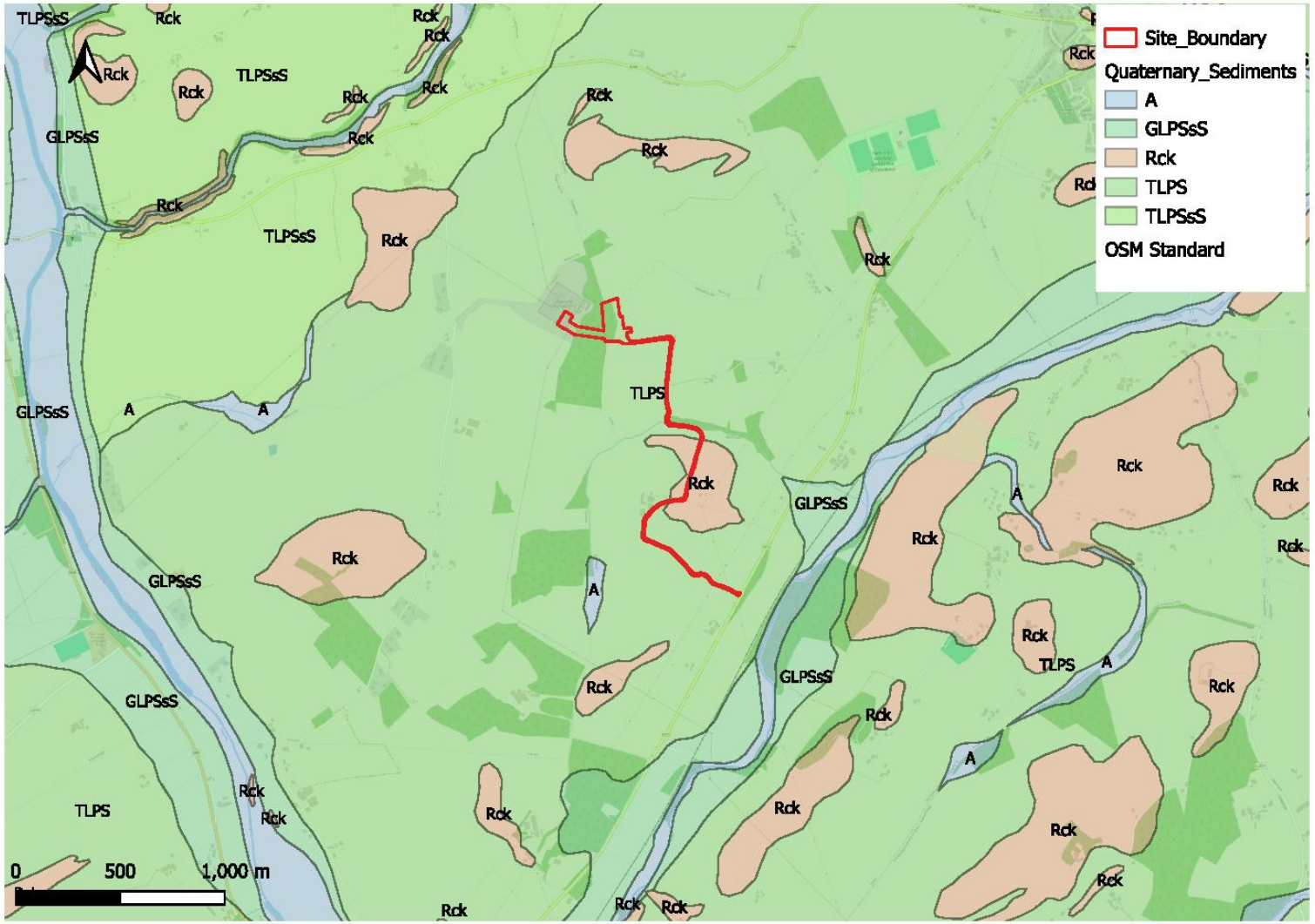


Figure 4-2 Subsoils Map

4.2.2.4 Bedrock Geology

The proposed project site is predominantly underlain by the Oaklands Formation, with a small section of the proposed access road underlain by the Campile Formation. The Oaklands formation is described as dark bluish-grey slate and phyllite, finely foliated and fine-grained metasedimentary rock of Ordovician age. The Campile formation is described as green to grey slate and brown rhyolitic volcanic rock, with thin siltstone interbeds – fine-grained metasedimentary and felsic volcanic sequence of Ordovician age. There are no karst features mapped in the surrounding area of the proposed project. Bedrock outcrop is not mapped on the proposed project site.

A site walkover carried out on the 3rd June 2025 which included investigating the area for any geological features. No subsoil exposures were noted. The site is currently intensively farmed tillage and pastural land.

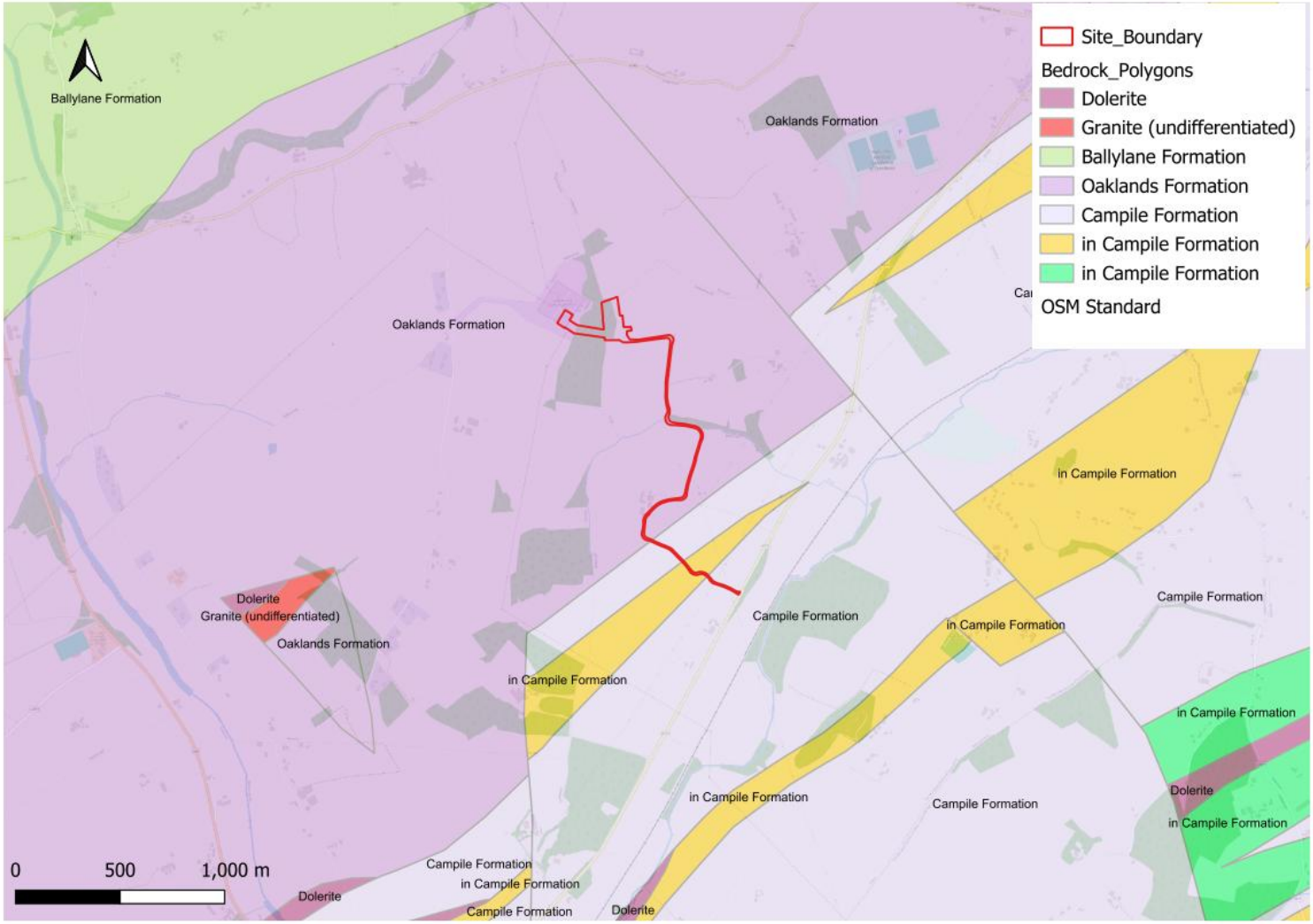


Figure 4-3 Geology Map

4.2.3 Potential Impacts

4.2.3.1 Potential Impacts during the Construction Phase

There are no geological heritage sites on the proposed site. Elements of the proposed project that have the potential to impact on the soils and geology are as follows:

- Movement of vehicles and machinery associated with the proposed works and the potential for spillages of oils, fuels or other pollutants which could infiltrate to the soils and subsoils;
- Excavation activities resulting in the temporary generation of dust in the locality of the works area;
- Movement of heavy vehicles and machinery causing compaction of the ground; and
- Permanent removal of soils and subsoils on a site-specific level.

Excavation of soils and subsoil material during the localised earthworks as described above could potentially increase the risk of soil erosion, which in turn could destabilise the ground on a local level. There is also the potential of leakage and spillage of fuels on-site from vehicles during construction works. Surplus soil will be used on site where possible to create earthen berms which will serve as screening and a substrate for planting of native tree species. Any soils not used on site for this purpose will be removed off site for reuse as article 27 material or disposed of at a permitted waste facility. The surplus soil can be removed offsite as a by-product material. National By-Product Criteria Reference Number BP-N002/2024 establishes detailed criteria determining when greenfield soil and stone from undeveloped land, which is destined for lawful use at another development with appropriate planning permission or exemption, is a by-product and not a waste. The proposed approach is consistent with the Circular Economy. The Circular Economy refers to the European Union's integrated economic model aimed at minimizing waste and maximizing resource efficiency.

The pre-mitigation potential effects on the soils and geology are considered to be negative, short term to permanent and of moderate significance.

4.2.3.2 Potential Impacts during the Operational Phase

There will be no significant impacts on soils, subsoils or bedrock during the operational phase of the proposed project.

Fuels will be stored on site for use in the granted diesel generator. Incorrect storage of chemicals poses a risk of infiltrating to the geological environment; however, this risk will be negligible by implementing standard mitigation measures.

4.2.4 Cumulative Effects

The potential for cumulative effects of the proposed project with other existing and proposed plans and projects in the region has been assessed. The information was sourced from a search of the local authorities planning registers. The projects which were reviewed as part of this assessment include those shown in Figure 7-1 of this PECR.

The Tincurry and Ballylough Solar Farms (Planning ref 20221309, 20231025) are located to the south, east and west of the proposed project respectively. Due to the minimally invasive construction methodology of solar farms, there will be no significant alteration to the natural geological and hydrogeological conditions as a result of these projects. Battery Energy Storage Systems (BESS) were applied for 1km to the west of the proposed project (Planning Ref.

20251224W), 200m to the northeast (Planning Ref. 20241558) and directly northeast of the application (20241593). No significant cumulative effects were identified based on a review of the documents provided with the planning application. There is no overlap between the various applications that would result in significant cumulative effects on soils and geology.

A review of the Wexford and Carlow County Council planning portal revealed a number of small scale residential and rural developments (e.g., residential one-off housing and agriculturally based developments) proposed in the surrounding areas. Considering the small scale residential and rural developments, there is no potential for significant effects on Land Soils and Geology.

4.2.5 Mitigation Measures

4.2.5.1 Construction Phase

Mitigation measures to be undertaken during the construction phase of the proposed project are detailed below and are included in the Natura Impact Statement (NIS) and Construction Environmental Management Plan (CEMP).

The following measures for standard practice pollution control and stockpiling management will be incorporated into the CEMP, which the contractor will be obliged to follow to remove any risk of a pollution incident. The proposed measures are detailed in Table 4-1.

Table 4-1: Proposed Mitigation Measures

Pollution Prevention	Adherence to CIRIA C532 (2001) water pollution control guidelines and CIRIA C811 (2024); A 24-hour, seven-day week Emergency Response protocol will be drawn up and implemented. This must be implementable in the unlikely event of an accidental spillage of chemicals, hydrocarbons or release of sediment to the soils and geological environment; All concrete will be mixed off-site and imported into the site. Only the chute will need to be cleaned, using the smallest volume of water practicable. Wash out of the main concrete bottle will not be permitted on site; wash out is restricted only to chute wash out. This designated washout area will be undertaken at the construction compounds and placed at least 50m from any water feature (e.g., drain). All washings will be removed offsite and treated at a licensed facility;
Fuelling Operations	Refuelling restricted to hard-surfaced areas with: • Mobile double-skinned fuel tanks • Mandatory spill tray deployment • Onboard spill kits for all vehicles Dedicated maintenance areas
Spill Preparedness	Refuelling of machinery will be carried out on level, hard surfaced designated areas. In the event that refuelling is required outside of these areas, fuel will be transported in a mobile double skinned tank and a spill/drip tray will be employed during re-fuelling operations Comprehensive staff training in spill response

	Proper off-site disposal of used containment materials
Materials Management	Controlled stockpiling on stable, well-drained surfaces only Stockpiles will be sealed using an excavator bucket to limit sediment runoff Spoil containment with elevated bunds where required Monitoring and containment of all stockpile runoff
Site Clearance	Complete removal of all temporary structures, equipment and waste upon project completion
Biosecurity Protocols	Pre-entry equipment inspections per IFI biosecurity standards. All equipment and machinery must be checked prior to entry to the proposed project as a bio security measure. This is to avoid transfer of invasive species on equipment and machinery which may have been used elsewhere. Reference will be made to IFI bio security protocol found at http://www.fisheriesireland.ie/Biosecurity/biosecurity.html; and Any soils and stones imported to the site will be supplied by a reputable supplier and certified for use so as to avoid waste classified soil and stone from being used on site and also as a bio security measure to minimise the transfer of invasive species transported in such material.

During the construction stage, best practice construction methods as set out in CIRIA C811 'Environmental good practice on site guide' will be implemented in order to prevent contamination of the soils and to prevent excessive dust production. This will include proper site management during construction, to ensure that all necessary measures are taken to prevent run-off/ pollutants from infiltrating to ground in the vicinity of the works.

All oils and solvents used during the construction phase of the proposed project will be stored within specially constructed dedicated bunded areas. This will minimise any impact on the underlying sub-surface strata.

Refuelling of construction vehicles and the addition of hydraulic oils to vehicles, will take place in a designated area of the site. Spill kits and hydrocarbon adsorbent packs will be stored in this area of the site and operators will be fully trained in the use of this equipment. All machinery will be regularly maintained and checked for leaks. Any refuelling of construction machinery/ vehicles will not be undertaken within 50m of any surface water feature. If it is not possible to bring machinery to the refuelling point, fuel will be delivered in a double-skinned mobile fuel bowser. A drip tray will be used beneath the fill point during refuelling operations to contain any accidental spillages that may occur.

All construction waste will be sorted and stored in on-site skips, prior to removal by a licenced waste management contractor. The combined application of these measures will ensure that inputs to, and subsequent contamination of, the soil and geological environment do not occur during normal and/or emergency conditions. With these mitigation measures in place, the probability of contamination and dust production effects on the soils and geology environment is unlikely.

4.2.6 Residual Effects Following Proposed Alteration

The nature of the proposed project dictates that the residual effect on the geological environment is the permanent change to soils during excavation works. Soils will be retained on site which is consistent with the Waste Framework Directive[19] and Circular economy strategy[20]. However, this is on a site specific local scale and so the effect is considered to be long-lasting, neutral and imperceptible.

4.3 CONCLUSIONS

The nature of the proposed project dictates that the greatest potential effect on geological environment will be during the construction phase. The construction of the proposed project will result in the disturbance of soil and subsoil on the site. However, the area impacted by the proposed project will be localised and, with the implementation of the mitigation measures during the construction phase, the impact on the soils and geology will be negligible during both the construction and operational phases.

[19] https://environment.ec.europa.eu/topics/waste-and-recycling/waste-framework-directive_en

[20] https://www.gov.ie/en/department-of-climate-energy-and-the-environment/publications/whole-of-government-circular-economy-strategy-2022-2023-living-more-using-less/

5. HYDROLOGY AND HYDROGEOLOGY

5.1 SUMMARY OF ORIGINAL ASSESSMENT RESIDUAL EFFECTS AND CONCLUSIONS

The original consented application for the Tincurry 110kV Substation contained a Planning and Environmental Report with a section dedicated to Water and Drainage Considerations. It outlined the methodology for Flood Risk Assessment and provided commentary on suitable sustainable drainage systems. While there was no specific Hydrology and Hydrogeology Chapter, it can be deduced from the summary conclusions presented in the report that there will be no significant effects on the proposed site or its surrounding environment as a result of the proposed construction and operational activity.

This chapter describes the existing surface water and groundwater environment and presents an assessment of the potential for impacts arising from the works related to the proposed site on this environment.

The proposed project comprises the amendment of the previously consented Tincurry 110kV Substation and Grid Connection which facilitates the transfer of electrical power generated by the Tincurry and Ballylough Solar Farms (collectively referred to as Lodgewood Solar Farm) and the connection of a BESS, via an Under-the-Fence (UTF) Grid Connection to the existing ESB Lodgewood 220kV Substation.

5.2 ASSESSMENT OF PROPOSED ALTERATION

5.2.1 Methodology

The assessment of the water environment consisted of:

- A desk study of surface water and groundwater features;
- A site walkover; and
- Interpretation of all data and reporting.

Guidelines used in the preparation of the report included the Environmental Protection Agency (EPA) document 'Guidelines on the Information to be obtained in Environmental Impact Assessment Reports' (2022).

Information held by the Geological Survey Ireland (GSI) and EPA was accessed to provide the geological setting of the site. Datasets used to provide the setting of the site included the GSI Spatial Resources Viewer and the EPA Water Maps and Office Public Works (OPW) Flood Maps.

5.2.2 Receiving Environment

5.2.2.1 Surface Water

The purpose of this section is to describe the surface water (hydrological) setting of the proposed project site.

The proposed project is located in the townlands of Tincurry, Crory, Lodgewood and Ballylough, Co. Wexford. The land use is predominantly tillage with some forestry on the proposed project site and in the surrounding area. The general development pattern in the wider area

predominantly consists of one-off housing along local roads, renewable infrastructure with some dispersed houses and associated farm buildings.

The proposed project is located within the River Slaney and Wexford Harbour Catchment. The site is located within the Bann[Wexford]_SC_010 subcatchment, and Bann_070 Subbasin.

The proposed project area is generally well-drained with the Lodgewood stream located along the western boundary of the site. The Lodgewood stream flows south along the substation boundary and eventually to the Bann River. The Bann River is located approximately 1.8 km downstream of the proposed project site. The Bann River is a tributary of the River Slaney, which is located to the west, approximately 12 km downstream of the proposed project site.

The EPA assesses the water quality of rivers and streams using a biological assessment method and assigns biological river quality (biotic index) ratings from Q5-Q1 to watercourse sections. Q5 denotes a watercourse with high water quality WFD status and high community diversity within unpolluted water and of satisfactory condition, whereas Q1 denotes bad water quality WFD status and very low community diversity within seriously polluted water and of an unsatisfactory condition. The EPA also assesses the risk of each waterbody failing to meet the WFD objectives by 2027 i.e. to achieve at least 'good' water quality status and to maintain that status. Table 5-1 lists the WFD waterbodies and their corresponding water quality status.

Table 5-1: River waterbodies and corresponding water quality status

WFD Waterbody	Location	WFD Code	Water Quality Status (2019-2024)	Q Value	Water Quality Risk
BANN_070	Downgradient	IE_SE_12B011000	Good	4	At risk
SLANEY_170	Downgradient	IE_SE_12S022300	Moderate	4	Not at Risk

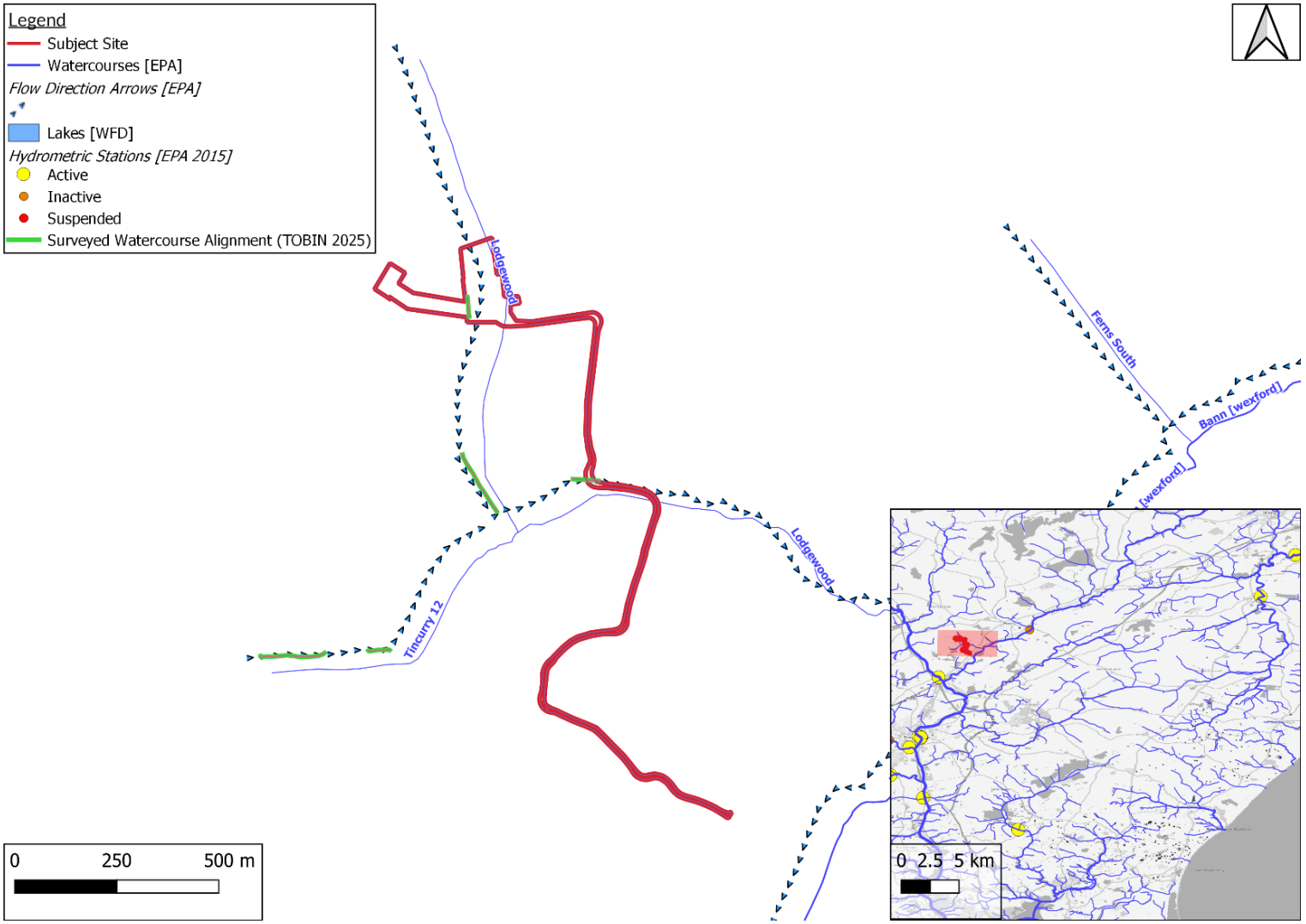


Figure 5-1 WFD river waterbodies map

The site visit identified the Lodgewood stream located to the west of the proposed substation. Construction and operational access to the substation was permitted through private lands, with an entrance from the Regional Road R772. This access track will cross the Lodgewood Stream to the south of the substation and will also be used for operational access.

From the site walkover and topographic survey, it was observed that the stream bifurcates into two parallel channels as it passes through the wooded area adjacent to the ESB 220 kV Lodgewood Substation.

During the site visit, the Lodgewood stream and parallel drainage channel were observed to be overgrown and with little water present. Based on aerial photography and the historical maps, all drainage channels within the proposed project area connected with the River Bann approximately 1.5 km southeast of the proposed substation.

The site is hydraulically connected to the Bann_SC_010 river waterbody via the Lodgewood stream. The catchment area to the Lodgewood Stream is small at the proposed project (<0.75km2) and therefore little (<1l/s) to no flow may occur during dry summer periods. A hydraulic capacity assessment of the Lodgewood Stream was carried out at the proposed project site using surveyed cross-sectional data. The Flood Risk Assessment indicated the Lodgewood Stream can safely convey extreme design flows under current and as well future climate change scenarios (See Appendix E).

5.2.2.2 Groundwater

The purpose of this section is to describe the groundwater (hydrogeological) setting of the study area.

5.2.2.2.1 Aquifer Potential and Characteristics

The aquifer potential of a bedrock unit is determined by the groundwater productivity. The productivity is determined based on hydraulic characteristics compiled from borehole data throughout the county.

The underlying bedrock is classified as a “Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones”. There are no sand and gravel aquifers identified in the proposed project.

There are no mapped karst features within the proposed project site and a review of the OSI historical maps and aerial photography did not show any potential features in the immediate area of the proposed project.

5.2.2.2.2 Groundwater Vulnerability

Groundwater vulnerability represents the intrinsic geological and hydrogeological features at a site that determine the ease at which groundwater may become contaminated. It is representative of the subsoil thickness, the subsoil type, as well as the aquifer type.

Groundwater vulnerability is classified as “moderate” across the site (see Figure 5-2). This suggests that bedrock is covered with 5-10 m subsoil layer throughout the site.

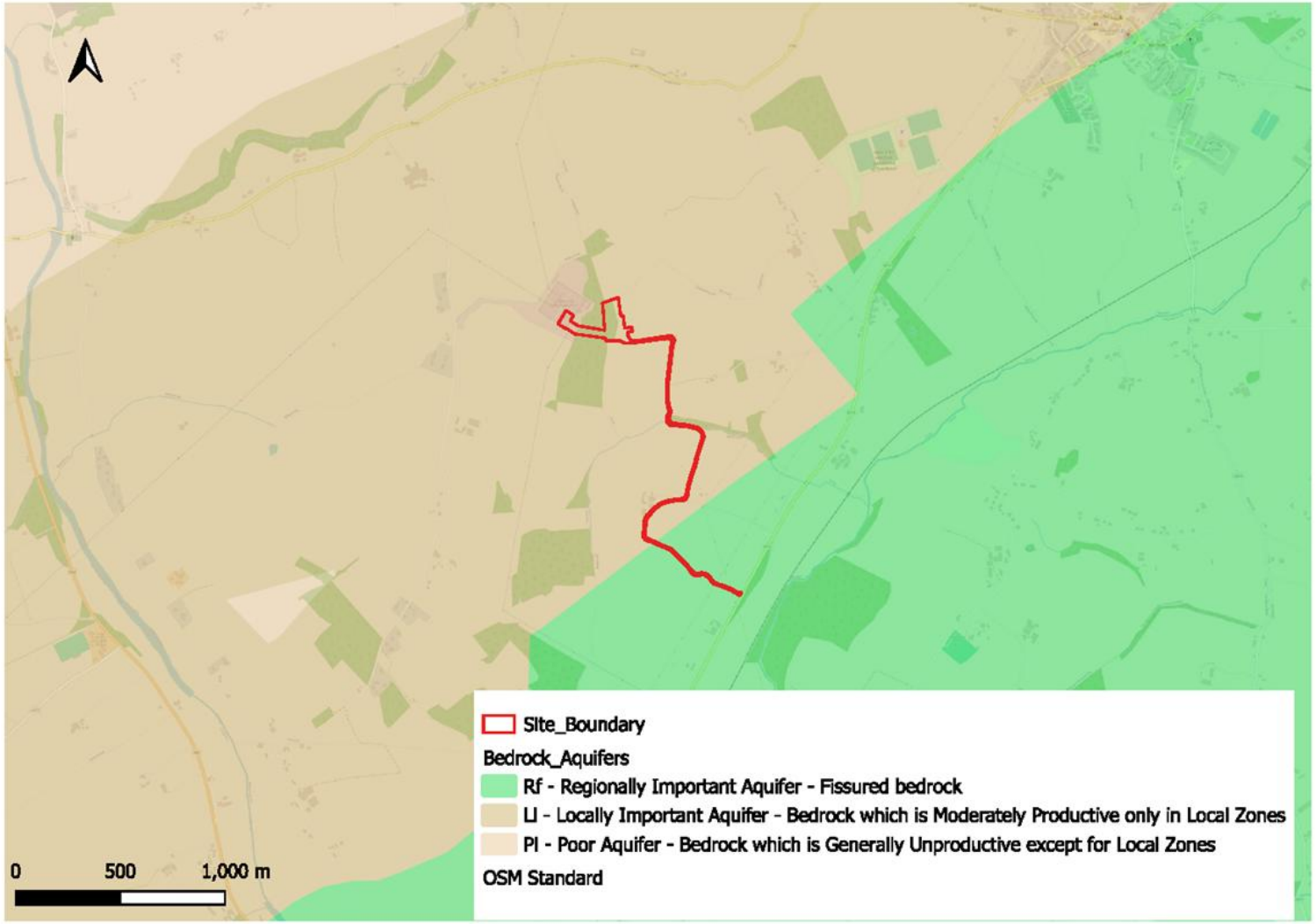


Figure 5-2 Aquifer Classification

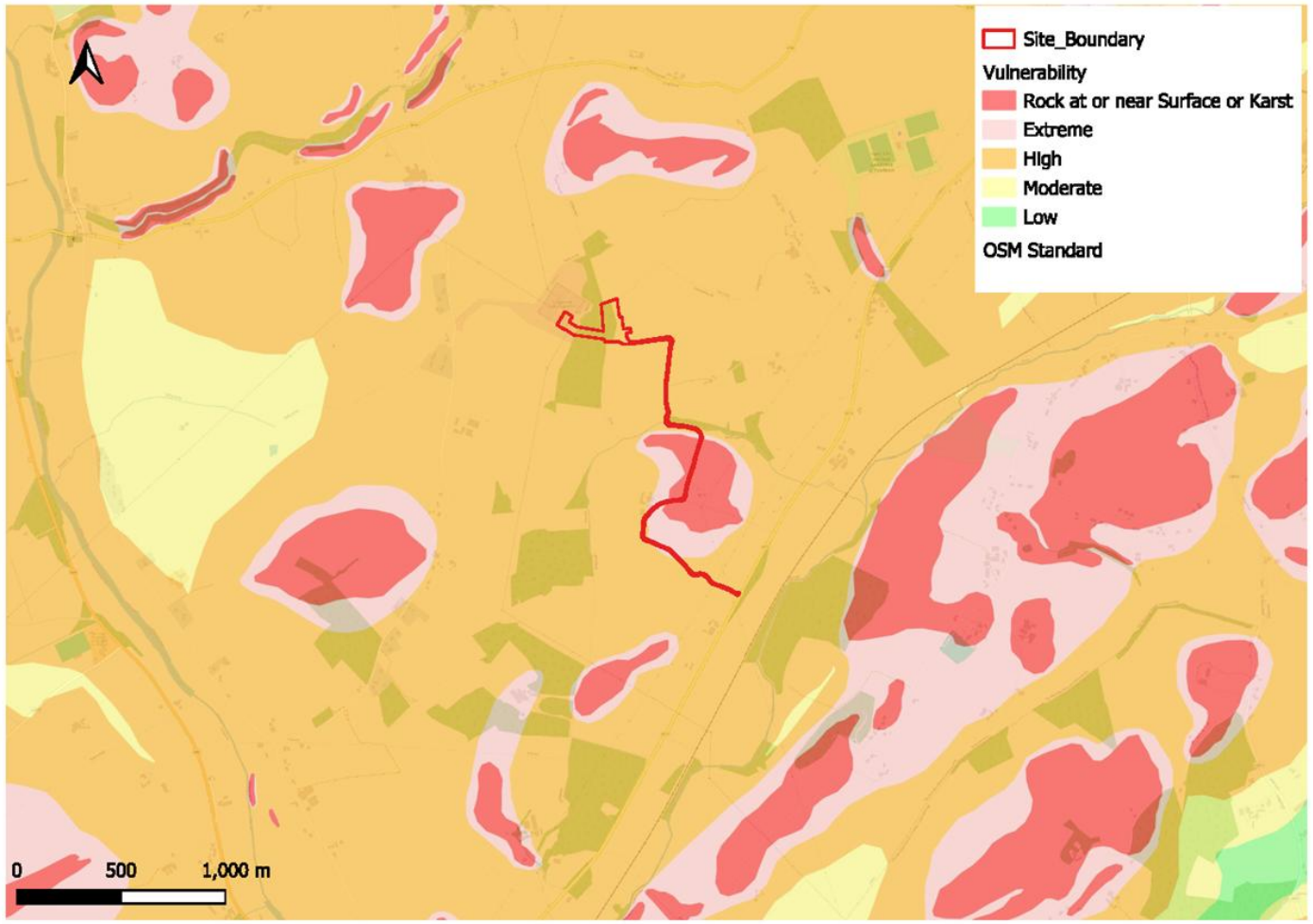


Figure 5-3 Groundwater vulnerability

5.2.2.2.3 Groundwater Source Protection Zones and Group Water Schemes

As reported by the EPA and the GSI, groundwater sources, particularly public, group scheme and industrial supplies, are of critical importance in many regions. Consequently, the objective of a Source Protection Zone is to provide protection by placing tighter controls on activities within all or part of the source protection area of the supply.

The proposed project site is not within a Zone of Contribution/ Source Protection Zone for any public or private water supplies, and there are no group water schemes mapped within 2km of the proposed project. Additionally, there are no GSI mapped groundwater wells or springs in the immediate area of the proposed project.

5.2.2.2.4 Groundwater Quality and Risk

The proposed project is located within the Ballyglass Groundwater Body (GWB) (European Code: IE_SE_G_011). The GWB WFD status 2019 – 2024 is classified as being of 'Good' quality and is currently at risk of meeting the WFD target of achieving and/ or maintaining good quality status by 2027.

5.2.2.3 Flooding

A Stage 2 Flood Risk Assessment (FRA) was carried out by TOBIN and is included with this application. The updated FRA assesses the Lodgewood steam, incorporating climate change allowances.

The assessment demonstrates that the channel has sufficient hydraulic capacity to safely convey the design Q100 MRFS flow without overtopping, confirming that the risk of fluvial flooding is highly unlikely. The risk of coastal, pluvial, and groundwater flooding is also considered negligible given the site's elevation, distance from the coast, and proposed surface water management system designed in line with SuDS principles.

Accordingly, the proposed project is appropriately located within Flood Zone C, and the TOBIN (2025) FRA provides a higher level of technical assurance that the proposed project will not increase flood risk on-site or elsewhere. The findings remain consistent with the Planning System and Flood Risk Management Guidelines (2009) and the Wexford County Development Plan 2022–2028, with no material change in residual effects identified.

A dedicated stormwater drainage system designed in accordance with Sustainable Drainage Systems (SuDS) principles will mitigate against flooding. Additionally, the landscape and topography of the developed site would provide safe exceedance flood paths and prevent surface water ponding. Therefore, the risk of pluvial flooding is considered minimal.

5.2.3 Potential Effects Following Proposed Alteration

5.2.3.1 Potential Impacts during the Construction Phase

Elements of the proposed project that may give rise to impacts have been considered with regards to potential effects on the hydrology and hydrogeology environment are as follows:

- Release of sediment and pollutants which may be discharged into surface water, particularly during high rainfall events. Contaminated runoff and/or sediment may drain into the adjacent drainage channels;

- Movement of vehicles and machinery associated with construction works and the potential for spillages of oils, fuels or other contaminants which could be transported to the surface water system during rainfall events;
- Increased silt loading which affect aquatic plant and ecological quality of watercourses and drainage channels, with the most critical period associated with low flow conditions;
- The excavation, placement, grading and backfilling of soils may potentially impact on the surrounding surface water environment and the underlying groundwater environment. Surface water run-off from the construction area may contain elevated suspended solids associated with soil excavation and soil storage areas. This run-off may discharge to the adjacent drainage channels and impact on downstream water quality;
- The use of concrete to form some structural elements of the proposed infrastructure has the potential to generate high alkalinity surface water run-off, which may discharge to adjacent drainage channels impacting on the downstream water quality;
- The use of plants and vehicles on all aspects of the proposed construction works brings with it the potential for hydrocarbon loss to the ground during refuelling operations. The released hydrocarbons would then have the potential to percolate to the underlying groundwater or to contaminate the surface water and downstream surface waterbodies into which the run-off discharges; and
- Improper waste disposal and sanitary waste disposal from temporary sanitary facilities during the construction stage may result in contaminated discharge to surface water bodies or to the underlying groundwater body, impacting water quality.

The pre-mitigation potential effects on the surface water and groundwater are negative, short term and of moderate significance.

5.2.3.2 Potential Impacts During The Operational Phase

Due to the nature of the proposed project, there will be a loss of area for rainfall to infiltrate to ground and replenish groundwater stores. However, this will be on a local scale and is considered an imperceptible effect due to the average recharge cap of 122 mm/yr over the proposed project area. There will be no significant impacts on the water environment during the operational phase of the proposed project.

There will be a limited movement of vehicles associated with site operation, having a potential for spillages of oils, fuels or other contaminants which could be transported to the surface water system during rainfall events.

Wastewater generation will be low due to the limited staffing required. Wastewater from toilets will be directed to a sealed and alarmed storage tank, which will be collected and tankered off site by an appropriately consented and licensed waste collector to wastewater treatment plants.

5.2.4 Cumulative Impacts

The potential for cumulative effects of the proposed project with other existing and proposed plans and projects in the region has been assessed. The information was sourced from a search of the local authorities planning registers. The projects which were reviewed as part of this assessment include those shown in Figure 7-1 of this PECR.

The Tincurry and Ballylough Solar Farms (Planning ref, 20221309, 20231025) are located to the south, east and west of the proposed project. Due to the minimally invasive construction methodology of solar farms, there will be no significant alteration to the natural geological and hydrogeological conditions as a result of this proposed project. Battery Energy Storage Systems (BESS) were applied for 1km to the west of the proposed project (Planning Ref 20251224W), 200m to the northeast (Planning Ref. 20241558) and directly northeast of the application (20241593). No significant cumulative effects were identified based on the information provided with the planning application.

A review of the Wexford and Carlow County Council planning portal revealed a number of small scale residential and rural developments (e.g., residential one-off housing and agriculturally based developments) proposed in the surrounding areas. Considering the small scale residential and rural developments, there is no potential for significant effects on hydrology or hydrogeology.

A number of solar farms (both proposed and permitted) in the surrounding area which will result in a reduction in nutrient inputs (and losses) to the surface water and groundwater environment. No significant cumulative effects on hydrology and hydrogeology were identified.

5.2.5 Mitigation Measures

5.2.5.1 Construction Phase

Mitigation measures to be taken during the construction phase of the proposed project are detailed below. These are included in the CEMP.

During the construction stage, best practice construction methods as set out in CIRIA C811 'Environmental good practice on site guide' will be implemented to prevent water pollution. This will include proper site management during construction to ensure that all necessary measures are taken to prevent run-off/pollutants from entering any watercourse or drainage channel in the vicinity of the works.

The construction compound and welfare facility will be located within the existing agricultural lands and set back from the adjacent drainage channels. The temporary welfare facilities will not have any discharge to ground or surface waters. All wastewater will be collected in a tank, and will be emptied as required by a licenced waste collector according to the manufacturer's guidelines.

All oils and solvents used during the construction phase of the proposed project will be stored within specially constructed dedicated bunded areas. This will minimise any impact on the groundwater and eliminate/reduce the risk of overflow into the adjacent drainage channels.

Refuelling of construction vehicles and the addition of hydraulic oils to vehicles, will take place in a designated area of the site, 50m away from surface water features. Spill kits and hydrocarbon adsorbent packs will be stored in this area of the site and operators will be fully trained in the use of this equipment. All machinery will be regularly maintained and checked for

leaks. Any refuelling of construction machinery/vehicles will not be undertaken within 50m of any surface water feature or drainage channel. If it is not possible to bring machinery to the refuelling point, fuel will be delivered in a double-skinned mobile fuel bowser. A drip tray will be used beneath the fill point during refuelling operations to contain any accidental spillages that may occur.

All construction waste will be sorted and stored in on-site skips, prior to removal by a licenced waste management contractor.

Best practice on-site erosion control measures will be incorporated into the construction phase of the proposed project to reduce the potential for sediment and suspended solids in runoff to surface water in this area. No direct discharge to the drainage channels will be permitted at any time during the works. Silt fencing will be installed along the Lodgewood stream. Regular inspection and maintenance will be implemented to ensure correct usage. Regular inspection will be undertaken by an onsite Ecological Clerk of Works (ECOW).

As with the above mitigation measures, the following standard practice pollution control measures will also be incorporated into the CEMP for the project, which the contractor will be obliged to follow to remove any risk of a pollution incident:

- On completion of the works, all apparatus, plant, tools, offices, sheds, surplus materials, rubbish and temporary erections or works of any kind will be removed from the site;
- All works must follow the guidance set out in the Guidance document entitled: CIRIA guidance note Control of Water Pollution from Construction Sites (CIRIA, 2001);
- A 24-hour, seven-day week Emergency Response protocol will be drawn up and implemented. This must be implementable in the unlikely event of an accidental spillage of chemicals, hydrocarbons or release of sediment to the surface or ground water system;
- All excavated material will be removed to suitable stockpile areas and sealed to prevent additional runoff;
- Stockpiling will be limited to areas where the ground is stable and well drained;
- Spoil disposal areas will be located where the risk of soil erosion and water quality deterioration is minimal and must also have an adequate buffer from aquatic zones;
- Refuelling of machinery will be carried out on level, hard surfaced designated areas. In the event that refuelling is required outside of these areas, fuel will be transported in a mobile double skinned tank and a spill tray will be employed during re-fuelling operations;
- All machinery will be regularly maintained and checked for leaks. Services will not be undertaken within 50m of aquatic features. Servicing must be undertaken on level, hard surfaced designated areas;
- An adequate supply of spill kits and hydrocarbon adsorbent packs will be available at labelled stations throughout the sites with all vehicles on-site carrying spill kits. All

relevant personnel will be fully trained in the use of the equipment. Any used spill kits will be disposed of appropriately off-site;

- All concrete will be mixed off-site and imported into the site. only the chute will need to be cleaned, using the smallest volume of water practicable. Wash out of the main concrete bottle will not be permitted on site; wash out is restricted only to chute wash out. This designated washout area will be undertaken at the construction compounds and placed at least 50m from any water feature (e.g., drain). All washings will be removed offsite and treated at a licensed facility;
- All equipment and machinery must be checked prior to entry as bio security measure. This is to avoid transfer of invasive species on equipment and machinery which may have been used elsewhere to the receiving catchment. Reference will be made to IFI bio security protocol found at http://www.fisheriesireland.ie/Biosecurity/biosecurity.html.

The combined application of these measures will ensure that inputs to, and subsequent contamination of, the water environment do not occur during normal and/or emergency conditions. With these mitigation measures in place, the probability of the occurrence of effects on the water environment is unlikely.

5.2.5.2 Operational Phase

No significant impacts on the local water environment are predicted with the above mitigation measures being adhered to. Additionally, gravel hardstanding will be used to allow rainfall to infiltrate to ground during the operation of the proposed project. A petrol interceptor will be installed on the substation site.

All operational areas will drain to the surface water management system. The predicted effect on the water environment is neutral and imperceptible to not significant.

Any vehicles utilised during the operational phase will be regularly maintained and checked to ensure any damages or leakages are corrected.

5.3 CONCLUSION

Due to the proposed design and construction methodology of the proposed project, there will be no significant alteration to the natural hydrological and hydrogeological conditions as a result of this proposed project.

6. NOISE AND VIBRATION

6.1 SUMMARY OF ORIGINAL EIS RESIDUAL EFFECTS AND CONCLUSIONS

Sections 6.1.1 – 6.1.5 below outline the noise related residual effects and conclusions from the previously approved associated planning applications.

6.1.1 Tincurry Solar Farm Development

A noise impact assessment was completed by DKPEV (Environmental) for the Tincurry Solar Farm and its 110kV substation. The project file number is DKP-N65-5300, and the report is dated September 30, 2022. The assessment found that the development would have a negligible impact on all nearby noise-sensitive locations. It determined that the noise levels would not exceed the background noise. As a result, the report did not recommend any specific measures to reduce noise during construction or operation.

6.1.2 Ballylough Solar Farm

A noise impact assessment by DKPEV (Project file no: DKP-O10-5300 | 1P 2023-08-24) evaluated the noise emissions from the proposed Ballylough Solar Farm and 110kV substation (Wexford County Council Register Reference: 20231025). It examined the impact on noise-sensitive locations during both construction and operation. The assessment concluded that the development would have negligible effects on background noise levels at all locations, and no specific mitigation measures were recommended.

6.1.3 Tincurry 110kV Substation & Grid Connection

A noise impact assessment by DKPEV (Environmental) (Project file no. DKP-O10-5300 | 1P 2023-08-24) analysed the noise emissions from the Tincurry Substation (110kV) and its underground cable connection, along with the Tincurry Solar Farm (Wexford County Council Register Reference: 20221309) and the proposed Ballylough Solar Farm (Wexford County Council Register Reference: 20231025). The report concluded that no mitigation measures were needed during construction or operation, and that the combined operations would meet the noise level guidelines set by the EPA, WHO, and BS8233.

6.1.4 Lodgewood Battery Energy Storage System (BESS)

A full noise impact assessment contained within an Environmental Report compiled by Malachy Walsh and Partners (MWP) Engineering and Environmental Consultants (Project Number 24575, Doc No. 6003, 05/12/2024) considered the effects of noise emissions associated with the construction, operation and decommissioning of the now permitted Lodgewood BESS (Planning Ref: 20241593). It was established that the cumulative noise levels were below EPA recommended noise thresholds and therefore no significant cumulative noise effects were predicted as a result of the proposed BESS in operation with both Tincurry and Ballylough solar farms.

6.1.5 Cumulative Assessment

Based on the conclusions of the aforementioned coonsented developments a cumulative impact study was conducted for the proposed site alongside the permitted Lodgewood BESS and the Tincurry and Ballylough solar projects. The findings indicate that combined operational noise

will remain within EPA limits, ensuring no adverse impact on nearby noise-sensitive locations (NSLs).

6.2 ASSESSMENT OF PROPOSED ALTERATION

6.2.1 Introduction

This chapter presents an assessment of the potential for noise and vibration effects arising from both the construction phase and operational phase of the proposed amended Tincurry 110kV Substation and Grid Connection (hereafter referred to as the 'proposed project'). The assessment assesses the potential effects and proposes, if required, the mitigation measures to be put in place to reduce these effects where appropriate.

This chapter outlines the project criteria, survey results, assessment, and general guidance recommendations for:

- Construction noise and vibration from the construction of the proposed project.
- Operational noise from operation of the proposed project.

Based on the operational hours of the development there is potential for noise effects in both the day and night-time, therefore an assessment for both has been conducted. The noise impact assessment included attended and unattended noise measurements on the proposed project lands. This included measurements of background noise at the noise sensitive locations.

6.2.2 Methodology

The acoustic methodology and criteria for the project is set out in this section, the purpose of the criteria is to ensure reasonable:

- Operational noise from the operation of the proposed project.
- Construction noise and vibration from the construction of the proposed project.

Based on our understanding of the project there are no relevant sources of vibration from the operational phase of the development; to provide adequate conditions Wave Dynamics have developed the project criteria for:

- Operational noise and construction noise and vibration.

6.2.3 Acoustic Standards

The acoustic standards for assessing noise effects for the project have been developed from the following:

- Environmental Protection Agency (EPA) NG4: Guidance note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities;
- BS4142 2014 A1+ 2019 Methods for rating and assessing industrial and commercial sound;
- ISO 1996-1:2016 Acoustics — Description, measurement and assessment of environmental noise — Part 1: Basic quantities and assessment procedures;
- British Standard BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Noise;
- British Standard BS7385: 1993: Evaluation and measurement for vibration in buildings Part 2: Guide to damage levels from ground borne vibration;

- British Standard BS5228-2: 2009 + A1: 2014: Code of practice for noise and vibration control on construction and open sites – Vibration;
- Wexford County Council Noise Action Plan 2024-2028; and
- Previous experience on similar projects.

6.2.4 Desktop Study

A desktop study was carried out to identify potential project constraints in relation to noise and vibration. Following a review of the site and proposed project, the following constraints were identified:

- The main sources of noise from the proposed project have been identified as operational plant associated with the substation, notably the transformers.
- The background noise measurements are outside the requirements of a "low background noise area" subsequently BS 4142 will be the overriding criteria at some of the noise sensitive locations (NSLs).
- The construction noise effects will be low and of short duration.

6.2.5 Receiving Environment

6.2.5.1 Baseline Noise Survey

An attended and unattended baseline noise survey was conducted to assess the background noise levels and the typical noise sources in the area. Multiple locations were chosen to conduct the survey to establish the background noise across the full development. The attended measurements included measurements of background noise during both daytime (07:00hrs - 23:00hrs) and night-time hours (23:00hrs - 07:00hrs). The purpose of the attended and unattended measurements was to establish the background noise levels in the area, and to use these measurements for assessing the future noise effects from the proposed project.

6.2.5.1.1 Site Description

The study area in which the 110kV substation and grid connection and both solar farms are located is in a mostly rural area approximately 2.4km from Ferns, 6.5km from Enniscorthy, 20km from Gorey and 25km from Wexford.

The surrounding area is comprised predominantly agricultural lands and one-off residential dwellings.

6.2.5.1.2 Noise Monitoring Locations

The noise monitoring locations undertaken for the survey are shown in Figure 6-1 below. The purpose of all measurements undertaken at the site was to assess the existing background noise levels in the area and at the noise sensitive locations prior to the substation development.



Figure 6.1: Site location and measurement locations.

The background noise levels recorded are used to assess if the noise sensitive locations meet the EPA NG4 criteria for "areas of low background noise", in order to set the project criteria. The full descriptive details of the monitoring locations are outlined below.

L1: This represents the unattended noise logger at measurement location L1, which was located in a field within the site boundary. This is representative of the residual and background noise levels during the day, evening and nighttime periods at NSLs 1 – 5 (see Figure 6.4). The measurements recorded at L1 were dominated by distant road traffic noise. Lodgewood 220 kV Substation is located close to the measurement position.

A1: This represents attended measurement location A1 which was located in a field to the west of the site boundary and were representative of the day and nighttime noise levels at NSLs 1 and 2 (see Figure 6.4). These measurements have been used to verify the noise logger measurements across the site. The dominant noise source at this location was distant road traffic noise. Other audible noise sources included birdsong.

A2: This represents attended measurement location A2, which was located in a field to the east of the site boundary. The measurements were representative of the day and nighttime noise levels at NSL 3 and NSL 4 (see Figure 6.4). These measurements have been used to verify the noise logger measurements across the site. The dominant noise source at this location was distant road traffic noise. Other audible noise sources included birdsong and farm machinery.

A3: This represents the unattended noise logger at measurement location A3, which was located in a field to the west of the site boundary. This is representative of the residual and background noise levels during the day, and nighttime periods at NSL 5 (see Figure 6.4). The measurements recorded at A3 were dominated by distant road traffic noise.

6.2.5.2 Survey Methodology and Personnel

The attended and unattended surveys were completed by Daniel Cousins (Field Engineer) between the 30th April 2025 and the 02nd May 2025.

6.2.5.2.1 Attended Noise Measurements

Noise measurements were undertaken in general accordance with ISO 1996-1:2016 using ISO Class 1 sound analysers. Attended measurements were taken for varying durations based on objective. Background noise measurements were taken over a 60-minute period for the daytime period and over 15 minutes for the night-time period. Care was taken to avoid any effect on the measurements, the sound level meter was positioned at approximately 1.2m above ground level.



Figure 6-2: Attended noise monitor setup A2

6.2.5.2.2 Unattended Noise Measurements

Noise measurements were undertaken in general accordance with ISO 1996-1:2016 using ISO Class 1 sound analysers. An unattended noise survey was undertaken from the 30th of April 2025 to the 2nd of May 2025. Care was taken to avoid any effect on the measurements, the sound level meter was positioned at approximately 1.2m above ground level and securely anchored in place for the duration of the unattended survey. The data from the unattended measurements was filtered for adverse or undesirable weather conditions.



Figure 6-3: Unattended noise monitor setup

6.2.5.2.3 Survey Period

The attended noise measurements were undertaken on the 30th of April and 2nd of May 2025. The unattended survey was started on the 30th of April 2025 by Daniel Cousins (Field Engineer) and completed on the 2nd of May 2025.

6.2.5.2.4 Noise Measurement Equipment

A Class 1 sound level meter/noise logger in general accordance with IEC 61672-1:2013 was used for the attended measurements. Calibration certs are available on request. Table 6-1 below summarises the measurement equipment used.

Table 6-1: Noise Measurement Equipment

Description	WD Asset Number	Model	Serial No.	Calibration Certificate No.	Calibration Due Date
Sound Level Meter	SLM3	Nor 140	1403082	50651/50650	13/04/2027
Sound Level Meter	SLM4	Nti XL2-TA	A2A-23316-E1	UK-23-100	01/09/2025
Calibrator	CAL3	Nor 1251	32096	AC240251	03/07/2025

6.2.5.2.4.1 Subjective Survey Notes

- Traffic noise from the nearby local roads
- Birds chirping
- Wind blowing foliage

6.2.6 Noise Measurement Results

This section outlines the results of the attended noise measurements.

6.2.6.1 Attended Measurement Results

Table 6-2 outlines the results of the attended measurement survey.

Table 6-2: Attended Noise Measurement Results

Measurement				Measured Noise Levels (re 20µPa))		
Location	Date	Time (hrs)	Duration (mins)	L_{Aeq} dB	L_{AFmax} dB	L_{A90} dB
A3	30/04/2025	10:00	60	39	54	35
A1	30/04/2025	10:21	60	48	71	35
L1	30/04/2025	12:38	60	41	57	37
A2	30/04/2025	13:47	60	41	61	35
A3	02/05/2025	05:12	15	42	71	36
A3	02/05/2025	05:27	15	43	52	37
L1	02/05/2025	05:28	15	48	61	41
A3	02/05/2025	05:42	15	43	52	38
A3	02/05/2025	05:57	15	42	67	34
A1	02/05/2025	06:20	15	44	63	36
A1	02/05/2025	06:35	15	48	66	38
A1	02/05/2025	06:51	15	50	72	39

6.2.6.2 Unattended Measurement Results

This section contains the measurement results from the unattended measurements. Table 6-3 displays the measurements taken from the 30th of April 2025 at 12:53hrs to the 2nd of May 2025 at 05:00hrs at location L1.

Table 6-3: Unattended measurement results at location L1

Start Date	$L_{Aeq,16hour}$ 07:00 - 23:00 dB	L_{night} ($L_{Aeq,8hour}$ 23:00 - 07:00) dB	L_{den} (00:00 - 00:00) dB	10th highest night-time L_{AFmax}	L_{A90} (23:00 - 07:00) dB	L_{A90} (07:00 - 19:00)	L_{A90} (19:00 – 23:00)
30/04/2025	44[1]	45	47[1]	52	35	36[1]	37
01/05/2025	45	35[1]	52	47	31	38	36

1) Shortened measurement durations.

6.2.6.3 Discussion of Measurement Results

The attended background measurements were taken on a weekday to establish the existing background noise levels. The logger position was selected to record continuous data to help establish the background noise levels across the site. Attended measurements were taken during both daytime (07:00-23:00) and night-time (23:00-07:00) hours. From the measurements it can be determined that this is not an area of low background noise as defined in EPA NG4 and outlined in Section 6.2.6.5 of this Chapter.

6.2.6.4 Quiet Area Classification

The EPA Quiet Area Screening requires that sites are screened to determine whether they satisfy the criteria as a 'quiet' or 'low background noise' area in order to set appropriate noise limits therein. Table 6-4 details the assessment undertaken in this regard and indicates that the proposed project site does not fall within a quiet area designation.

Table 6-4: Quiet Area Screening

Quiet Area Screening of the Development Location	
Screening Question	**Answer**
Is the site > 3 km away from urban areas with a population > 1,000 people?	No
Is the site >10 km away from urban areas with a population >5,000 people?	No
Is the site > 15 km away from urban areas with a population > 10,000 people?	No
Is the site > 3 km away from any local industry?	No
Is the site > 10 km away from any major industry centre?	No
Is the site > 5 km away from any national primary route?	No
Is the site > 7.5 km away from any motorway or dual carriageway?	No
Quiet Area?	No

The development location does not meet the EPA definition of a "Quiet Area" as it is located <3km from an urban area with a population >1,000 people (Ferns).

6.2.6.5 EPA Areas of Low Background Noise

For all areas not identified as Quiet Areas, the existing background noise levels measured during the environmental noise survey should be examined to determine if they are located an area of low background noise, which would mean satisfying each of the following criteria:

- Average Daytime Background Noise Level ≤40dB L_{AF90}, and;
- Average Evening Background Noise Level ≤35dB L_{AF90}, and;
- Average Night-time Background Noise Level ≤30dB L_{AF90}.

If all three of the above criteria are satisfied for any of the measurement locations, then those locations are deemed to be in areas of low background noise, and reduced noise limit criteria would apply.

Table 6-5: Average Daytime, Evening and Night-time Noise Levels at Monitoring Location L1

Noise Monitoring Location	Average Daytime L_{AF90} (07:00 - 19:00)	Average Evening L_{AF90} (19:00 – 23:00)	Average Night-time L_{AF90} (23:00 - 07:00) dB
L1	37	36	31

Based on the noise measurement results from L1, it can be determined that the background noise levels do not meet the classification of "Area of Low Background Noise" according to EPA NG4 for daytime, evening and nighttime L_{AF90} measurements undertaken at the site and therefore the "All Other Areas" criteria is applicable to the proposed project.

6.2.6.6 Vibration

During the substructure phase—specifically during earthworks and ground compaction—the project will generate some vibration. According to this British Standard, residential structures in good repair can typically withstand Peak Particle Velocities (PPV) of 15mm/s at 4Hz up to 50mm/s at 40Hz+ before risking minor cosmetic damage. Given the distance between the development site and the nearest noise sensitive locations, vibration levels from both construction and future operations are expected to remain well below these thresholds; consequently, no adverse effects are anticipated.

6.2.7 Potential Effects

Following a desktop study, site visits and a review of the proposed project plans, noise sources associated with the proposed project that give rise for potential effects, are as follows:

- The main sources of noise from the development have been identified as operational plant associated with the proposed project.
- The construction phase of the proposed project is expected to be of short duration and not of significant effect.

6.2.7.1 Noise Sensitive Locations (NSLs)

The study area in which the 110kV substation and grid connection and both solar farms are located is in a mostly rural area approximately 2.4km from Ferns, 6.5km from Enniscorthy, 20km

from Gorey and 25km from Wexford. The surrounding area is comprised predominantly agricultural lands and one-off residential dwellings.

A desk-based review was carried out to identify existing noise sensitive locations within proximity to the proposed project. Noise sensitive locations relevant to the proposed project site are illustrated in Figure 6-4 and tabulated in Table 6-6.



Figure 6-4: Site location, measurement locations, noise sensitive locations

As illustrated in Figure 6-4 above, the NSLs are located at a distance to the proposed project site. Table 6-6 outlines the distance from each NSL to the proposed project.

- Distances were calculated from the façade of each residential property to the closet operational noise source (i.e. transformer) associated with the proposed project.

Table 6-6: Noise Sensitive Receptors and Related Distance to the Proposed project Site

NSL	Distance to the Nearest Noise Source within Substation
NSL 1	770m
NSL 2	745m
NSL 3	800m
NSL 4	760m
NSL 5	900m

6.2.8 Impact assessment Criteria

6.2.8.1 Construction Noise Assessment Criteria

There is currently no statutory Irish guidance for construction noise requirements from noise during the construction phase of a project.

In the absence of specific noise limits, the appropriate criteria for the allowable construction noise levels may be found in British Standard BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Noise.

The standard (BS5228-1:2009+A1) provides examples of acceptable limits for construction and/or demolition noise in both subjective and objective form. For example, paragraph E.2 of the standard states:

"Noise from construction and demolition sites should not exceed the level at which conversation in the nearest building would be difficult with the windows shut."

Paragraph E.2 goes on to state:

> *"Noise levels, between say 07.00 and 19.00 hours, outside the nearest window of the occupied room closest to the site boundary should not exceed:*
>
> - *70 decibels (dBA) in rural, suburban areas away from main road traffic and industrial noise;*
> - *75 decibels (dBA) in urban areas near main roads in heavy industrial areas".*

Typically, the planning authority refer to BS 5228 Part 1 as a method to control construction noise from sites on the local environment. This standard is therefore the de facto appropriate standard in the absence of regulatory guidance.

The criteria for this project will be based on the ABC method, the ABC method takes the background noise measured in the area and sets the appropriate construction noise limits for the project based on the background noise levels.

For the purpose of this assessment buildings other than dwellings which have a residential function will be considered for the lower noise limit, this includes Hotels, B&B's, Student Accommodation, Co-Living and Assisted Living Developments etc. This is in line with the guidance and definition of noise sensitive residences of EPA NG4. Table 6-7 outlines the project criteria in tabular form.

Table 6-7: BS 5228: 1:2009+A1 threshold levels

Assessment category and threshold value period	Threshold value, in decibels (dB) (L_{Aeq})		
	Category A[1]	Category B [2]	Category C[3]
Daytime (07:00 – 19:00) and Saturdays (07:00 – 14:00)	65	70	75
Evenings and weekends [4]	55	60	65
Night-time (23:00 to 07:00hrs)	45	50	55

1) Category A: threshold values to use when ambient noise levels (when rounded to the nearest 5dB) are less than these values.

2) Category B: threshold values to use when ambient noise levels (when rounded to the nearest 5dB) are the same as category A values.

3) Category C: threshold values to use when ambient noise levels (when rounded to the nearest 5dB) are higher than category B values.

4) 19:00 – 23:00 weekdays, 13:00 – 23:00 Saturdays and 07:00 – 23:00 Sundays

6.2.8.2 Construction Vibration Criteria

Best practice guidance is taken from British Standard BS 5228:2009 + A1 2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites - Part 2 Vibration.

The standard recommends that for a soundly constructed residential property and similar structures (in good repair), the threshold for minor or cosmetic (i.e. non- structural) damage should be taken as a Peak Particle Velocity (PPV) (in frequency range of predominant pulse) of 15mm/s at 4Hz increasing to 20mm/s at 15Hz and 50mm/s at 40Hz and above. Allowable vibration (in terms of peak particle velocity) at the closest part of sensitive property to the source of vibration, at a frequency of:

Table 6-8: Likely Construction Noise Effect

Allowable vibration (in terms of peak particle velocity) at the closest part of sensitive property to the source of vibration, at a frequency of:			
Building Type	**Less than 15Hz**	**15 to 40Hz**	**40Hz and above**
Light framed structures/ residential buildings	15 mm/s	20 mm/s	50 mm/s

6.2.8.3 Operational Noise

Planning authorities can set noise limits from typical solar farm and substation developments pertaining to noise however there is currently no national policy for operational noise limits from solar farm and substation developments for planning noise assessments. Noise limits for new developments are typically sought from the planning authority's Noise Action Plan, EPA NG4/BS 4142. On review of the Wexford County Council Noise Action Plan 2024-2028, no specific guidance has been outlined for noise limits from commercial premises and therefore the criteria from EPA NG4/BS4142 have been adopted for the project.

6.2.8.3.1 EPA NG4

EPA NG4 outlines that noise attributable solely to onsite activities from a licenced premises should not exceed the following limits:

- Daytime (07:00hrs – 19:00hrs) – 55dB $L_{Ar,T}$
- Evening (19:00hrs – 23:00hrs) – 50dB $L_{Ar,T}$
- Night time (23:00hrs – 07:00hrs) – 45dB $L_{Aeq,T}$

During daytime and evening periods rigorous efforts should be made to avoid clearly audible tones and impulsive noise at all sensitive locations. A penalty of 5dB for tonal and/or impulsive elements is to be applied to the daytime and evening measured $L_{Aeq,T}$ values to determine the

appropriate rating level ($L_{Ar,T}$). In all cases, an assessment by a competent person will be required. During the night-time period no tonal or impulsive noise from the facility should be clearly audible or measurable at any NSL.

6.2.8.4 BS 4142:2014+A1:2019

The standard describes a method for the assessment of commercial, industrial and background noise to quantify its effect on persons outside of a residential dwelling. BS 4142 has become the de facto standard for compliance investigation. In addition to the specified broadband noise levels the standards provide objective and subjective methods for the assessment of the impulsivity and tonality of the noise sources. This allows for a penalty/ correction to be applied to the measured noise level of the source (L_{Aeq}) to give the rating level ($L_{Ar,T}$).

It considers the likelihood of complaints by considering the margin by which the noise in source exceeds the background noise level.

BS 4142 states that and exceedance of the noise source of the background noise by:

- +10 dB or more indicates that complaints are likely,
- + 5 dB is of marginal significance, and;
- *"The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context"*

BS4142 outlines guidance for penalty corrections to be applied to the noise sources in question should the noise source have one of the following characteristics:

- The noise contains a distinguishable, discreet, continuous tone (whine, or hum);
- The noise contains distinct impulses (i.e. bangs),
- The noise is intermittent or:
- The noise is irregular.

6.2.8.5 Operational Vibration

There are no relevant sources of operational vibration associated with the proposed project therefore operational vibration has been scoped out.

6.2.9 Potential Effects During the Construction Phase

6.2.9.1 Construction Sequence

The Construction Methodology will largely follow that of the permitted 110kV Substation. The following is a high level sequence of the activities involved in constructing the 110kV Substation and associated infrastructure.

- Site entrances and internal access tracks will be constructed and surfaced using a permeable gravel surface. The track will include a geotextile base and filter membrane and 200 mm of Clause 804 sub-base. This stage includes vegetation clearance and hedgerow trimming;
- Installation of Clear Stream Crossings– This involves installation of clear span structures over the Lodgewood stream to enable the construction of the substation access road and the grid connection to the Lodgewood 220/110kV substation;

- A temporary construction compound/material storage area is used for storage of materials, which are delivered to the site to suit the proposed construction programme. Materials are generally transported around the site by means of teleporter/small dumpers/tractor and trailer. While specialist vehicles will be used when transporting abnormal loads (Transformer). The access road will be temporarily widened to accommodate the delivery of the Transformer.
- Storage containers will be delivered to the site and craned into place using a hiab crane on the trucks;
- The Substation compound will be constructed and the associated fencing and gates will be installed;
- Construction of the grid cable and works in Lodgewood 220/110 kV substation;
- Electrical infrastructure will be delivered and installed as outlined in the Construction Methodology;
- Commissioning will take place once construction and installation is complete.

6.2.9.2 Noise Limits

The criteria for the project is based on the criteria outlined in Section 6.2.8.1 and the background noise in the area. The project criteria for construction noise is outlined in Table 6-9. Reference to the baseline survey results and guidance contained in BS 5228 Part 1 for construction noise levels threshold for significance affect from construction activities is set as follows for the closest noise sensitive locations.

Table 6-9: Threshold of Significant Effect at Dwellings

Assessment category and threshold value period	Threshold value, in decibels (dB) (L_{Aeq})		
	Category A[1]	Category B [2]	Category C[3]
Daytime (07:00 – 19:00) and Saturdays (07:00 – 14:00)	65	70	75
Evenings and weekends	55	60	65
Night-time (23:00 to 07:00hrs)	45	50	55

1) A significant effect has been deemed to occur if the total L_{Aeq} noise level, including construction, exceeds the threshold level for the Category appropriate to the ambient noise level.
2) If the ambient noise level exceeds the threshold values given in the table (i.e, the ambient noise level is higher that the above values), then a significant effect is deemed to occur if the total L_{Aeq} noise level for the period increases by more than 3 dB due to construction activity.
3) Applied to residential receptors only.

For the appropriate assessment period (i.e. daytime in this instance) the ambient noise level is determined and rounded to the nearest 5dB. If the noise generated by construction activities

exceeds the appropriate category value, then a significant effect is deemed to occur. The appropriate category value for this project has been determined as Category A with a 65dBA threshold.

6.2.9.3 Construction Noise Predictions

While the final selection of plant and equipment has not yet been confirmed for this stage of the planning process, the potential noise and vibration effects of the construction phase have been assessed using assumed phasing and indicative machinery. Operating noise levels for this indicative plant were sourced from BS 5228:2009+A1:2014 (Code of practice for noise and vibration control on construction and open sites). A summary of the expected equipment, durations and operating times are provided for each stage of construction of the proposed project in Table 6-10 below. The assessment has taken into consideration that the works are dynamic and will be conducted at different locations across the site. The prediction methodology in BS5228 has been used to calculate the noise level over a typical day for each of the main construction stages.

These predictions include the construction traffic from the site. Table 6-10 outlines the plant used for the construction noise effect from proposed works on the proposed project.

Table 6-10: Typical Construction Plant for Substation and Underground Cable Grid Connection

Construction Phase	Item of Plant (BS 5228-1:2009+A1:2014 Ref)	Noise Level (L_{Aeq} at 10m dB(A))	On Time of 10 hr day
Enabling Works	Digger	77	3 Hours
	Dump Truck	79	2 Hours
	Power Tools	70	2 Hours
	Road Lorry	76	1 Hour
	Roller	81	3 Hours
	Telescopic handler		4 Hours
	Mobile telescopic crane		2 Hours
Civil & Electrical	Road Lorry	76	1 Hour
	Power Tools	70	3 Hours
	Hammer	69	1 Hour
	Telescopic Handler	71	3 Hours
	Piling	63	2 Hours
	Concrete Pump	74	2 Hours
	Digger	**77**	3 Hours

	Roller Mobile telescopic crane Scissor Lift (or similar)	**81** **67** **78**	3 Hours 2 Hours 2 Hours
External finishes	Hand Tools Power Tools Road Lorry Digger Roller	70 70 76 77 81	5 Hours 2 Hours 1 Hour 3 Hours 3 Hours

6.2.9.3.1 Predicted Construction Noise at NSL's

Table 6-11 summarises the predicted construction noise level at each of the noise sensitive locations. Examination of the results indicate the construction noise without mitigation is predicted to be within the noise limits set out by BS 5228-1. The calculations set out below are based on assumed site construction works and a combination of the plant operating at the same time i.e. worst-case scenario.

Distances were calculated from the façade of the nearest residential property within each NSL grouping, to the centre of the proposed project site.

Table 6-11: Predicted Construction Noise Levels at each NSL

NSL	Criteria L_{Aeq}, dB	Predicted noise level (construction noise + ambient) with no mitigation L_{Aeq}, dB		
		Enabling Works	Civil & Electrical	External finishes
NSL 1	65	51	51	51
NSL 2	65	51	51	51
NSL 3	65	46	46	46
NSL 4	65	44	46	46
NSL 5	65	43	45	45

As illustrated in Table 6-11 above, predicted construction noise levels indicate that there is no potential for noise effects at the nearest noise-sensitive locations. The implementation of mitigation measures will further reduce these predicted construction noise levels.

The predicted construction noise levels illustrate the worst-case predicted levels from the various construction activities. These worst-case predicted noise levels assume a level of simultaneous activity of plant/equipment close to the receptor. This is unlikely to occur in practice, but the predictions present potential worst-case noise levels that may occur during the construction phase.

6.2.9.3.2 Other Considerations

Additional traffic noise from the construction works is not expected to increase the traffic noise from the roads to any significant effect. The Design Manual for Roads and Bridges (DMRB) states that a 25% increase in traffic flows leads to a 1dBA increase in traffic noise levels. Construction traffic flow increases associated with the proposed project will be significantly less than 25% and therefore the noise levels from construction traffic will not increase the existing noise levels at the noise sensitive locations by more than 1dBA.

It is generally accepted that it takes an approximate 3dBA increase in noise levels to be perceptible to the average person. Construction traffic noise levels associated with the proposed project will not have a negative effect on nearby noise sensitive locations (NSLs).

6.2.10 Potential Effects During the Operational Phase

Following the survey, a model of the proposed project using SoundPLAN 9.1 modelling software was developed to establish the noise levels from the proposed project in operation in a worst-case scenario. The software implements the algorithms contained in ISO 9613-1 and ISO 9613-2. The noise model considers:

- Distance attenuation,
- Source and receptor locations,
- Barrier effects (buildings, walls etc),
- Topographical elevations,
- Ground effects and absorption,
- Source sound power levels,
- Directivity and orientation of the source,
- Atmospheric attenuation and meteorological effects.

The SoundPLAN 9.1 predictive model uses methodology via a ray tracing method, in principle the modelling follows the general principles of the following formula outlined in ISO 9613 Part 1 and Part 2: Acoustics -Attenuation of sound during propagation outdoors:

$$Lp = Lw - 20log_{10}(R) - 11 - A - B - G$$

Where:

- Lp is the sound pressure level at a particular point.
- Lw is the sound power level of the plant and equipment.
- R is the distance from the noise source at which the sound pressure level is predicted.
- 11 is a constant based on a noise source with omnidirectional directivity.
- A considers the correction reduction in noise levels via atmospheric conditions.
- B considers the correction reduction in noise levels due to noise barriers
- G considers the correction reduction in noise levels due to ground absorption and topography.

The acoustic model for the 110kV substation has been developed based on attended and unattended noise survey and the proposed project site location and predicted noise sources. As the site has potential to create noise effect at both day and nighttime, a worst-case scenario has been developed for both predicting the noise effect at the nearest noise sensitive locations.

6.2.10.1 Operational 110kV Substation Noise

From discussions with the design team, it has been confirmed that the external plant and equipment at the proposed project with the potential to generate operational phase noise consists of transformers within the substation compound. Using technical data from the Wave Dynamics database for similar 110kV substation projects, operational noise levels were calculated. The predicted noise levels at the noise sensitive locations are based on the worst-case scenario.

Noise levels at the NSLs were assessed to the height of the worst-case façades (4m for all NSLs), to predict the noise levels at the first-floor bedrooms of the nearest noise sensitive receptors. Noise levels at the NSLs were assessed at 2m to assess the external amenity noise levels on the NSLs, and grid noise contours have been provided in Figure 6-5 and Figure 6-6 at this height.

The sound power levels from the noise sources within the 110kV substation are based on the information from our noise database library. Equal or approved plant is suitable for the development.

Table 6-12: Assumed Noise Levels for Substation Plant and Equipment

Item	Assumed Noise Level (L_{wA})	Reference Source
Substation	92dB	WDA Database

6.2.10.2 Daytime Operations

The substation has the potential to generate noise with different characteristics for both the day and night-time, a model has been undertaken for both the day and night-time operations of the proposed project. This section outlines the operational noise assessment for the daytime scenario.

The daytime situation assumes the following noise sources:

- Model calibrated using on-site measurements.
- Substations operating at 100%, assumed noise level for substation ($92L_{wA}$) used in model, taken from WDA database.

The nearest noise sensitive receptors in each direction were taken as part of the assessment as identified in Figure 6-4. This allows for a worst-case scenario assessment, NSLs further away from the substation are expected to experience lower noise levels with typical conditions due to distance attenuation.

NG4 recommends a daytime criteria of (07:00hrs – 19:00hrs) 55dB $L_{Ar,T}$. The predicted noise emissions from the substation at each NSL for a height of 4m (worst-case i.e. first floor bedrooms) have been outlined in Table 6-13. All values refer to the free field façade noise levels.

Table 6-13: Model Results for the Noise Effect from the Substation for Daytime at 4m Height

NSL	Criteria dB L_{ArT}	Daytime Predicted Noise dB L_{ArT} (07:00hrs to 19:00hrs)	Compliant/Non-Compliant
NSL 1	55	22	Compliant
NSL 2	55	22	Compliant
NSL 3	55	24	Compliant
NSL 4	55	23	Compliant
NSL 5	55	21	Compliant

Figure 6-5 outlines the daytime predicted noise emissions from the substation in operation for the daytime period at 2m height in the external amenity spaces.

As noted from the grid noise map all residential receptors are outside of the 55 dBA contour for daytime and therefore compliant with the NG4 project criteria.

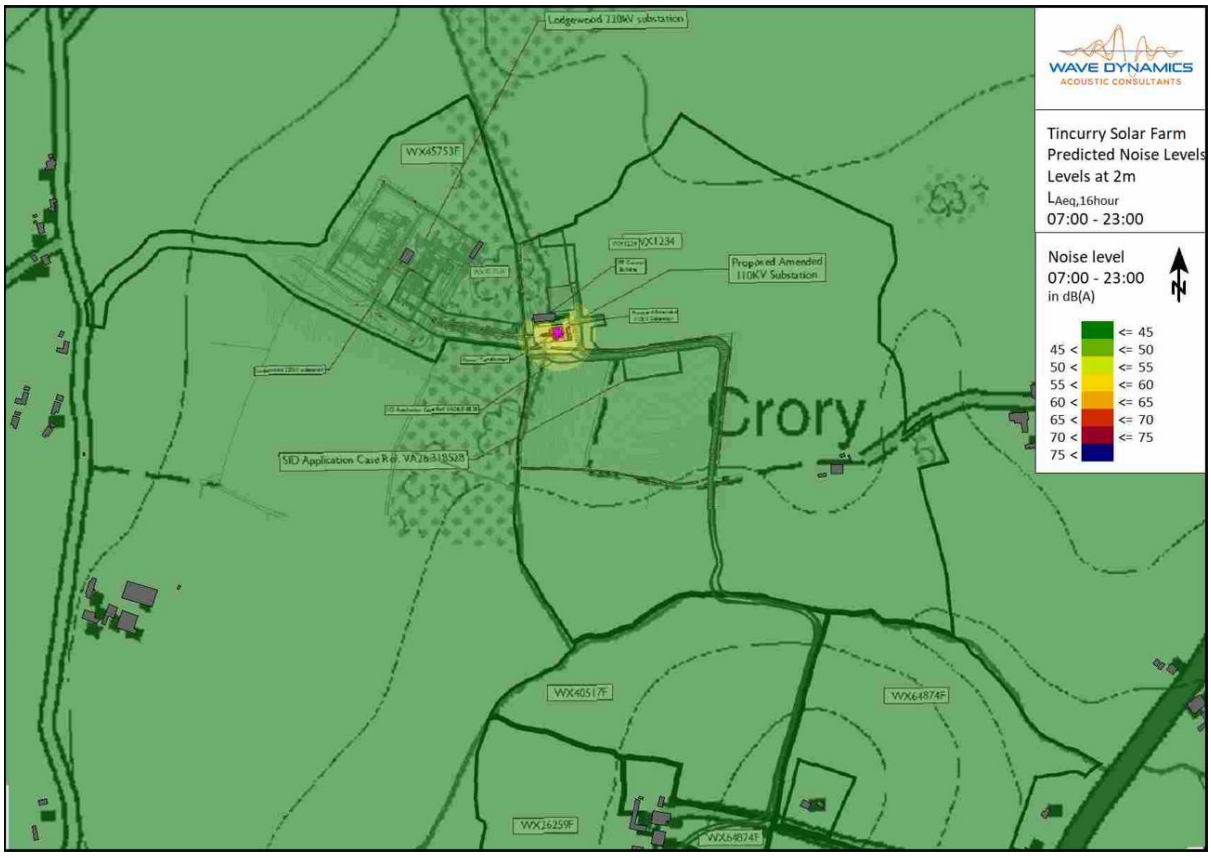


Figure 6-5: Noise Contours for the Daytime Noise Effect at 2m L_{Aeq} dB

All predicted noise levels are below the NG4 project criteria and therefore within the project requirements. The operational noise of the proposed project will consist of mechanical plant and equipment noise from the transformer units in continuous operation. The operation of the substation does not include activity that could create impulsive noise. It is predicted there will

be no audible tonal or impulsive characteristics associated with the operational noise of the proposed project

6.2.10.3 Night-time Operations

The night-time situation assumes the following noise sources:

- Model calibrated based off attended/unattended measurements.
- Substations operating at 100%, assumed noise level for substation ($92L_{wA}$) used in model, taken from WDA database.

NG4 recommends a night-time criteria of 45dB $L_{Aeq,T}$, the predicted noise levels from the proposed project are compliant at all noise sensitive locations, as illustrated in Table 6-14. All predicted values refer to the free field façade noise levels.

Table 6-14: Model Results for Night-time at the NSLs at a Height of 4m

NSL	Criteria dB L_{Aeq}	Night-time Predicted Noise dB LAeq (23:00hrs to 07:00hrs)	Compliant/Non-Compliant
NSL 1	45	22	Compliant
NSL 2	45	22	Compliant
NSL 3	45	24	Compliant
NSL 4	45	23	Compliant
NSL 5	45	21	Compliant

Figure 6-6 illustrates the nighttime predicted noise emissions from the substation in operation for the night-time period at 2m height.

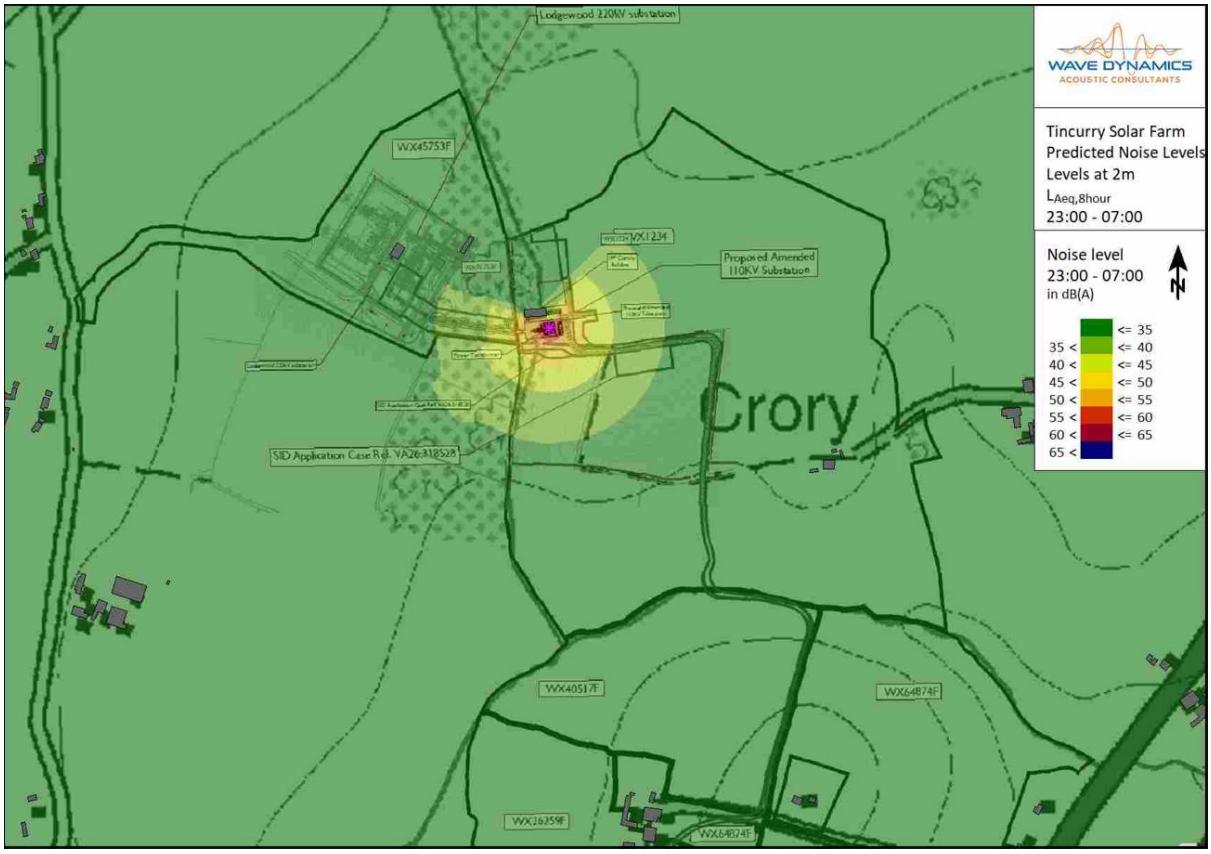


Figure 6-6: Noise Contours for the Night-time Noise Effect at 2m Height L_{Aeq} dB

As noted from the grid noise map and Table 6-14 all residential receptors are outside of the 45 dBA contour for night-time and therefore compliant with the NG4 project criteria. As the predicted specific sound is below the background noise therefore no negative noise effect from the operational substation is predicted. The operational noise of the proposed project will consist of mechanical plant and equipment noise from the transformer units in continuous operation. The operation of the substation does not include activity that could create impulsive noise. It is predicted there will be no audible tonal or impulsive characteristics associated with the operational noise of the proposed project.

6.2.10.4 Model Assumptions

The following assumptions were made throughout the modelling and assessment:

- Assessment based on the noise measurements undertaken throughout April 2025.
- Noise source data for the assessment was based on the measurements undertaken onsite of the noise sources and information provided by the design team.
- Model assumes a worst-case operating scenario as outlined above.
- Modelling based on the drawings, layouts and information provided.
- Assessment based on proposed project.

6.2.10.5 BS4142 Assessment

In addition to the assessment outlined above in line with EPA NG4 criteria, the substation has been assessed using BS4142 criteria. The operational noise levels from the substation is

predicted to be in general below the background noise levels in the area and therefore it is likely there will be no adverse noise effect. Based on the information provided and the assumptions in this chapter it is predicted that the noise levels in general will not increase the background noise at the NSLs.

6.2.10.5.1 Tonality & Impulsivity

Based on the noise levels at all of the noise sensitive locations, it is predicted there will be no audible tonal or impulsive characteristics to the noise levels. The operational noise of the proposed project will consist of mechanical plant and equipment noise from the transformer units in continuous operation. The operation of the substation does not include activity that could create impulsive noise. It will be ensured that the selected equipment will not have any impulsive characteristics. Plant and equipment shall be maintained to ensure it operates in its normal capacity.

A prediction of the one third octave band noise levels from the substation has been undertaken based on the proposed project which indicated no tonal characteristics of the noise. The predicted noise levels from the development were similar to the existing daytime ambient noise levels (L_{Aeq}) and background noise levels (L_{A90}) measured at the site. The predicted nighttime noise levels from the development are generally lower than the background noise levels (L_{A90}) measured across the site. Table 6-15 highlights the predicted octave band noise levels at the worst-case noise sensitive location (NSL 3) during the daytime period.

Predicted operational noise levels at NSL3 are 10 dB below the existing background noise levels (L_{A90}). According to BS 4142, a low specific sound level provides a strong indication that any potential tonal characteristics would be inaudible and unlikely to result in an adverse impact. Table 6.15 illustrates that there is no predicted tonality from the proposed project as it is significantly below the existing background noise

Table 6-15: Predicted Daytime Octave Band Noise Levels

Location	Predicted Daytime (07:00hrs – 23:00hrs) Octave Band Noise Levels L_{eq} dB						
	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz
NSL 3	17	13	13	15	19	6	0

Based on the predicted noise levels at the noise sensitive locations from the proposed project no audible tonality is predicted at the noise sensitive locations. Context has also been considered given the existing residual sound level and predicted noise effect. As the predicted noise levels are considerably below the residual sound (L_{Aeq}) no tones are likely to be audible.

6.2.10.6 Operational Phase Conclusion

Based on the information provided, the site survey and the worst-case scenario predictions it is predicted that noise emanating from the proposed project will achieve the NG4 and BS4142 project criteria. In general, the predicted noise levels are well below the project criteria.

6.2.11 Mitigation Measures

6.2.11.1 Construction Noise

This section of the chapter sets out general recommendations for the control of noise from construction works. As stated in Section 6.2.9, no construction mitigation is required as all noise

from construction works falls within the criteria set out by BS 5228-1. Notwithstanding, the following standard noise commitments will be adhered to.

6.2.11.1.1 Selection of Plant and Equipment

The noise effect of all plant and equipment should be assessed prior to selection of the plant for the project. Where an item of plant is identified as noisy with the potential to cause a negative noise effect it will be reviewed to check if there is an alternative quieter version of the same plant to undertake the same construction task.

6.2.11.2 Noise Control at Source

Where replacing a noisy item of plant is not viable or practical, consideration should be given to control that noise at source. This includes modifying the piece of plant or equipment to generate less noise, using dampening to control vibration induced noise or rattling. Example best practice mitigation measures to be considered are as follows;

- All plant and equipment to be switched off when idling.
- The use of white noise reversing alarms.
- Restriction on the dropping and loading of materials to less sensitive hours.
- The use of local screening for noisy activities or works with hand tools.
- Not dropping materials onto hard surfaces and using rubber mats etc for the dropping of materials.
- Ensure all plant and equipment is well maintained and cleaned, all lubrication should be in line with manufacturers guidelines.

6.2.11.3 Screening

Screening when used correctly can be an effective method of reducing the construction noise effect on the NSL's. The use of site hoarding and careful selection of areas for noise works, using buildings on the site, site offices and the building being constructed to screen noise from the works.

Local screening of noisy works with the use of temporary acoustic barriers, examples are provided below:

- https://ventac.com/acoustic-products/noisebreak-acoustic-barrier/
- https://echobarrier.com/



Figure 6.7: Temporary Construction Noise Barrier © Ventac

6.2.11.4 Construction Noise Monitoring

Predicted construction noise levels are not anticipated to adversely affect the nearest noise-sensitive receptors. Should noise complaints occur, periodic noise monitoring at the boundary adjacent to these receptors should be implemented. Noise monitoring procedures will adhere to International Standard ISO 1996: 2017: Acoustics – Description, measurement and assessment of environmental noise.

6.2.12 Vibration

Prediction of vibration levels at receptors is complex and dependent on several variables including the nature of the used equipment, the properties of the subsoil, the heterogeneity of the soil deposit, the distance to the receptor and the dynamic characteristic of the adjacent structures. Therefore, limits or threshold criteria as set out in BS5228-2 are applied for buildings and humans.

Based on our understanding of the project and the distances to the receptors it is not anticipated that there will be any negative vibration effect from the construction works and therefore there is no mitigation required.

As outlined in Section 6.2.6.6, according to BS5228-2:2009+A1:2014, residential structures in good repair can typically withstand Peak Particle Velocities (PPV) of 15mm/s at 4Hz up to 50mm/s at 40Hz+ before risking minor cosmetic damage. Given the distance between the development site and the nearest noise sensitive locations, vibration levels from both construction and future operations are expected to remain well below these thresholds; consequently, no adverse effects are anticipated.

6.3 CONCLUSIONS

Wave Dynamics were engaged by Lodgewood Solar Fam Ltd. to undertake a noise impact assessment for the proposed project.

This chapter outlines the project criteria, survey results, assessment, and general guidance recommendations for:

- Construction noise and vibration from the construction of the new substation.
- Operational noise from operation of the new substation.

Based on the operational hours of the development there is potential for noise effect in both the day and night-time, therefore an assessment for both has been conducted. The noise impact assessment included attended and unattended noise measurements on the proposed project site. This included measurements of background noise at the noise sensitive locations.

6.3.1 Construction Noise and Vibration

The construction noise and vibration from the development has been predicted to the nearest noise sensitive (NSLs) receptors of the proposed project. The construction predictions were based on the procedures outlined in BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Noise. The construction noise from the proposed project will be of a short-term nature. The works have been assessed based on the high-level sequence of construction activities outlined in Section 6.2.9.1 of this chapter. Based on the assessment outlined in this chapter it is predicted that the construction noise and vibration from the proposed project will comply with the recognised best practice standards typically adopted for such projects in Ireland.

6.3.2 Operational Noise

Operational noise levels from the proposed project were assessed using criteria set out by EPA NG4 and BS4142 2014 A1+ 2019 Methods for rating and assessing industrial and commercial sound. The assessment predicted that the development will be compliant with the EPA NG4 and BS4142. Based on the predicted noise levels at the receptors, no mitigation is required. There will be no negative noise effect at noise sensitive receptors for the daytime, evening and night-time periods. Based on the assessment and mitigation outlined in this chapter it is predicted that the operational noise levels from the proposed project will comply with the project criteria and not produce a negative noise effect.

6.3.3 Construction Phase Cumulative Effects

Construction noise calculations demonstrate that typical construction works associated with the proposed project remain significantly below the daytime ambient threshold of 65 dB(L_{Aeq}). These construction-related effects are classified as short-term, with no discernible long-term impact on the local noise environment.

Other notable construction projects in the local area include the Tincurry Solar Farm, Ballylough Solar Farm, and Lodgewood BESS. A previous noise assessment by Malachy Walsh and Partners (MWP) (Project No: 24575, Doc No: 6003, 05/12/2024) concluded that no significant cumulative noise effects are anticipated at nearby Noise Sensitive Locations (NSLs) from the combined construction of the Ballylough Solar Farm, Tincurry Solar Farm, and Lodgewood BESS. Under a worst-case overlapping construction schedule, predicted cumulative emissions reached 53 dB(A) at the nearest receptor—well within the adopted 65dB(A) daytime limit.

Specifically for the proposed Tincurry 110kV Substation, worst-case construction noise is predicted to be 49 dB(L_{Aeq}) at NSL1, which is substantially below the 65dB(A) construction noise threshold.

When integrated with construction noise contributions from the adjacent solar and BESS projects (including those listed in Table 6-17), the total cumulative construction noise remains well within acceptable limits, representing a negligible impact.

6.3.4 Operational Phase Cumulative Effects

Once operational the predicted noise emissions from the proposed project will not exceed the noise limit criteria adopted for this project which are based on EPA guidance.

A previous noise impact assessment contained within an Environmental Report compiled by Malachy Walsh and Partners (MWP) Engineering and Environmental Consultants (Project Number 24575, Doc No. 6003, 05/12/2024) concluded that no significant cumulative noise effects were predicted at nearby NSL's as a result of the permitted Lodgewood BESS in operation with both Tincurry and Ballylough solar farms. Table 6-16 presents the estimated cumulative operational noise for the proposed project, accounting for contributions from the Tincurry Solar Farm, Ballylough Solar Farm, and Lodgewood BESS.

Table 6-16: Cumulative Noise Levels of Proposed project, Tincurry/Ballylough Solar Farm and Lodgewood BESS

NSL Location	Period	Lodgewood BESS „Tincurry and Ballylough Solar Farm	Predicted Development Noise Levels dB(A}	Cumulative Noise	EPA Recommended Noise Thresholds	EPA Compliance
NSL4(MWP-NSL1)	Day	44	23	44	55	Yes
	Evening	44	23	44	50	Yes
	Night	39	23	39	45	Yes
NSL54(MWP-NSL2)	Day	41	21	41	55	Yes
	Evening	41	21	41	50	Yes
	Night	39	21	39	45	Yes

(Source MWP Lodgewood BESS Environmental Report)

Worst case operational noise levels of the proposed project at nearby NSL's for both daytime and night-time are outlined in Table 6-13 and Table 6-14. A logarithmic calculation of operational noise levels from all permitted projects in combination with operational noise levels from the proposed project would result in a negligible increase to noise levels outlined in Table 6-16.

The cumulative operational noise of all permitted projects listed in Table 6-17 in conjunction with the operational noise levels of the proposed project will be below the EPA recommended noise thresholds and will not have a negative effect on nearby NSL's.

6.3.4.1 Further Cumulative Considerations

The predicted cumulative operational noise impact from other developments in the area has been considered. Table 6-17 below outlines the developments with planning in the area.

Table 6-17: Further Cumulative Considerations

Planning Application Reference Number	Planning Application Reference Number	Planning Application Reference Number	Planning Application Reference Number	Planning Application Reference Number
20160595	Power Capital Renewable Energy Limited	Extension of duration for the construction of an up to 5MW solar pv farm comprising approximately 20,000 no. photovoltaic panels on ground mounted frames within a site area of 10.84 hectares and associated ancillary development including 4 no. transformer stations, 4 no. auxiliary transformer stations, 4 no. inverters, 1 no. client side substation, 1 no. single storey storage building, 1 no. single storey communications building, 1 no. single storey DNO building, 3 no. CCTV security cameras mounted on 4 metre high poles, perimeter security fencing (2 metres high) and the formation of an access road to the site from the adjoining road.	450m	20/07/2016 Extension of duration application granted on the 15/08/2025 (20160595EE)
20241558	Carney Stability Ltd	Permission for a battery energy storage system (BESS) facility.	200m	14/05/2025
20241593	Orsted Onshore Ireland Midco Limited	A BESS with associated infrastructure including a new internal access road approximately 100 metres in length; A 100 metre 33kV double circuit underground cable grid connection to the permitted Lodgewood 110kV substation (Planning Ref ABP-318528-23), to be installed in an excavated trench including underground ducting; Modular office and welfare buildings; Three steel storage containers and all associated site development and reinstatement works.	0m	27/06/2025

Planning Application Reference Number	Planning Application Reference Number	Planning Application Reference Number	Planning Application Reference Number	Planning Application Reference Number
20221309	Lodgewood Solar Farm Limited	Permission for a 10 year planning permission for a solar farm with a total area of circa 108 hectares consisting of solar photovoltaic panels on ground mounted frames, 13 no. single storey electrical inverter/transformer stations, 13 no. single storey energy storage modules, 3 no. single storey spare parts containers, 4 no. weather stations, underground electrical ducting and cabling within the development site, private lands and within the R745 and L5130 public roads to connect solar farm field parcels, security fencing, CCTV, access tracks, 12 no. stream and drain deck crossings, temporary construction compounds, landscaping and all associated ancillary development and drainage works.	0m	22/02/2023
20231025	Lodgewood Solar Farm Limited	A 10 year planning permission for a solar farm with a total area of circa 55 hectares, consisting of solar panels on ground mounted frames, 9 no. single storey electrical inverter/transformer stations, 5 no. single storey energy storage modules, 2 no. single storey spare parts containers, 2 no. ring main units, 2 no. weather stations, underground electrical ducting and cabling within the development site, private lands and within the L5130 public road to connect solar farm field parcels, security fencing, CCTV, access tracks, 5 no. stream and drain deck crossings as well	0m	22/11/2023

Planning Application Reference Number	Planning Application Reference Number	Planning Application Reference Number	Planning Application Reference Number	Planning Application Reference Number
		as 6 no. cabling open trench undercrossings and 2 no. horizontal directional drills, temporary construction compounds, landscaping, netting adjacent GAA playing fields and all associated ancillary development and drainage works.		
20161097	Crory Energy Limited	Permission for the construction of up to 5mw solar PV farm development within a site area of up to 9.66 ha to include a single storey electrical substation building, electrical transformer/ inverter station modules, solar PV panels ground mounted on steel support structures, access roads, fencing and associated electrical cabling, ducting and ancillary infrastructure.	0m	18/11/2016 Extension of duration application submitted on the 31/10/2025 (20161097EE)
20160594	Power Capital Renewable Energy Limited	Construction of an up to 5 MW solar PV farm comprising approximately 20,000 no. photovoltaic panels on ground mounted frames within a site area of 12.94 hectares and associated ancillary development including 4 no.transformer stations, 4 no. auxiliary transformer stations, 4 no. inverters, 1 no. client side substation, 1 no. single storey storage building, 1 no. single storey communications building, 1 no. single storey DNO building, 3 no. CCTV security cameras mounted on 4 metre high poles, perimeter security fencing (2 metres high), site access road and the construction of a site access onto R745.	0m	20/07/2016 Extension of duration application granted on the 15/08/2025 (20160594EE)

Planning Application Reference Number	Planning Application Reference Number	Planning Application Reference Number	Planning Application Reference Number	Planning Application Reference Number
20161231	Solas Eireann Development Limited	Development of a solar PV panel array comprising photovoltaic panels on ground mounted frames within a site area of 7.96 hectares , 4 no. single storey mv substations, 1 no. single storey DSO substation, 1 no. single storey customer substation with 1 no. communications pole attached, 1 no single storey spares building, boundary security fencing, CCTV, associated, electrical cabling and ducting, alteration to existing entrance to include access gates, access track and all associated ancillary development and landscaping works.	250m	16/12/2016 Extension of duration application submitted on the 31/10/2025 (20161231EE)
VA26.318528	Lodgewood Solar Farm Limited	10 year planning permission for the proposed 110kV AIS Single Bay Tail-Fed electricity substation (with 33kV customer compound) and associated grid connection and site works.	0m	04/06/2024
SU26.306909	ESB International	Application for substitute consent for Wind Farm.	180m	12/04/2024
20251224W	Stego Storage Ltd	A 10-year planning permission for the provision of a Battery Energy Storage System and compound on a site of c. 0.73ha to support the adjacent permitted solar farm (WCC Reg. Ref.: 20160595). The Battery Energy Storage System (BESS) compound will accommodate self-contained Lithium Ion Phosphate batteries, within 14 no. BESS units, 3 no. twin skid units and a single skid unit. A control room (c. 27.6m2) is proposed to the	150m	Submitted 26/09/20205. Decision pending

Planning Application Reference Number	Planning Application Reference Number	Planning Application Reference Number	Planning Application Reference Number	Planning Application Reference Number
		west of the compound. The proposed development includes for all associated development, boundary treatments, security fencing, site access works, ducting and cabling, and all associated ancillary works.		

Based on the information available and provided to us and given the location of these developments in relation to the NSLs for the proposed project, the cumulative noise impact is not expected to exceed the criteria values outlined in Tables 6-13 ad 6-14.

7. LANDSCAPE AND VISUAL IMPACT ASSESSMENT

This Landscape and Visual Impact Assessment (LVIA) relates to an amendment to the consented Tincurry 110kV substation and associated 110kV underground cable, together with a busbar extension and new bay in ESBN Lodgewood 220kV substation, located at Tincurry, Ballylough, Crory and Lodgewood (Townlands), Co. Wexford. The proposed 110kV substation and grid connection cable will connect the Tincurry Solar Farm (Wexford County Council Planning Register Reference: 20221309) and Ballylough Solar Farm (Wexford County Council Planning Register Reference: 20231025) to the grid transmission system. The full project description and background can be found in Chapter 1. Introduction.

7.1 SUMMARY OF ORIGINAL ASSESSMENT RESIDUAL EFFECTS AND CONCLUSIONS

7.1.1 Policy Context

The policy context of the proposed project remains unchanged since the Tincurry 110kV substation was consented with the current Wexford County Development Plan in place from 2022 to 2028. Within the Landscape Character Assessment associated with the current CDP, the proposed project is wholly contained within the 'LCU – Lowlands', while 'LCU – River Valleys' is also located within the study area. The Lowlands LCU comprises *"gently undulating lands and relates to extensive areas of the county. The slopes and topography in this unit are shallower"* and *"there are generally higher levels of population and more intensive agriculture."*

Landscape sensitivity is dealt with in section 3.2 of the landscape character assessment and designates each of the LCUs with a sensitivity rating of 'High', 'Medium' or 'Low'. Overall, the Lowlands LCU is classified as a 'Low' sensitivity landscape. These are described as "*more robust landscapes which are tolerant to change and have the ability to accommodate development without significant adverse impacts on the character of the landscape…..The upper reaches of the lowlands have a Moderate Sensitivity. Moderate sensitivity landscapes can accommodate development but with limitations in scale and magnitude."* The LCU – River Valley is classified with a 'Moderate to High' sensitivity.

Landscape Policy Objectives L04, L05, and L06 remain current and relevant. Similarly, Objectives L09 and L10 relating to scenic designations remain current and relevant. The current Wexford County Development Plan "*does not designate specific routes but notes that scenic routes may fall into a number of categories:*

- *Routes through Upland, Coastal, River Valley and Distinctive Landscapes.*
- *Trails such as the Eurovelo, Normal Way, Greenways and Wexford Walking Trails where sightseeing visitors are more likely to be concentrated along these routes.*

Other scenic views might include:

- *Views to the sea and views towards land from the sea and rivers in locations which may host tourism or amenity/journeys arrivals by boat.*
- *Planned views and vistas such as those associated with planned settlement and heritage properties and gardens."*

7.1.2 Landscape and Visual Baseline (Summary of original Assessment)

The landscape baseline is unchanged from the original assessment. The consented development is located across a plateau of rolling hills and ridges east of the River Slaney and northwest of the River Bann. Several small streams also traverse the study area, the nearest of which (Lodgewood Stream) traverses immediately west of the site. The principal land use within the study area is rolling fields of pastoral farmland bound by dense networks of mixed hedgerow vegetation and mature tree lines. The site is located at the boundary of agricultural farmland and a dense woodland that separates the site from the neighbouring Lodgewood 220 kV substation and Crory 110 kV substation. Small blocks of conifer woodland are also noted throughout the southern extent of the study area. Aside from some local sports pitches, the central and wider study area is not heavily synonymous with recreation. However, the settlement of Ferns encompasses some notable heritage features, including St. Marys Abbey and the Cathedral Church of St Edan.

The most notable population centre with regard to the consented development is Enniscorthy, which lies along the banks of the River Slaney. The outskirts of Enniscorthy are situated in the wider southern periphery of the study area, whilst the centre of the town is located slightly further to the south. The village of Ferns is the closest village settlement to the consented development and is located some 2.2km northeast of the site at its nearest point. Other small settlements in the near surrounds of the site include the small village of Ballycarney, located in the western half of the study area, the village of Tombrack, located 2.2km north of the site, the settlement of Castledockrell, located some 5km west of the site and the settlement of Marshalstown, located 5km southwest of the site. Aside from the settlements outlined above, the study area also encompasses a modest rural population comprising small linear clusters of dwellings, cross-road settlements and isolated farmsteads, several of which are located in the near surrounds of the site.

The most notable transport route in relation to the consented development is that of the M11 motorway, which is situated less than 3km southeast of the site at its nearest point and traverses the study area in a northeast by southwest direction. The N80 national secondary route passes some 2.7km southwest of the site, where it follows the River Slaney corridor within the study area, whilst the R772 regional is located immediately east of the site and west of the River Bann. The R754 regional road extends west from Ferns and passes less than c.1.1km north of the site. Other major routes within the study area include the N30 national secondary route, which connects the M11 to Enniscorthy. The study area also encompasses an interconnecting web of local roads, the nearest of which pass east and west of the consented development site. A section of the national railway line also traverses the study area and generally follows the corridor of the River Bann, situated less than 150m east of the site at its nearest point.

7.1.3 Landscape Effects (Summary of original Assessment)

With regards to landscape sensitivity, this remains current and accurate to the original assessment. The study area is predominantly contained in rolling pastoral farmland intersected by mature mixed hedgerows that provide a notable degree of containment. The principal land use within the study area is pastoral farmland, while a range of other land uses, including blocks of conifer forestry, corridors of broadleaf woodland, and industrial and commercial land uses, are also evident throughout the 5km study area. One of the most notable natural landscape features is the broad corridor of the River Slaney, which is located immediately east of the site.

The River Bann is another notable landscape feature within the study area, which is otherwise comprised of relatively typical rolling farmland.

Within the study area's wider northern and western extents, the landscape begins to ascend towards the uplands, including the Blackstairs Mountains and Mount Leinster. Nonetheless, the foothills of these upland areas are located some 10km+ from the site at their nearest point. Despite their distance from the site, these upland areas tend to provide a backdrop for elevated, long-distance views afforded within the study area. The most notable aspects of scenic amenity within the study area tend to relate to long-distance views towards the uplands to the west or across river valleys and localised views of river corridors. Whilst there is some localised sense of heritage and amenity at the settlements of Ferns and Enniscorthy, the study area is not overly synonymous with any susceptible recreational, tourism or heritage values. The most notable aspect of heritage in relation to the site is Vinegar Hill, which encompasses strong historical associations and is located outside of the study area some 6km south of the site at its nearest point.

In terms of landscape designations, the site is located within the 'LCU – Lowlands', which is classified with a 'low' landscape sensitivity classification, further highlighting the robust and relatively typical nature of this landscape context. Whilst the current CDP identifies that "*upper reaches*" of the lowlands to the north and west "*are moderately sensitive to development*", it is considered that the site is typical of a lowland landscape, and thus, the 'low' sensitivity classification is most appropriate.

Therefore, on balance of these factors and in accordance with the sensitivity criteria outlined in the original assessment, the landscape sensitivity is deemed to be Medium-low, with localised areas of higher and lower sensitivity.

In terms of physical landscape effects, as outlined in the original assessment, the construction of the consented Tincurry 110kV substation and its associated compound would require the excavation and long term replacement of the existing pastoral land cover. The consented Tincurry 110kV substation would require minor reprofiling of the terrain within the substation compound, as well as removal of the prevailing grassland land cover. The consented Tincurry 110kV substation site would be accessed for both the construction and operational phases by means of an entrance from the R772. Permission was granted for the upgrading of this existing agricultural entrance under the approved Tincurry Solar Farm (Wexford County Council Planning Register Reference 20221309). c.6 metres of hedgerow to the north was to be removed to facilitate the site access, and a 4.5 metre wide compacted access track would extend from the entrance to the substation compound.

In terms of perceptual landscape impacts, the consented Tincurry 110kV substation represented an intensification of the existing substation and the consented solar development, which is located immediately south and northeast of the consented Tincurry 110kV substation. Nonetheless, whilst landscape impacts will be slightly intensified in comparison to the permitted baseline scenario, any such effects would be heavily offset as a result of the consented Tincurry 110kV substation development's location in a discrete and heavily contained part of the landscape that is already influenced by the existing Lodgewood 220kV substation. This is a productive rural landscape with associated landscape values, and whilst the consented development may result in an intensification of development, it does not markedly affect the prevailing landscape pattern or overriding rural landscape character of the area.

On the basis of the factors discussed above it is considered that the magnitude of landscape impact from the consented Tincurry 110kVsubstation was **Medium-low** within the immediate vicinity, being those lands contained within approximately 500-1000m of the consented development. Thereafter, the magnitude of landscape impact was deemed to reduce to **Low** and **Negligible,** as the consented Tincurry 110kV substation development was deemed to be a progressively smaller component of the overall landscape fabric.

The **Medium-low** landscape sensitivity judgement attributed to the study area, coupled with a **Medium-low** magnitude of landscape impact in the immediate vicinity (<1000m) of the consented Tincurry 110kV substation development was considered to result in an overall significance of no greater than **Moderate-slight**, with the remainder of the 5km radius study area likely to experience **Slight** or **Imperceptible** landscape impacts.

7.1.4 Visual Effects (Summary of original Assessment)

With regards to visual effects, the original assessment assessed visual effects at nine locations. These viewpoints are typically of Medium-low sensitivity, as the study area generally presents as a typical rural landscape, albeit with some more visually pleasing views afforded across the wider landscape from some locally elevated areas in its northern extent. Nonetheless, there are no scenic designations within the study area, nor are there any designated walking or cycling trails.

Views of the working agricultural landscape are generally pleasant in terms of its rolling pastoral aesthetic and 'green', settled working character. The network of hedgerows and vegetation throughout it contributes to some sense of naturalness and, combined with its undulating topography, generates a sense of containment in many locations. However, whilst a pleasant pastoral aesthetic is noted throughout some parts of the study area, as noted above, the surrounding local and wider landscape is also influenced by an array of anthropogenic features such as major transport routes, urban settlements, and industrial development. Overall, the sensitivity of visual receptors within the more typical working landscape context tends to range between Medium and Medium-low, with those of a Medium sensitivity representing more open expansive views across the wider landscape.

Key differentials in terms of visual receptor sensitivity relate to the occupation of the visual receptor and whether views of the surrounding landscape are an inherent part of the experience. Static residential receptors are considered generally more susceptible to changes in views over those where views are experienced transiently by those travelling through the landscape, particularly on major transport routes where road infrastructure and traffic volume draw from visual amenity. Likewise, receptors located in closer proximity to the site are considered more susceptible to changes in views than those where views are experienced at a distance.

Visual impacts were assessed at nine viewpoint locations, which represent a variety of viewing distances, angles and receptor types. This is a typical productive rural landscape that is not rare or distinctive at a national or regional level, which is highlighted by the Medium-low receptor sensitivity of eight of the nine viewpoints. The overall significance of visual impact was deemed 'Imperceptible' at all nine of the representative viewpoints, highlighting the heavily screened nature of the development, which will be further reinforced by the additional consented and proposed landscape planting.

7.1.5 Cumulative Effects (Summary of original Assessment)

With regard to cumulative impacts, the key consideration was the permitted solar farms in the immediate and wider surrounds of the site, including those to be serviced by the substation. While the consented development will contribute to cumulative landscape effects, the contribution of the consented substation to cumulative landscape effects will be localised and of limited extent in relation to the wider solar developments.

In terms of visual impacts, the most important point to make is that the consented Tincurry 110kV substation development would result in a residual visual impact no greater than 'Imperceptible', as the consented Tincurry 110kV substation would be heavily screened even from the local landscape context. Furthermore, the consented Tincurry and Ballylough Solar Farms that form part of the wider project will result in a residual visual impact no greater than 'Slight'. Thus, the potential for the consented Tincurry 110kV substation development to be viewed in combination with other consented solar developments is extremely limited. This is principally a result of the high degree of mature hedgerow vegetation that occurs within the intervening landscape in the surrounds of the permitted development. This, combined with the proposed mitigation measures, would result in only fleeting glimpses of the consented development.

It is also important to note that the consented Tincurry 110kV substation was to be located north of the consented Tincurry Solar Farm and east of the existing Lodgewood 220kV substation. However, the consented Tincurry 110kV substation was to be located in a heavily screened part of the study area bolstered with additional native woodland planting as part of the mitigation strategy for the proposed Tincurry Solar Farm development (refer to LD.TNCRRY-SID 3.1). Indeed, the existing Lodgewood 220kV & Crory 110kV substation is almost entirely screened from its immediate landscape context, which highlights the high degree of mature vegetation located in the surrounds of the proposed substation. Even if partially glimpsed from the surrounding landscape, the consented Tincurry 110kV substation would only result in a marginal increase in the intensity of electrical infrastructure development within the study area. Where partially and intermittently visible in combination with the consented Tincurry and Ballylough Solar Farms, the substation would likely be viewed as one combined development. Notwithstanding, due to the high degree of existing surrounding screening in the form of hedgerow vegetation and surrounding woodland, combined with the proposed and consented landscape mitigation strategies, the full scale of all three consented developments will never be fully apparent. Indeed, only partial and intermittent glimpses of the taller features in the consented Tincurry 110kV substation development would be afforded from the surrounding landscape context. Thus, it was considered that the consented Tincurry 110kV substation would not generate any notable cumulative landscape and visual effects.

With regards to the current cumulative scenario, the key revisions are the acceptance of Ballylough Solar Farm (which was in planning at the original application), and the addition of two BESS developments. The northern of the two, planning ref 20241558 (Carney Stability Lodgewood BESS), is located along the northern site boundary, while the second overlays the eastern boundary of the proposed substation, consented under Wexford planning ref 20241593 (Orsted Onshore Ireland Midco Limited Lodgewood BESS).

Cumulative Sites Locations

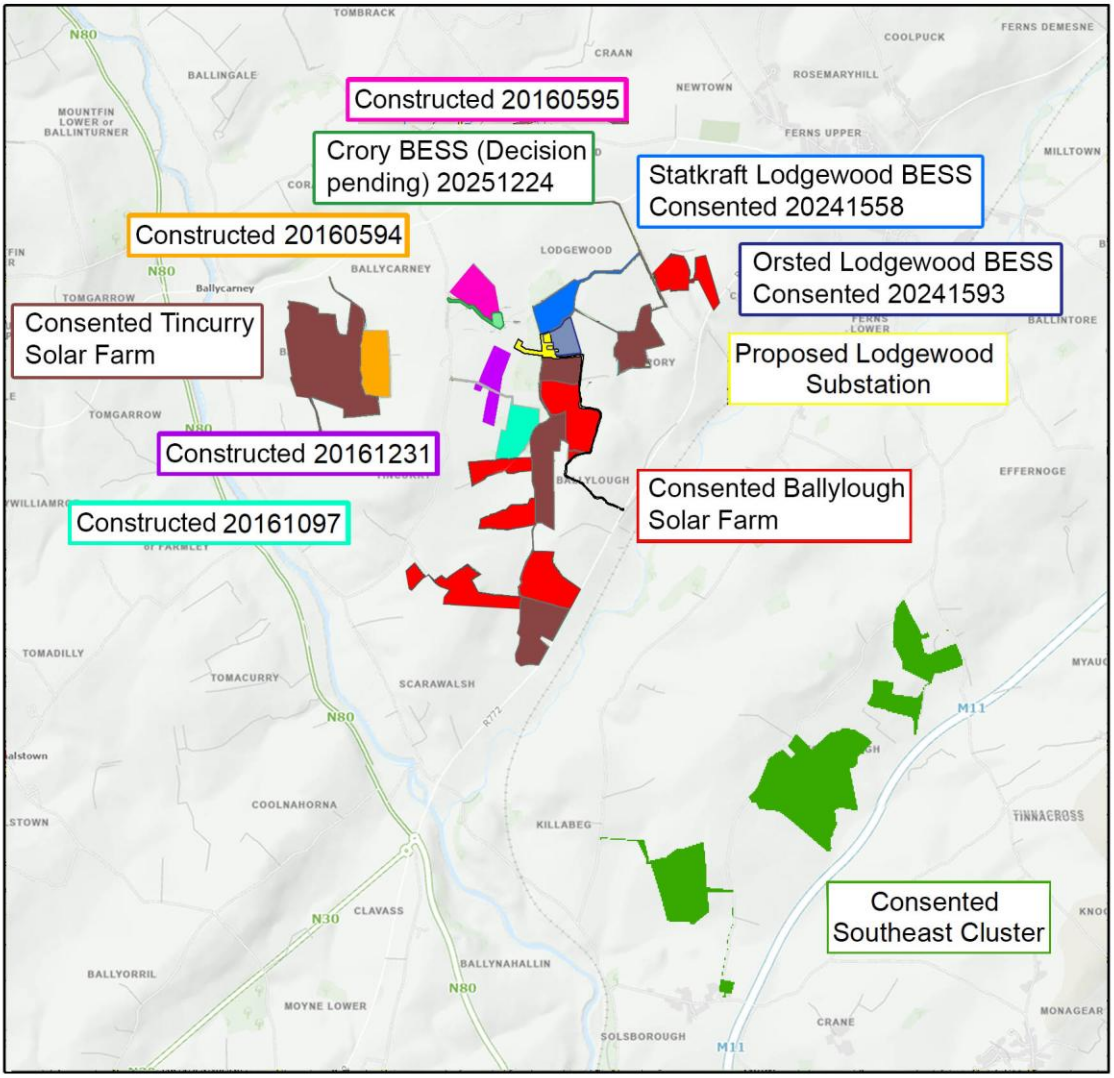


Figure 7-1 Nearby notable projects for cumulative consideration

7.2 ASSESSMENT OF PROPOSED ALTERATION

The key changes include a reduction in the compound footprint of approximately 5692 m^2, with a proposed compound size of 2633 m^2, consolidated to the south of the original application. The northern boundary of the substation compound is moved c.102m south, while the southern boundary moves approximately 10m south, locating the majority of the infrastructure in the southern section of the previous application extent. The other key change is the extension of the redline boundary to include the busbar extension and new bay in Lodgewood 220kV substation and grid connection to the Lodgewood 220kV substation, overlaid by a 3m trafficable road through the adjacent forestry block. This involves an underground cable connection, a watercourse bridge crossing of Lodgewood Stream to the west of the proposed substation compound, forestry felling along the proposed access road and underground cable route (approximately 800 m^2), and a busbar extension and additional bay within the Lodgewood 220kV substation compound. There are also revisions to the access tracks and mitigation included in the original application, including localised widening of the access track. The

proposed access track moves to the east of the compound, requiring approximately 9.2m of hedgerow removal and a drain culvert crossing, with a corresponding saving of approximately 6.8m in hedgerow loss as a result of the access track alteration. An additional approximate 4 m of hedgerow/ ditch will be lost due to the altered access track alignment elsewhere. This will result in an overall 7.2 m net loss of hedgerow as a result of this planning amendment application. The proposed hedgerow mitigation planting along the eastern substation boundary outlined in Tincurry Solar (Planning ref. 20221309) will be reduced to 25m (see Landscape Mitigation Strategy drawing in the planning drawings that accompany this application). These above losses will be balanced by compensatory woodland planting of 1,600 m^2 over a berm to the north of the compound, as defined by the project ecologist.

The key landscape and visual implications are the reduction in footprint and the clarification of the required extent of vegetation clearance. Smaller changes relate to the surrounding mitigation planting and works. The extent of retained hedgerow is reduced, the proposed planting is changed from hedgerow to a block of woodland screening, while vegetation removal to the west is increased to allow for the cable route and access track.

Impacts on landscape character are generally consistent with those outlined in the original assessment. Construction stage impacts primarily relate to earthworks and the movement of machinery on site. The extent of the proposed compound works is reduced in comparison to the original application, while the vegetation clearance and disturbance for the cable route and associated track are a change from the original application. While there is a reduction in the extent of the compound itself, which reduces disturbance and lateral extent of earthworks, this is balanced by the required site clearance and works surrounding Lodgewood Stream. Therefore, the construction stage physical impacts are in keeping with or marginally reduced in relation to the original application.

Following completion of works, the smaller compound will result in a subtle reduction in landscape character effects. This is due to the smaller compound and consolidated substation layout, which reduces the influence of the proposed project on the surrounding landscape. While the cable route reduces the woodland cover to the west of the site, this will present as an access track, which will be readily absorbed into the surrounding landscape, which is well connected by farm tracks and access roads. However, the corridor of vegetation removal does fragment the block of woodland between the existing substation and the proposed project of electrical infrastructure. Therefore, the magnitude of operational stage landscape impacts is in keeping with or marginally reduced in relation to the original application.

A selection of the nearest viewpoints were used to assess the visibility of the proposed project followed by an updated assessment of the cumulative scenario, including the aforementioned consented Solar Farms and two consented BESS developments.

VP1	
Existing View	**Local road at Ballycarney** This is an open view afforded through an agricultural field entrance along a local road in the townland of Ballycarney. The view extends across a flat open pastoral field intersected by overhead cable corridors and steel pylon structures. Some of the taller elements in the

	nearby Lodgewood 220kV substation are visible in the middle ground, whilst stacked layers of mature vegetation tend to contain this view at a middle distance, with some variable visibility of more distant elevated rolling terrain afforded across the vegetated skyline.
Visual Impact Assessment	A brief view of small sections of the proposed substation project has the potential to be afforded over the open field, set behind the existing infrastructure at the existing substation and associated pylons. The proposed lightning masts are the tallest proposed structures and will rise above the layers of intervening vegetation, albeit their slender nature will result in a minimal visual presence in this view. Additionally, all visibility will be further obscured by the existing electrical structures in the foreground. Therefore, the brief visibility of these slender structures and the roofline of the proposed control building will have no material effect on the character of this view, and thus, the magnitude of visual impact is deemed **Negligible.**
Significance / Quality / Duration of Effect	**Imperceptible / Neutral / Long term**
VP2	
Existing View	**L5130 local road at Ballynaglogh** This is a brief, partially enclosed view afforded from an agricultural gateway in an otherwise dense hedgerow across a farmed field. The mature arable crop screens much of the fore and midground. In the distance, the view is backdropped by the Blackstairs Uplands and Mount Leinster, whilst a wind energy development is visible along the rolling transitional foothills.
Visual Impact Assessment	While the presented view is partially screened by crops, there is potential visibility for a brief view of small sections of the proposed substation project through the intervening vegetation to the west of this view. The proposed lightning masts are the tallest proposed structures and will rise above the layers of intervening vegetation, albeit their slender nature will result in a minimal visual presence in this view. Additionally, all visibility will be further obscured by the existing electrical structures in the foreground. Therefore, the brief visibility of these slender structures and the roofline of the proposed control building will have no material effect on the character of this view, and thus, the magnitude of visual impact is deemed **Negligible.**
Significance / Quality / Duration of Effect	**Imperceptible / Neutral / Long term**
VP3	
Existing View	**Local road at Tincurry** This is a view afforded across gently sloping fields, which feature a mix of pasture and arable cropping, on either side of an existing access track. The view is partially contained in the midground by stacked mature vegetation, with heavily filtered views of distant fields and selected built form. The view is crossed by overhead lines, and features partial visibility of the upper sections of the existing Lodgewood 220kV substation, and existing wind energy across the wider context.

Visual Impact Assessment	The proposed substation will be entirely screened from here by the layers of mature intervening vegetation to the east. Whilst a glimpse of the tip of a proposed lightning mast has the potential to be afforded from here, it is unlikely to be discerned, and thus, the magnitude of visual impact is deemed **Negligible.**
Significance / Quality / Duration of Effect	**Imperceptible / Neutral / Long term**
VP4	
Existing View	**R772 at Crory** This is a heavily contained view afforded from a section of the R772 southeast of the proposed project. The road is heavily contained by dense mature treelined hedgerows on either side of the road carriageway.
Visual Impact Assessment	The proposed substation will be entirely screened from here by landform. Thus, the magnitude of visual impact is deemed **Negligible.**
Significance / Quality / Duration of Effect	**Imperceptible / Neutral / Long term**
VP5	
Existing View	**Local Road (L5130) at Lodgewood** This is a slightly uphill view afforded across a neighbouring pastoral field from an agricultural field entrance in a hedgerow along the L5130 local road in the townland of Lodgewood. The view is truncated on the opposite side of the pastoral field by layers of hedgerow vegetation and mature trees.
Visual Impact Assessment	The proposed substation will be entirely screened from here by landform and vegetation. Thus, the magnitude of visual impact is deemed **Negligible.**
Significance / Quality / Duration of Effect	**Imperceptible / Neutral / Long term**

In terms of cumulative impacts, several consented solar developments are located in the immediate surroundings of the proposed project, the most notable being Ballylough Solar Farm (planning ref: 20231025) and Tincurry Solar Farm (planning ref: 20221309), which are located in the immediate surrounds of the site. A cluster of smaller consented (now constructed) single solar arrays is also located to the west of the site (planning refs: 20160595, 20160594, 20161231 & 20161097). Finally, planning ref 20241558 (Carney Stability Lodgewood BESS), is located along the northern site boundary, planning ref 20241593 (Orsted Onshore Ireland Midco Limited Lodgewood BESS) to the east, and planning ref 20251224 (Stego Storage Limited Crory BESS) located 150m to the west . As the proposed project has a direct thematic

relationship with solar and the BESS developments, it is likely to be perceived as an extension of the permitted solar farm projects. However, visibility is substantially limited, as shown by the viewpoints assessed above. Therefore, as visibility of the proposed project is negligible, cumulative visual impacts are not anticipated.

Due to the limited degree of visibility, much of the cumulative impacts relate solely to the cumulative landscape effects as opposed to cumulative visual effects. In terms of landscape impacts, the proposed substation will combine with the permitted BESS and Solar developments and will increase the intensity of power generation/storage/infrastructure within the local landscape context, with associated development types becoming one of the more prominent land uses in this local context. However, the contribution of the substation to the broader land use and landcover change is contained to footprint of 2633 m^2 of the compound, opposed to the larger scale areas overlaid by panels or the neighbouring BESS. With regards to character, as noted above, due to the localised and heavily screened nature of the proposed substation amendment, it has limited potential to notably impact the local landscape character, but rather presents as a smaller component of the broader solar and BESS developments and associated landscape change.

On balance of the reasons outlined above, it is not considered that the proposed substation amendment will result in significant cumulative landscape or visual effects.

7.3 Residual Effects following proposed alteration

In terms of landscape impacts, the proposed project is considered to have only a modest physical impact on the application site as it is consolidated within the existing hedgerow network and will only require localised excavation works to construct the substation compound and grid connection corridor, which also requires felling of woodland trees and clearance of vegetation. The most notable revision to physical impacts is the additional vegetation clearance and construction of the access track along the cable route, which, following completion of construction stage works, will present as a fragmentation of the wider area of existing woodland.

In terms of landscape character impacts, the proposed project is consistent with the original application. The extent of the proposed substation compound is reduced compared to the consented 110kV substation, while the extent of vegetation clearance is increased, however landscape character effects are unchanged from the original application as any such effects will be heavily offset as a result of the proposed project's location in a discrete and heavily contained part of the landscape that is already influenced by the existing Lodgewood substation. This is a productive rural landscape with associated landscape values, and the proposed amendments to the SID substation do not represent an intensification of development in relation to the consented Tincurry 110kV substation, and as such does not markedly affect the prevailing landscape pattern or overriding rural landscape character of the area.

Visual impacts were assessed at five viewpoint locations, which represent a variety of viewing distances, angles and receptor types. This is a typical productive rural landscape that is not rare or distinctive at a national or regional level, which is highlighted by the Medium-low receptor sensitivity of all viewpoints. The overall significance of visual impact was deemed 'Imperceptible' at all of the representative viewpoints, highlighting the heavily screened nature of the development, which will be further reinforced by the additional consented and proposed landscape planting, with no change in effects as a result of the proposed amendments.

Overall, it is considered that the proposed project is appropriately sited in a robust landscape context and does not notably impact any sensitive landscape and visual receptors. Indeed, the substation is unlikely to be noticed even from the nearest surrounding receptors. Therefore, it is deemed that there will not be a material change to the conclusions of the original LVIA for the project.

7.4 CONCLUSIONS

Based on the landscape and visual impact judgements provided throughout this LVIA, the proposed Tincurry 110kV substation amendment is not considered to give rise to any significant residual impacts. While there is a subtle reduction in physical and landscape character impacts through the reduction of the proposed substation compound, there is an increase in proposed vegetation clearance to facilitate the cable route, and therefore the magnitude of effect listed in the original assessment will remain unchanged overall. Similarly, the addition of Lodgewood BESS to the cumulative scenario represents a subtle increase in intensification of the surrounding land use, which will be mitigated by the enclosed setting and clearly defined extents of the two developments, both of which are likely to be perceived as separate, smaller scale extensions of the permitted solar farm projects. The proposed alterations are not deemed likely to result in material changes to the original assessment. Therefore, as the magnitude of effect and the baseline context are consistent with the original application, it is deemed that there will not be a material change to the conclusions of the original LVIA for the project.

8. CULTURAL HERITAGE

8.1 SUMMARY OF ORIGINAL EIS RESIDUAL EFFECTS AND CONCLUSIONS

The permitted SID project, comprising a 110kV substation and associated infrastructure, was the subject of an archaeological, architectural and cultural heritage impact assessment as part of the original permitted application (Planning ref.: ABP-318528-23; O'Flaherty 2023). It was also considered for the sake of completeness in reports accompanying the permitted Tincurry Solar Farm (Planning ref.: 20221309; John Cronin & Associates 2022) and Ballylough Solar Farm (Planning ref.: 20231025; O'Flaherty & Hession 2023). Each of these reports preceded geophysical surveys and archaeological testing, and as such the assessment of impacts were preliminary and based on the recorded archaeological sites and the potential for unknown archaeology. The impact assessment can now be updated in light of further investigations and detailed plans for the development.

The impact assessment for the permitted SID (O'Flaherty 2023) made the following statements of impact;

- The proposed redline boundary for the development does not cross the statutory Zone of Notification for any RMPs.
- No designated cultural heritage (CH) assets are located with the redline boundary for the proposed project.
- Ground works associated with the 110kV substation location and the proposed temporary compound and cabling routes will have no direct impact on any CH site.
- There remains potential for the presence of unknown subsurface archaeological deposits within the works footprint.

The report concludes with recommendations that the applicant shall;

- Agree an archaeological strategy for the development site with the National Monument Services in advance of the commencement of development. This shall include (a) a programme of geophysical survey and (b) a targeted testing prior to commencement of any site development works. The archaeologist shall prepare a comprehensive report including an archaeological impact statement and mitigation strategy, following the completion of geophysical survey and archaeological testing (under detection device consent/licensed under the National Monuments Acts 1930-2014), to be submitted for the written agreement of the planning authority, following consultation with the Department of Housing, Local Government & Heritage, in advance of any site preparation works, groundworks and/or construction works.

Similar conclusions were made regarding impact in the Tincurry Solar Farm assessment (John Cronin & Associates 2022) and the Ballylough Solar Farm assessment (O'Flaherty & Hession 2023). These reports also recommend that a programme of archaeological monitoring be undertaken of ground works by a suitably qualified archaeologist, with O'Flaherty & Hession also recommending that where a section of an upstanding townland boundary must be removed, a representative cross-section of the townland boundary will be investigated and recorded by a suitably qualified archaeologist prior to removal.

The conditions attached to the permitted SID are as follows:

> *5. (a) The applicant is required to employ a suitably qualified archaeologist to monitor all ground disturbance required for this development.*

(b) Should archaeological material be found during the course of the archaeological monitoring, the archaeologist shall have work on site stopped pending a decision regarding appropriate mitigation. The undertaker shall be prepared to be advised by the National Monument Service with regard to any mitigating action (preservation in situ and/or excavation). The undertaker shall facilitate the archaeologist in recording any material found.

(c) The National Monuments Service shall be furnished with a final archaeological report describing the results of archaeological monitoring and of any archaeological investigative work/excavation required, following the completion of all archaeological work on site and any necessary post-excavation specialist analysis. All resulting and associated archaeological costs shall be borne by the undertaker.

Reason: To ensure the continued preservation (either in situ or by record) of places, caves, sites, features and other objects of archaeological interest.

It was noted in the Planner's Report that it was already a condition of the Tincurry Solar Farm (Planning ref.: 20221309) that geophysical survey and testing would take place.

8.1.1 Subsequent Archaeological Investigations

Following planning conditions related to the development of Tincurry Solar Farm and Ballylough Solar Farm (Planning ref.: 20221309, 20231025), a programme of archaeological investigations was undertaken across the permitted solar farm developments. This comprised a geophysical survey undertaken in October 2024 (Murphy & Rochford 2024; Licence 24R0259) and archaeological testing undertaken from January to March 2025 (Bailey & McIlreavy 2025; Licence 25E0020). The results of these investigations better inform the impacts related to the proposed substation, its associated grid connection, access road and temporary construction compound.

8.2 ASSESSMENT OF PROPOSED ALTERATION

8.2.1 Study Area

The substation location is within the townland of Crory, with the grid connection connecting it to the existing Lodgewood 110kV/220kV Substation in the townland of Tincurry. An access road will connect the R772 to the proposed substation through the townlands of Ballylough and Crory, with a temporary construction compound in Crory. Tincurry is in the Civil Parish of Ballycarney, while Ballylough and Crory are within the Civil Parish of Ferns, and both parishes are in the Barony of Scarawalsh in Co. Wexford. It is located approximately 2.5km southwest of the town of Ferns.

8.2.2 Methodology

This chapter was guided by the approach set out in EirGrid's 'Cultural Heritage Guidelines for Electricity Transmission Projects' (EirGrid 2015) which sets out best practice for cultural heritage assessment for transmission cables and substations.

8.2.2.1 Desk Study

Archaeological assessments were undertaken previously for the permitted SID (Planning ref.: ABP-318528-23; O'Flaherty 2023), Tincurry Solar Farm (Planning reg. no. 20221309; John Cronin & Associates 2022) and Ballylough Solar Farm (Planning reg. no. 20231025; O'Flaherty

& Hession 2023). They provide baseline data for each of those developments which is supplemented and updated in this report.

A review of the following information took place in order to inform the Cultural Heritage Impact Assessment:

8.2.2.2 Desk Study

Archaeological assessments were undertaken previously for the permitted SID (Planning ref.: ABP-318528-23; O'Flaherty 2023), Tincurry Solar Farm (Planning reg. no. 20221309; John Cronin & Associates 2022) and Ballylough Solar Farm (Planning reg. no. 20231025; O'Flaherty & Hession 2023). They provide baseline data for each of those developments which is supplemented and updated in this report.

A review of the following information took place in order to inform the Cultural Heritage Impact Assessment:

- National Monuments in State care, as listed by the National Monuments Service (NMS) of the Department of Housing, Local Government and Heritage (DHLGH);
- Sites with Preservation Orders;
- Sites listed in the Register of Historic Monuments;
- Record of Monuments and Places (RMP) and the Sites and Monuments Record (SMR) from the Archaeological Survey of Ireland; The statutory RMP records known upstanding archaeological monuments, their original location (in cases of destroyed monuments) and the position of possible sites identified as cropmarks on vertical aerial photographs. Archaeological sites identified since 1994 have been added to the non-statutory SMR database of the Archaeological Survey of Ireland (National Monuments Service, DHLGH), which is available online at www.archaeology.ie and includes both RMP and SMR sites;
- Record of Protected Structures (RPS) in the Wexford County Development Plan (2022-2028);
- County Councils Architectural Conservation Areas (ACAs) and their statements of character;
- National Inventory of Architectural Heritage (NIAH) Building Survey (NIAH ratings are international, national, regional, local and record, and those of regional and above are recommended for inclusion in the RPS);
- NIAH Garden Survey (paper survey only);
- A review of artefactual material held in the National Museum of Ireland;
- Cartographical Sources, Tailte Éireann Historic Mapping Archive, including early editions of the Ordnance Survey, historical mapping (such as Down Survey 1656 Map);
- The Irish archaeological excavations catalogue i.e. Excavations bulletin and Excavations Database;
- Place names; Townland names and toponomy (logainm.ie);
- Wexford County Development Plan (2022-2028);
- A review and interpretation of aerial imagery (Tailte Éireann Aerial Imagery 1995, 2000, 2005, Aerial Premium 2013-2018, Digital Globe 2011-2013, Google Earth 2001–2025, Bing 2025) to be used in combination with historic mapping to map potential cultural heritage assets;
- A review of existing guidelines and best practice approaches.

8.2.2.3 Fieldwork

A site walkover was undertaken on 14th May 2025 by Dr. Yolande O' Brien and Dr. Karen O'Toole. This was supplemented by site walkover observations made in the previous reports.

In response to planning conditions related to the permitted solar farms, a geophysical survey (Murphy & Rochford 2024; Licence 24R0259) and archaeological testing (Bailey & McIlreavy 2025; 25E0020) were undertaken at the Tincurry and Ballylough Solar Farm developments.

8.2.3 Receiving Environment

A detailed archaeological and historical background of the surrounding area is provided in Appendix H of this report. The archaeological, architectural and cultural heritage baseline conditions of the surrounding area, including a summary of recent archaeological excavations, are set out below.

8.2.3.1 Adjacent Archaeological Investigations

Archaeological testing has been undertaken in the townland of Lodgewood (Lacey 2025; Licence 25E0069). The tested area was in the field immediately north of F1 where the substation will be located. These investigations revealed nine areas of archaeological significance containing 77 archaeological features, comprising burnt mounds, pits, stakeholes, charcoal clamps and occupation material of possible prehistoric date (Figure 8-1).

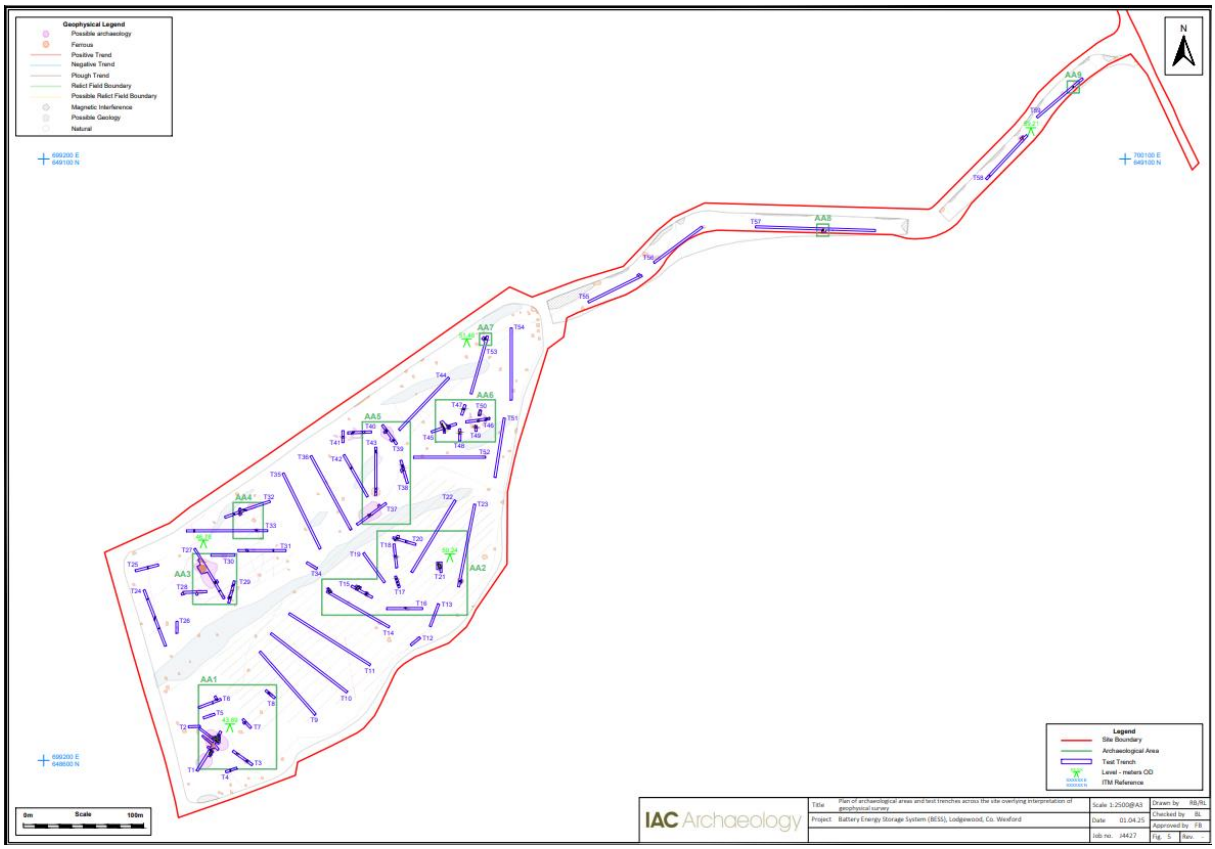


Figure 8-1 Test trenches and archaeological areas at Lodgewood (Licence 25E0069)

Following planning conditions related to the development of Tincurry Solar Farm and Ballylough Solar Farm (Planning ref.: 20221309, 20231025), a programme of archaeological investigations was undertaken across the permitted solar farm developments. This comprised a geophysical survey undertaken in October 2024 (Murphy & Rochford 2024; Licence 24R0259)

and archaeological testing undertaken from January to March 2025 (Bailey & McIlreavy 2025; Licence 25E0020).

The geophysical survey revealed a circular enclosure (M1) in Tincurry measuring c. 36m in diameter with anomalies within the enclosure perhaps indicating features such as pits, posts, spreads and kilns. A large sub-rectangular enclosure (M2) in Ballylough measuring c. 86m north-south had a possible internal structure. A circular ring-ditch (M3) and a possible enclosure (M4) were also found in Ballylough. None of these sites were within the SID site and occurred approximately 2km south of the proposed substation. Several scatters of potential archaeological features were recorded across the solar farm developments which may comprise pits, posts, spreads, kilns etc. A number of former field boundaries depicted on historic mapping were identified, as well as several early field systems.

The archaeological testing revealed 23 areas of archaeological significance (AA1-AA23), largely comprising singular pits, hearths or burnt mound features which may have a prehistoric origin. In two areas the testing confirmed the geophysical survey data which indicated previously unrecorded enclosures. A Bronze Age urn cremation burial was identified in proximity to one of these enclosures.

A detailed description of investigations within the footprint of the SID is included in Section 8.2.3.5.

8.2.3.2 Recorded Archaeological Monuments

The closest national monument is an Anglo-Norman castle in Ferns (RMP WX015-003001), 2.5km from the proposed project. There will be no impact to the site.

There are no sites with Preservation Orders within the study area.

There are no recorded monuments within the proposed project. There are 43 recorded monuments within 2km of the proposed substation and cable route. They are discussed in the archaeological and historical background in Appendix H of this PECR.

There are six recorded monuments within 1km of the proposed substation, grid connection and access road (Table 8-1; Figure 8-2). Four of them are redundant records which had already been delisted at the publication of the RMP in 1995. One of the ringforts (RMP WX015-011) was visible in the 1940s and as a circular enclosure on historic mapping. It is no longer visible in the field. The second ringfort (RMP WX015-061) is visible only on aerial photography as a crop mark.

There will be no impact to any recorded monuments.

Table 8-1: RMP / SMR sites within 1km of SID

RMP / SMR no.	Classification	Townland	ITM_E	ITM_N
WX015-009	Redundant record	Lodgewood	700017	648643
WX015-010	Redundant record	Ballylough	700270	647588
WX015-011	Ringfort – unclassified	Ballylough	700432	647644
WX015-021	Redundant record	Tincurry	699096	647190
WX015-022	Redundant record	Ballylough, Clone	700169	647357

RMP / SMR no.	Classification	Townland	ITM_E	ITM_N
WX015-061	Ringfort - rath	Tincurry	698645	646970

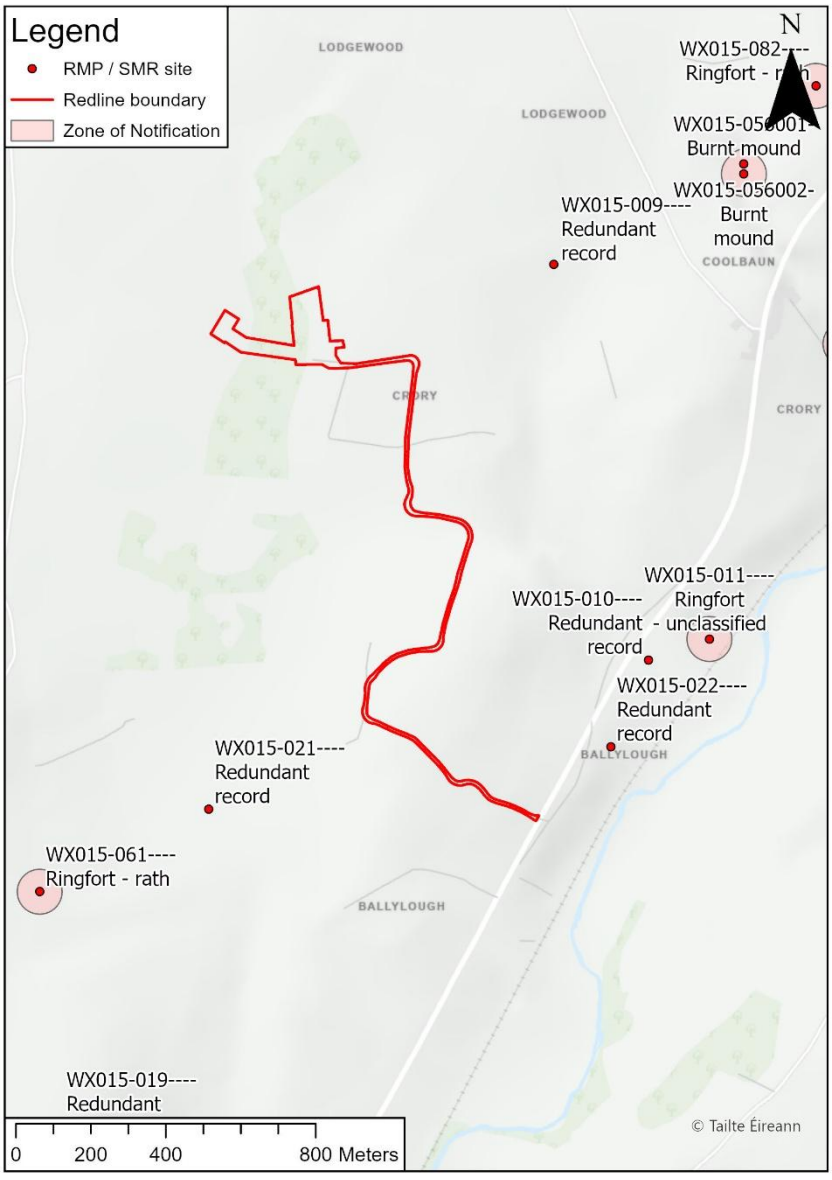


Figure 8-2 RMP / SMR sites within 1km of the SID

8.2.3.3 Built Heritage

There are no Protected Structures or NIAH sites within the proposed project, with one located within 1km (Table 8-2; Figure 8-3). The closest designated built heritage feature is Tincurry Cottage (RPS WCC1096; NIAH 15701528). It is located approximately 800m from the proposed substation location along the L5132. Woodland provides screening which will prevent a visual impact to this built heritage feature.

Table 8-2: Built heritage sites within 1km of SID

RPS no.	NIAH no.	Townland	Name	Description
WCC1096	15701514	Tincurry	Tincurry Cottage	Farm house, built 1832-3

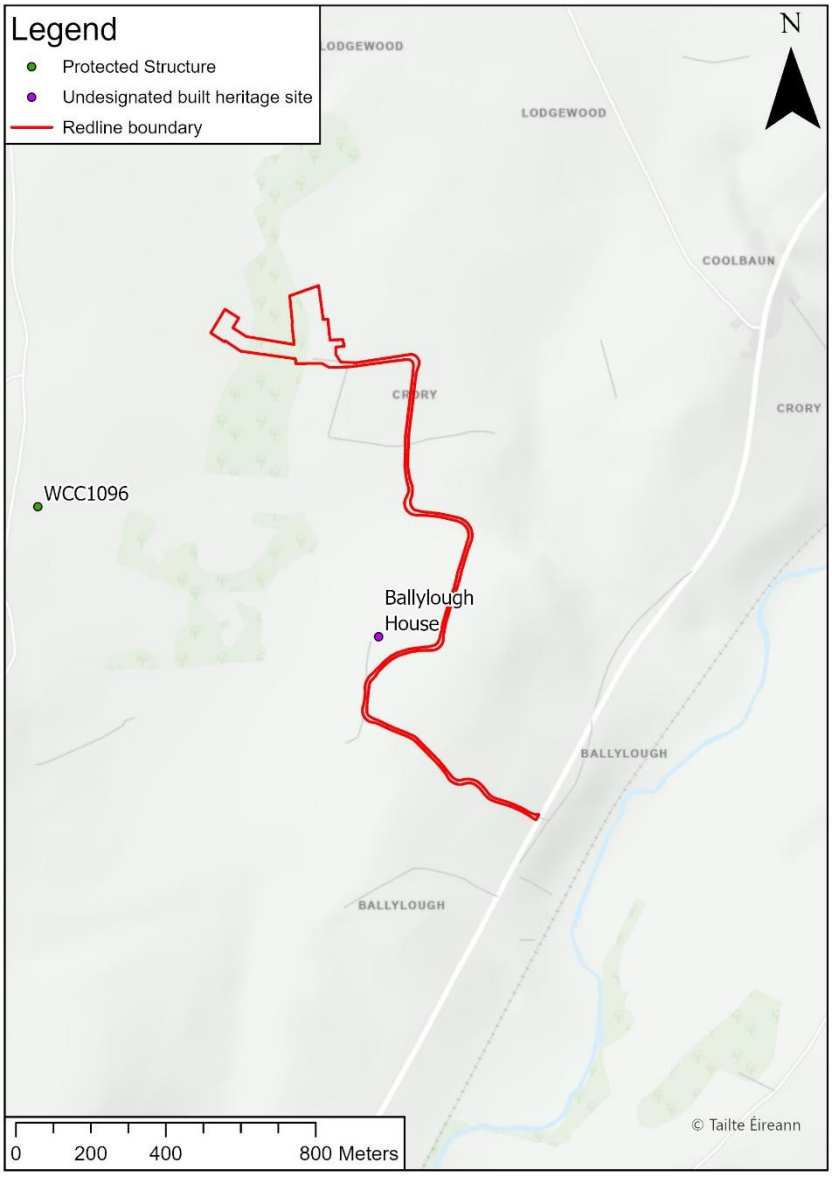


Figure 8-3 Built heritage sites within 1km of the SID

Ballylough House (Plate 8.1) is an undesignated built heritage feature adjacent to the permitted solar farm developments. It is an attractive farmhouse which was constructed between 1906 and 1921. It would have replaced the original house in this farmstead which, though unnamed on historic mapping, must have been of some status as it had an associated gatelodge (Plate 8.3) which was constructed some time in the latter half of the 19th century. The lodge is roughly square with a porch to the north-east corner and a slated hipped roof. It is extremely overgrown and difficult to make out further detail. The house is well screened by tall trees on the north side of the farmstead.



Plate 8.1 Ballylough House with screening to north (right)



Plate 8.2 Gateway to Ballylough House



Plate 8.3 Front and rear of gatelodge to Ballylough House

8.2.3.4 Cultural Heritage

The Lodgewood Stream acts as the Tincurry / Crory and Crory / Ballylough townland boundaries. Where it forms the Crory / Ballylough townland boundary, the watercourse was

formerly lined with mature vegetation before it was cleared in 2011 (See Figure 4.1 of Appendix H to this report).

A granite gatepost was identified in the course of fieldwork along the access route where it crosses from F2 to F3 (ITM 699628, 648172 approx.).



Plate 8.4 Granite gatepost in F3

8.2.3.5 Fieldwork

8.2.3.5.1 Site Inspection

A site inspection was carried out on 14th May 2025 by Dr Yolande O' Brien and Dr Karen O'Toole of Courtney Deery Heritage Consultancy Ltd. Field numbers have been assigned for this development (Figure 8-4) and the descriptions are set out in Table 8-3 below. Photos are included in Appendix H of this report.

Access to Field 7, where the Lodgewood 110kV / 220kV Substation is located, was not possible. Photos are included in Appendix H of this report.

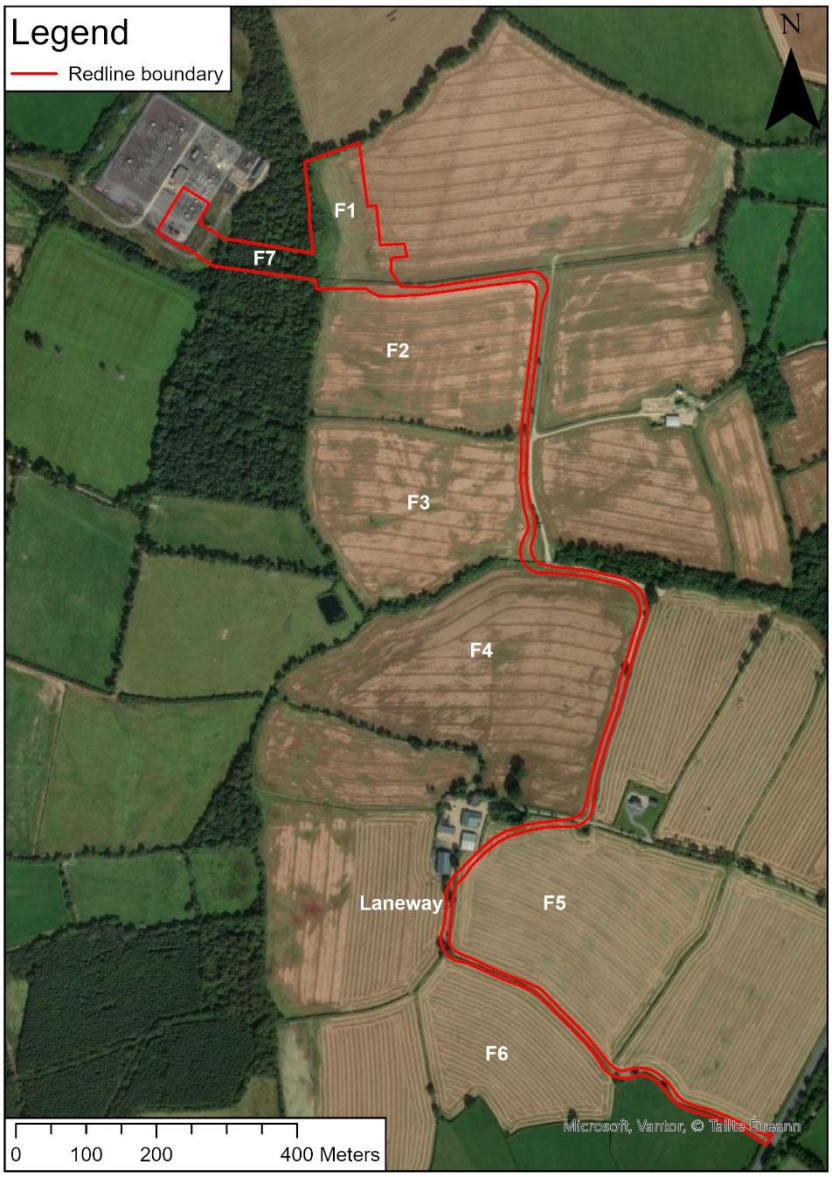


Figure 8-4 Field numbers

Table 8-3: Field Descriptions

Field no.	Classification
F1	**Development:** The substation will be located in the west end of this field, adjacent to woodland.
	Description: Gently undulating field under young crop. The west side where the substation will be located is fairly flat and is not planted with crop. It is very disturbed with dried clay which appears as though it was recently very wet. Vegetation includes rough grass and wildflowers. An area of woodland is to the west on the other side of the Crory / Tincurry townland boundary. The south hedgerow is within the planning boundary. It is comprised of leafy bushes but no trees.
F2	**Development:**

Field no.	Classification
	The access road will travel east next to the northern boundary of this field, turning south to continue along the east field boundary.
	Description: Large field under young crop sloping very gently to south. The north boundary is comprised of leafy bushes on a low bank but with no trees in the hedgerow. The east boundary is a steep-sided ditch with an elevated farm track on the east side in the next field.
F3	**Development:** The access route will travel along the east field boundary, crossing the Lodgewood Stream (also the Crory / Ballylough townland boundary) at the southeast corner.
	Description: A field under young crop sloping gently south-eastwards. The north hedgerow which will be breached comprises a leafy hedgerow with occasional trees. A granite pillar gatepost stands along the access route where it crosses from F2 to F3. The east boundary comprises a steep-sided ditch inside a bushy hedgerow. The south boundary comprises the Lodgewood Stream which is very straight. There is no vegetation along this portion of the stream.
F4	**Development:** The access route will continue east along a farm track on the northern boundary and turn south to follow the track along the east boundary. It crosses the track to enter F5.
	Description: Large field under young crop sloping quite sharply northwards to Lodgewood Stream. An overhead powerline crosses the field. The access route will follow an existing farm track along the north and east sides of the field. The Lodgewood Stream forms the northern boundary. Vegetation has been removed in recent years where the cable will cross the stream, but it survives on the east side of the field quite dense tree cover. A high overgrown grassy bank forms the east field boundary.
F5	**Development:** The access route will cross the north field boundary to round the northwest corner of the field. It will cross the west boundary to enter the laneway for a distance before re-entering F5 and traveling along the southern boundary. It enters F6 through a gap in the field boundary.

Field no.	Classification
	Description: The access route crosses the laneway to Ballylough House directly west of a former gate lodge. The lodge is roughly square with a porch to the north-east corner and a slated hipped roof. It is extremely overgrown and difficult to make out further detail. The field boundary in this location is a scrappy, narrow hedgerow. The field is under young crop, sloping towards the west. A small shed is located in the north-west corner of the field. It is constructed from cinder blocks with gable ends and a corrugated iron roof. It has a central doorway in the south wall with windows either side. The interior is partitioned with timber panelling. It is an agricultural shed with no fireplace present. The west boundary comprises very tall trees around Ballylough House, but the access route will cross where it is a lower hedgerow on a low earthen bank. The route then follows the laneway south for a distance before re-entering F5 on the southwest side. This boundary comprises a grass-covered earthen bank which has quite a pointed profile and appears relatively recent.
F6	**Development:** The access route will travel next to the south field boundary, accessing the R772 through an existing gateway.
	Description: Large field under young crop, slightly sloping to east and crossed by overhead powerlines. The south field boundary comprises an overgrown bank with a hedgerow and occasional trees.
F7	**Development:** A 3m wide trafficable road will be constructed through forestry over the cable route.
	Description: Densely afforested area on east of field adjacent to watercourse. The Lodgewood 110kV / 220kV Substation is located to the west of the woodland.

8.2.3.5.2 Geophysical Survey

Planning conditions related to the permitted Tincurry Solar Farm and Ballylough Solar Farm (Planning ref.: 20221309, 20231025) led to the undertaking of a geophysical survey in October 2024 (Murphy & Rochford 2024; Licence 24R0259). This included F1 and F2. It did not reveal any anomalies of archaeological potential within the substation location (See Figure 8-5).

8.2.3.5.3 Archaeological Testing

Planning conditions related to the permitted Tincurry Solar Farm and Ballylough Solar Farm (Planning ref.: 20221309, 20231025) led to the undertaking of archaeological testing from January to March 2025 (Bailey & McIlreavy 2025; Licence 25E0020). Testing took place in F1 and F2. While a charcoal clamp feature (AA10) was identified in F1, this was located approximately 300m from the access route and 500m from the proposed substation. No archaeological features were identified in the test trenches at and in the vicinity of the substation. Testing in F2 targeted the geophysical anomalies, revealing four well-constructed

stone-filled drains as well as a ditch feature which was thought to have been a possible fire break or boundary associated with the former Crory's Wood.

It was noted that the majority of archaeological features identified throughout the solar farm developments were at depths of between 0.32-0.51m below the surface, and the shallow depths had resulted in horizontal truncation. The impact assessment concluded that it remains possible that ground disturbances associated with the development may result in negative impacts on small-scale or isolated archaeological features or deposits that have the potential to survive beneath the current ground level and outside of the footprint of the excavated trenches. There is therefore the potential for subsurface features to survive within the untested portions of the footprint of the proposed project.

Testing did not extend west of the townland boundary to include the grid connection to the Lodgewood 110kV/220kV substation. Dense afforestation would have brought challenges to any testing programme in this location.

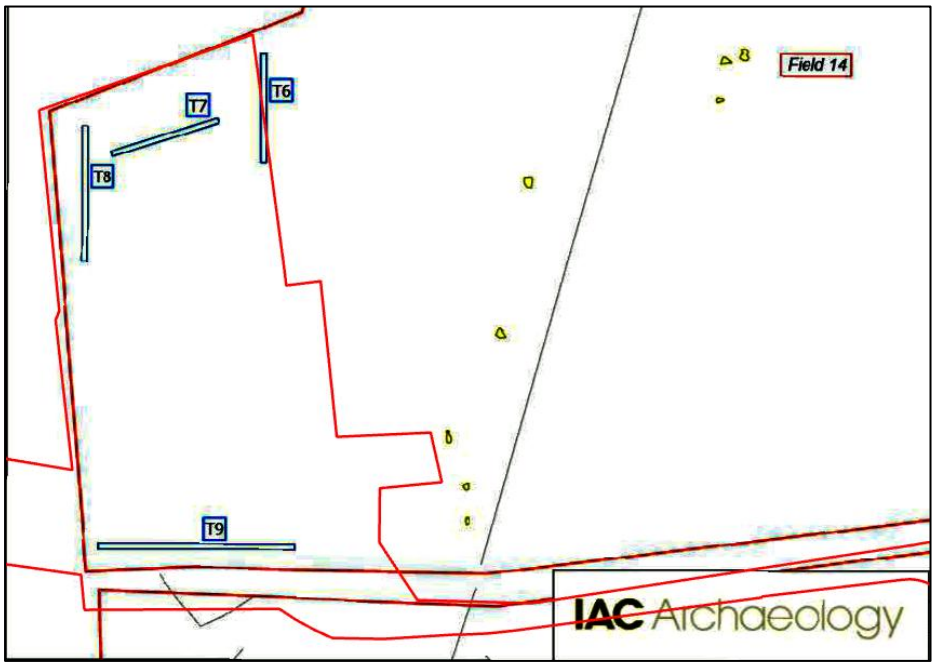


Figure 8-5 Testing and geophysical interpretation drawing in F1

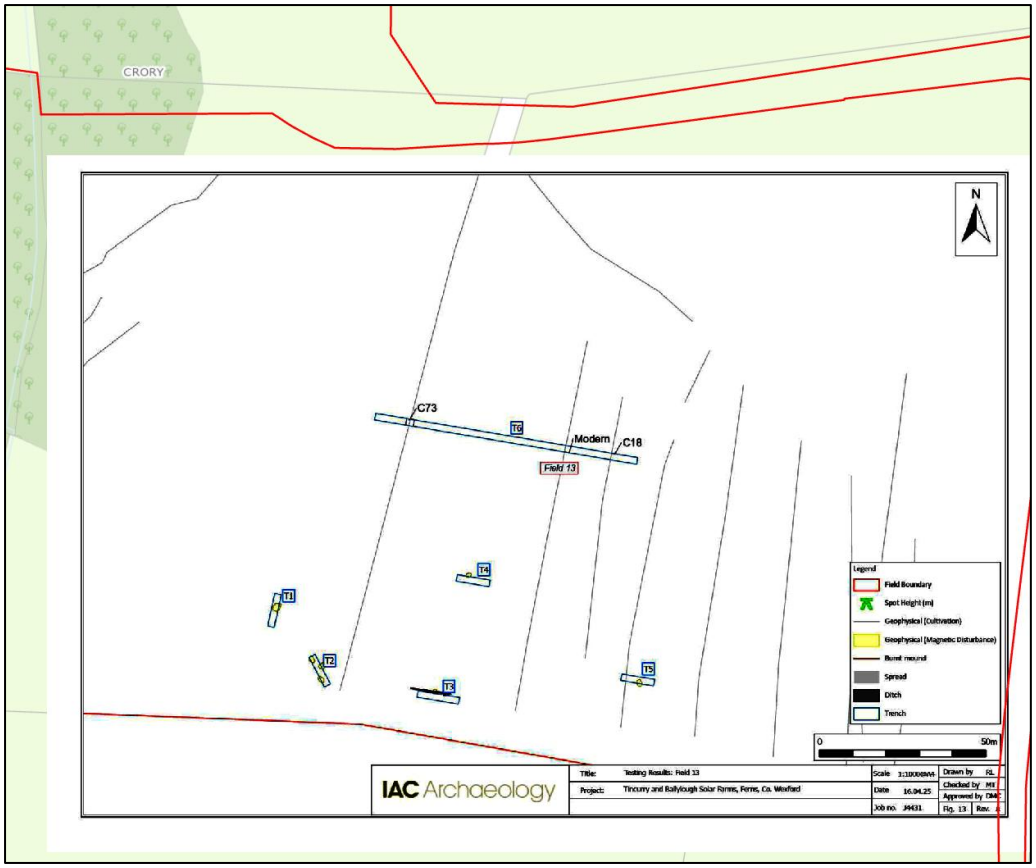


Figure 8-6 Testing and geophysical interpretation drawing in F2

8.2.4 Impact Assessment

8.2.4.1 Archaeology

Potential impact to archaeology from the proposed substation and associated grid connection, access route and construction compound relates ground reductions and the potential to impact unknown subsurface archaeological features. As the surrounding archaeological monuments all survive as subsurface features, there will be no visual impact associated with this development.

The site of the substation has been subject to clearance of woodland on at least two separate occasions – Once when Crory's Wood was cleared in the 19th century and a second time in c. 2012. The rooting out of trees in this location is likely to have caused disturbance to any potential subsurface features.

Geophysical survey did not identify any anomalies of archaeological potential within the footprint of the proposed substation, and archaeological testing in the vicinity did not reveal any archaeological features. It is acknowledged that there remains the potential for archaeological features which were undetectable by geophysical survey, but should any features exist, they are likely to be small in scale and ephemeral in nature.

The access route has been previously permitted as part of the Tincurry Solar Farm (Planning ref.: 20221309). There remains a moderate archaeological potential within this route as concluded by the archaeological assessment for that development (John Cronin & Associates 2022), specifically in the areas of greenfield where there are not existing farm tracks or laneways.

The grid connection across the Tincurry / Crory townland boundary to the Lodgewood 110kV/220kV substation was discussed in the previous SID AIA (O'Flaherty 2023), though it did

not form part of that application. It was at that time proposed to use Horizontal Directional Drilling (HDD) to make this connection which would have avoided impacting the watercourse and townland boundary.

The current SID also includes the clearance of vegetation, topsoil stripping of a 3m wide trafficable road over the cable trench, and piling either side of the watercourse to construct a roadbridge. Rather than using HDD, the ducting will now be below the deck of the bridge. The construction of the bridge will impact the townland boundary / watercourse. While the dense afforestation prevents archaeological investigations along the grid connection and access to the existing Lodgewood 110kV/220kV substation, historic mapping shows soft / marshy conditions where there would be the potential for features such as *fulachta fiadh* to survive.

There is inherent and generic archaeological potential related to undisturbed greenfield, marshy areas and watercourses which may contain previously unidentified archaeological sites, features or artefacts. This potential, as it relates to the watercourses, may be impacted by the construction of two new clear span bridges across the Lodgewood Stream. A culvert will also be constructed across a drain between F1 and F2.

8.2.4.2 Built Heritage

There will be no impact to protected structures or NIAH sites from this development. Ballylough House, which is an undesignated built heritage site, will be well screened by surrounding trees, and its associated gatelodge will be avoided by the access route. There will consequently be no impact to built heritage from the SID.

8.2.4.3 Cultural Heritage

The grid connection will cross the Tincurry / Crory townland boundary (i.e. the Lodgewood Stream), requiring a clear span bridge to allow access of maintenance vehicles between the Lodgewood 110kV/220kV substation and the proposed substation. A second clear span bridge will be required to carry the access road across the Crory / Ballylough townland boundary (also formed by the Lodgewood Stream), as permitted as part of the Tincurry Solar Farm (Planning ref.: 20221309). The construction of these bridges will impact these historic boundaries. They are of Low sensitivity and the Significance of Effect is predicted to be Not Significant.

The access route will also impact on an upstanding granite gatepost between F2 and F3.

8.2.5 Mitigation

A programme of geophysical survey (Murphy & Rochford 2024; Licence 24R0259) and archaeological testing (Bailey & McIlreavy 2025; Licence 25E0020) has been undertaken in keeping with the recommendation of the archaeological assessments of the permitted solar farms (John Cronin & Associates 2022; O'Flaherty & Hession 2023) and the conditions of their planning (Planning reg. no. 20221309, 20231025). No archaeological features have been identified within the footprint of the SID.

Both reports and the conditions of planning for the solar farms and the previously permitted SID set out that archaeological monitoring will be undertaken of all groundworks related to the development of the site by a suitably qualified archaeologist under licence from the National Monuments Service of the Department of Housing, Local Government and Heritage. This will remain as a mitigation measure for the development, including where it extends into woodland and the Lodgewood 110kV / 220kV Substation. This will include monitoring of the rooting out

of trees along the connection corridor. Should any archaeological features be identified, further mitigation will be devised in consultation with the National Monuments Service and the National Museum of Ireland.

As no archaeological features have been identified through geophysical survey or archaeological testing within the footprint of the proposed project, it is not anticipated that exclusion zones or buffer zones will be necessary.

In keeping with the previous recommendation to record townland boundaries as part of the Ballylough Solar Farm (O'Flaherty & Hession 2023), the townland boundaries will be fully recorded with written and photographic records by the monitoring archaeologist. A wade survey and metal detection will be undertaken to determine if there are any features or artefacts associated with the Lodgewood Stream. This will be undertaken as part of the archaeological monitoring of all ground disturbance associated with the construction of clear span bridges.

The licence application to the National Monuments Service for the monitoring of works will include a consent application for the wade survey (termed a 'Dive Licence') and the metal detection (Detection Device Consent) for this purpose.

The upstanding granite gatepost between F2 and F3 should be avoided if possible with traffic management measures put in place to protect it from inadvertent damage by passing construction traffic. Should it be impossible to avoid, this cultural heritage feature should be removed for safekeeping to the farmyard for use elsewhere on the farm.

8.2.6 Cumulative Effects

Surrounding developments have been assessed for the potential for cumulative impact with the proposed project. There will be no impact to upstanding archaeological sites from the proposed project, and as the residual impact to any potential subsurface archaeological features will be ameliorated through the mitigation strategy, there will be no cumulative impact to the archaeological resource.

The proposed project, as well as a number of surrounding developments, will impact sections of townland boundaries. These impacts are small in scale to facilitate internal roads, ducting etc. Following mitigation, there will be no cumulative impact to cultural heritage from the proposed project.

The proposed project will be well-screened by hedgerows and vegetation from designated and undesignated built heritage assets. There will therefore be no cumulative impact with the surrounding developments.

8.3 Residual Effects following proposed alteration

Following the mitigation measures which have previously been made conditions of the development(s) and expanded upon above (Section 8.2.5) there will be no residual effect to archaeology, architecture and cultural heritage from the proposed alteration.

8.4 Conclusions

Fieldwalking, geophysical survey, archaeological testing and desk-based research have not identified any archaeological features within the footprint of the proposed substation, grid

connection, access route or construction compound. There is the potential for small-scale or ephemeral features to survive which were not detected through geophysical survey and which were outside of the test trenches. Such features are likely to have been disturbed from at least two episodes of woodland clearance, as well as agricultural activity.

Archaeological monitoring will be undertaken of all ground reductions associated with the substation and associated infrastructure. The requirement to construct a clear span bridge over a watercourse which also functions as a townland boundary also has the potential to impact cultural heritage, including possible underwater archaeology. The monitoring brief will include a written and photographic record of this boundary with a wade survey and metal detection undertaken of the watercourses. This programme of monitoring, wade survey and metal detection will be undertaken by a suitably qualified archaeologist under licence from the National Monuments Service of the Department of Housing, Local Government and Heritage.

A granite gatepost which is located along the access route will be protected via either avoidance and traffic management, or removal for safekeeping to the farmyard where it may be used elsewhere on the farm.

Following the above mitigation and any additional mitigation which may be devised as a result of archaeological monitoring, it is anticipated that there will be no significant effects on archaeology, architecture and cultural heritage.

All recommendations are subject to approval by the National Monuments Service of the Department of Housing, Local Government and Heritage.

9. TRAFFIC AND TRANSPORT

9.1 SUMMARY OF ORIGINAL EIS RESIDUAL EFFECTS AND CONCLUSIONS

The permitted Tincurry 110kV Substation and Grid Connection comprised a 110kV substation and short underground grid connection cable to connect the associated Tincurry and Ballylough Solar Farms (Wexford County Council references 20221309 & 20231025) and a Battery Energy Storage System at Crory, Ferns (Wexford County Council Ref 20241593) to the electricity grid.

The permitted Tincurry 110kV substation compound had a total area of 8,325m². All ancillary site development, restoration, landscaping and earth works were also permitted as part of the original proposed project.

Construction and operational access to the Tincurry 110kV substation was permitted through private lands, with an entrance from the Regional Road R772. The entrance was permitted to be widened and reinforced on its northern side using fill material to facilitate the transformer delivery. This access track will be permanent and will also be used for operational access. Prior to construction a traffic management plan will be implemented for the delivery of the 33kV/110kV transformer.

For developments of this nature, the construction phase is the critical impact period, with impacts experienced on the surrounding road network. The construction traffic impact assessments for the developments were developed based on the site layouts, the construction materials required and the construction programmes.

Separate Site Access Reports were prepared for the Tincurry & Ballylough Solar Farm applications by Civil & Structural Engineering Advisors Ltd. in September 2022 & August 2023 respectively. The Ballylough Solar Farm Site Access Report considered the full combined development of both solar farms and the Tincurry 110kV Substation.

As part of the Ballylough Solar Farm Site Access Report, two scenarios were considered:

- Scenario 1: Ballylough Solar Farm is constructed after Tincurry Solar Farm.
- Scenario 2: Ballylough Solar Farm is constructed contemporaneously to Tincurry Solar Farm.

The combined traffic assessment for Scenario 2 above of both the Ballylough and Tincurry Solar Farms proved a worst-case scenario where they would be constructed in parallel. This combined assessment also included for the Tincurry 110kV Substation.

The construction phase has the potential to increase traffic and/or be a public safety hazard, with the significance of impacts likely to be moderate without appropriate mitigation. The submitted Ballylough Solar Farm Site Access Report confirms that the volume of vehicular movements across the construction phase will vary with an average of c.18 no. trips per day (equivalent of 4 trips per hour) for the whole project. Section 10 of the Site Access Report included a number of focused mitigation measures to minimise the impact on existing road users arising from the temporary construction phase. These include a temporary manual-controlled stop/go system, advance warning signage and a booking system for site deliveries to avoid potential access conflicts.

The Site Access Reports stated that "special measures will be put in place for the abnormal load delivery consistent with now standard abnormal load convoys for wind farm projects. This will

include a detailed route plan, risk assessment and transport management plan to be agreed in full with Wexford County Council."

9.2 ASSESSMENT OF PROPOSED ALTERATION

The amended proposal differs from the previously permitted Tincurry 110kV Substation and Grid Connection in its updated substation configuration (Under-the-Fence as opposed to Tail-Fed), electrical infrastructure layout and configuration, as well as the connection route to the ESB Lodgewood 220kV Substation. Access roads, drainage details and other associated civil aspects have also been altered. This has required an amendment to the original red line boundary. From this point on, the above will be referred to as the "proposed project". Details of the proposed alterations are included in Section 1.5.2 of this report.

The key changes include a reduction in the compound footprint of approximately 5692 m^2, with a proposed compound size of 2633 m^2, consolidated to the south of the original application. The other key change is the extension of the redline boundary to include the required grid connection works in Lodgewood 220kV substation and grid connection cable to the Lodgewood 220kV substation, overlaid by a 3m trafficable road through the adjacent forestry block. This involves an underground cable connection, a watercourse bridge crossing of Lodgewood Stream to the west of the proposed Tincurry 110kV substation compound, forestry felling along the proposed access road and underground cable route (approximately 800 m^2), and a busbar extension and additional bay within the Lodgewood 220kV substation compound. The proposed project includes some widening of the permitted site access tracks at certain locations, with a clear span bridge crossing over a stream and a culvert crossing over a drain. There is no proposed amendment to the site entrance and associated sightlines off the R772. A comparison of the permitted development and proposed amendment is provided in Section 1.5.4 of this report.

The most notable implication from a traffic and transport perspective is the reduction in the area of the proposed Tincurry 110kV substation compound, the addition of the Grid Connection Cable and the widening of the access tracks, which will have associated alterations to the required movements of material at the site.

9.2.1 Construction Traffic

As the same permitted site entrance will be jointly used for the proposed project, as well as the permitted BESS and Solar Farms (the latter of which also utilises other entrances), the estimated HGV construction traffic associated with all three projects is set out in Table 9.1 below. Note the numbers below are deliveries to site so each one represents two vehicle movements on the relevant road. The Site Access Report prepared for the previously permitted Tincurry 110kV substation application was finalised before the application was submitted for the permitted BESS facility, and so the BESS traffic was not accounted for in that document.

Table 9.1: Predicted Overall HGV Construction Traffic (HGV return movements)

	Stone & Concrete (Month 1-6)	Other Deliveries (Month 7-18)	Total (Month 1-18)
Proposed project	750	250	1000
Permitted solar farm	1200	2000	3200
Permitted BESS	800	90	890
Total	**2750**	**2340**	**5090**

Based on the total traffic volume in Table 9.1, the first 6 months of construction shows a total of 2,750 movements while the following 12 months show a total of 2,340 movements. Based on this, the highest combined average daily volume for HGVs can be calculated, and occurs during the first 6 months, at approximately 19 movements (2,750 total trips / 25 weeks / 6 days per week) and doubling this for movements to/ from the site would give 38 trips.

It is anticipated that the combined total of approximately 73 daily staff trips during the construction phase will arrive/ depart by a mixture of minivans/ buses and cars. The staff trips are presented in Tables 9.2 and 9.3 below. The number of staff trips is anticipated to decrease during the commissioning phase to approximately 21 per day.

Table 9.2: Predicted Daily Construction Traffic for staff trips for Solar Farm & Substation (return movements)

	18 Month Construction Period	6 Month Commissioning Period
Proposed project	30	6
Permitted solar farm	33	10
Total	**63**	**16**

Table 9.3: Predicted Daily Construction Traffic Generation for staff trips for BESS (return movements)

	14 Weeks Ground Works	18 Weeks Panel Installation
Permitted BESS	10	5

Whilst the above tables show the overall construction traffic associated with the proposed project, as well as the permitted solar farm and BESS, this traffic is spread over all the access roads. The only site entrance which concerns this current application for the proposed project is the permitted entrance to the R772 (as per the permitted Tincurry 110kV substation). Table 9.4 shows the predicted construction traffic for this site entrance specifically. It includes all of the construction traffic associated with the proposed project and the permitted BESS construction traffic but only the relevant traffic associated with the permitted solar farm that will use this entrance.

Table 9.4 Overall Trips on proposed Tincurry 110kV Substation Access Road (accessing the R772 via the previously permitted site entrance)

	Proposed Project	Permitted Solar Farm	Permitted BESS
Stone & Concrete (HGVs)	750	327	800
Other HGV Deliveries	250	480	90
LGVs (staff)	14,400	3,816	1380

Transport Infrastructure Ireland have published the traffic counts on the R772 at a location 4.5km south of the proposed project. The counts (station ID TMU N11 110.0 S) show a value of 7,112 for the Annual Average Daily Traffic (AADT) in 2025. 2.84% (202) of the count is HGV traffic.

Table 9.5 Daily traffic counts for cumulative projects (BESS, Solar Farms, Substation) on R772 (as a percentage of daily traffic on R772)

	Daily Average Traffic Count (total)	HGV Daily Averages (% of total)	Other Daily averages (% of total)
R772 traffic count	7112	202 (2.84%)	6910 (97.16%)
Months 1-6 construction traffic (% of total)	184 (2.6%)	38	146
Months 7-18 construction traffic (% of total)	162 (2.2%)	16	146

Note the HGV arrivals will be busier during some periods resulting in more than 2.6% increase in overall daily traffic volumes on some days.

Even if all of the solar farm construction traffic uses/ passes by the substation access the resultant construction trip number will be less than 5% of the Regional Road R772 daily traffic volume (see table 9.5) and thus traffic analysis of the junction access is not deemed required as per the TII's Traffic and Transport Assessment Guidelines PE-PDV-02045 (May 2014).

The HGV movements associated with the solar farm which will access via the other site entrances will reduce the daily number going through the proposed project entrance as follows.

Table 9.6 Daily traffic counts through proposed project entrance off R772 for cumulative projects (substation, BESS, solar farms) (as a percentage of daily traffic on R772)

	Daily Average Traffic Count (total)	HGV Daily Averages (% of total)	Other Daily Averages (% of total)
R772 traffic count	7,112	202 (2.84%)	6910 (97.16%)
Months 1-6 construction traffic (% of total)	114 (1.6%)	26	88
Months 7-18 construction traffic (% of total)	94 (1.3%)	6	88

9.2.2 Operational Traffic

The six anticipated full-time staff required to operate both permitted solar farms and the proposed project will generate of the order of 18 daily trips (assuming all staff arrive/ depart in the morning/ evening individually by car and 50% of staff cars go off-site for lunch) with a peak hour of 6 trips. As stated above, TII have published the traffic counts on the R772 at a location 4.5km south of the proposed project. The counts (station ID TMU N11 110.0 S) show 7,112 for the Annual Average Daily Traffic (AADT) in 2025. 2.84% (202) of the count is HGV traffic. The operational staff trips number is significantly less than 5% of the Regional Road R772 traffic volume that the permitted site entrance directly connects to and thus traffic analysis of the junction access is not deemed required as per the TII's Traffic and Transport Assessment Guidelines PE-PDV-02045 (May 2014).

9.3 Cumulative Effects

Surrounding development plans and projects have been assessed for the potential for cumulative impact with the proposed project including those shown in Figure 7-1 of this EIAR.

Developments that have also been permitted (and considered in this cumulative assessment):

- BESS facility (Ref No. 20241558) 200m from the proposed site (accessed off L5130)
- Substitute consent for Wind Farm (Ref No. SU26.306909) 180m from proposed site
- 5MW Solar Farm (Ref No. 20161097)
- 5MW Solar Farm (Ref No. 20160594)
- 5MW Solar Farm (Ref No. 20161231)
- 5MW Solar Farm (Ref No. 20160595

There is also a pending application for a BESS facility (Ref No20251224W) 150m from the proposed site.

The four solar farms listed above have already been constructed and so will not have an impact on the cumulative construction traffic. The wind farm substitute consent relates to cable that has already been constructed. The permitted BESS (20241558) is not likely to be built at the same time as it doesn't yet have a grid connection.

Based on the above, there will be no significant cumulative impact between the proposed project and the surrounding developments.

9.4 Proposed Mitigation Measures

The general traffic mitigation included with the permitted Tincurry 110kV Substation and Grid Connection will still be implemented. There are no additional mitigation measures required for the proposed project as the construction traffic volume will be less than would have been associated with the permitted development. The CEMP (see Appendix C of this report) for the proposed project also contains further information relating to traffic management.

9.5 RESIDUAL EFFECTS FOLLOWING PROPOSED ALTERATION

9.5.1 Proposed Project Construction Traffic

Any potential increase in construction traffic for the amended project will be imperceptible in comparison to the construction traffic associated with the permitted development. The residual effects following the proposed alteration/ additions will remain as per the permitted Tincurry 110kV Substation and Grid Connection. As noted under cumulative impact above, the developments are not expected to have significant traffic impacts.

The special measures that will be put in place for the abnormal load deliveries will be similar to that for the permitted development.

9.5.2 Proposed Project Operational Traffic

Assuming all staff arrive/ depart in the morning/ evening individually by car and 50% of staff cars go off-site for lunch, the volume of traffic generated would be of the order of 18 daily trips to and from the site. The residual effect relating to traffic and transportation compared with the permitted development would be imperceptible. As noted under cumulative impact above, the developments are not expected to have significant traffic impacts.

9.6 CONCLUSIONS

This chapter assessed the potential impact of the proposed project as described in Chapter 1.

9.6.1 Construction Traffic

Assuming an average daily traffic of 184 trips would equate to about 2.6% of the AADT. However, the HGV arrivals will be busier during some periods resulting in more than 2.6% on some days. The resultant construction trip number will be less than 5% of the Regional Road R772 traffic volume that the substation access road directly connects to and thus traffic analysis of the junction access is not deemed required as per the TII's Traffic and Transport Assessment Guidelines PE-PDV-02045 (May 2014).

9.6.2 Operational Traffic

The volume of operational phase traffic that will be generated by staff would be approximately 18 daily trips and the residual effect would be imperceptible compared to the volume of traffic currently on the R772.

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Appendix A EIA SCREENING REPORT

TOBIN

Tincurry 110kV Substation Environmental Impact Assessment ("EIA") Screening Report

Ørsted

BUILT ON KNOWLEDGE

Document Control Sheet	
Document Reference	Environmental Impact Assessment ("EIA") Screening Report
Client:	Ørsted
Project Reference	12123

Rev	Description	Author	Date	Reviewer	Date	Approval	Date
A	First Issue	FDF		LB	15/12/2025		
B	Second Issue	LB/SB	03/02/2026	LB	24/02/2026		
C	Third Issue	LB/SB	25/02/2026	DH	25/02/2026	OF	26/02/2026
D	Fourth Issue	LB/SB	25/02/2026	DH/JS	26/02/2026	OF	27/02/2026

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1. INTRODUCTION

This report presents an Environmental Impact Assessment ('EIA') Screening for proposed amendments to the permitted Tincurry 110kV Substation and associated Grid Connection (Planning Reference ABP-318528-23), in the townlands of Tincurry, Ballylough, Lodgewood and Crory Co. Wexford (herein referred to as the 'proposed project').

The screening has been completed with reference to the criteria set out in Annex III of the EU Directive 2011/92/EU, as amended by Directive 2014/52/EU ("the EIA Directive") and as transposed into Irish law by Schedule 7 of the Planning and Development Regulations 2001 as amended.

EIA Screening is the stage which ascertains whether there is a real likelihood of significant effects on the environment arising from the development, in which event EIA is required under the EIA Directive. It should be noted that the screening procedure should ensure that an EIA is only required for projects likely to have significant effects on the environment.

This EIA Screening has been carried out by TOBIN and takes due notice of the following regulations and guidance documents:

- Planning and Development Act 2000, as amended and the Planning and Development Regulations 2001, as amended;
- EU Directive 2011/92/EU, as amended by Directive 2014/52/EU (the EIA Directive);
- Department of Housing, Planning and Local Government (August 2018) Guidelines for Planning Authorities and An Bord Pleanála on Carrying out EIA (the 2018 Guidelines);
- Environmental Protection Agency Guidelines on the Information to be contained in Environmental Impact Assessment Reports (2022);
- European Commission (2017) Environmental Impact assessment of Projects, Guidance on Screening (the EC 2017 Guidance); and,
- Office of the Planning Regulator ("OPR") Practice Note PN02 on Environmental Impact Assessment Screening (June 2021).

2. REGULATORY CONTEXT

The EIA Directive is European legislation on the environment and is based on the precautionary principle, requiring that effects on the environment are considered as early as possible during planning and decision-making processes.

The EIA Directive is set out in EU Directive 2011/92/EU, as amended by 2014/52/EU ("the EIA Directive"). Annex I lists developments for which EIA is mandatory and Annex II lists projects which require a determination of their likely significant effects. Criteria to determine whether a sub-threshold development should be subject to an EIA is set out in Annex III.

These annexes are broadly transposed into Irish legislation under a variety of Acts and Regulations. For the purpose of the proposed project the relevant legislation includes Part 10 of the Planning and Development Act, 2000, as amended and Schedules 5 – 7A of the Planning and Development Regulations 2001, as amended.

Under Schedule 5 of the Planning and Development Regulations 2001, as amended, EIA is mandatory for Part 1 developments where thresholds are met or exceeded, but also for Part 2 developments where the national thresholds are met or exceeded. A screening determination is required for all sub-threshold developments for both Part 1, where not covered by Part 2, and for Part 2 developments.

The criteria to determine whether a sub-threshold development should be subject to an EIA are set out under Schedule 7 of the Planning and Development Regulations 2001, as amended.

Schedule 7A lists information to be provided for the purpose of an EIA Screening. Under Article 103 of the 2001 Planning and Development Regulations as amended, the planning authority can request the submission of an EIA Report, if it is of the view that sub-threshold development would likely result in significant effects on the environment.

The EIA Directive states that in order to ensure a high level of protection of the environment and human health, screening procedures should take account of the impact of the whole project in question, including where relevant, its subsurface and underground, during the construction, operational and where relevant demolition phase. When determining whether significant effects on the environment are likely to be caused by a project, the competent authority should identify the most relevant criteria to be considered and should take into account information that could be available following other assessments required by EU legislation in order to apply the screening procedure effectively and transparently.

3. PROJECT OVERVIEW

3.1 EXISTING ENVIRONMENT

The proposed project site is located in the north of County Wexford, within the townlands of Tincurry, Ballylough, Lodgewood and Crory and lies within the administrative boundary of Wexford County Council. The site is located approximately 2.4 km southwest of the Village of Ferns, and 6.5 km north of the town of Enniscorthy (see Figure 3-1).

The existing site comprises agricultural arable lands, hedgerows, sloping downwards to the south and west, with open agriculture lands bounding the site to the north, south and east. An area of forestry and the Lodgewood stream bound the site to its west, with the existing Lodgewood 220kV Substation and the Crory 110kV Substation located to the west beyond. The site location is presented in Figure 4-4.

The proposed substation site is located to the north of part of the consented Tincurry solar farm site (Wexford County Council planning reg. ref. 20221309), with areas of the Tincurry and consented Ballylough (Wexford County Council reg. ref. 20231025) solar farms located to the south, east and west of the site.

The wider area is agricultural and residential development is in the form of one-off single dwellings with ribbon development along the local road network. A network of local roads connects the site with the N80 to the west, with the R772 and M11 located to the east. A rail line is also located to the east of the site.

The River Bann is located c.200 metres to the east of the site access, c.1300m from the substation, and forms part of the Slaney River Valley SAC.

The proposed project is located within the River Slaney and Wexford Harbour Catchment. The site is located within the Bann[Wexford]_SC_010 subcatchment, and Bann_070 Subbasin.

The proposed project area is generally well-drained with the Lodgewood stream located along the western boundary of the site. The Lodgewood stream flows south along the substation boundary and eventually to the Bann River. The Bann River is located approximately 1.8 km downstream of the proposed project site. The Bann River is a tributary of the River Slaney, which is located to the west, approximately 12 km downstream of the proposed project site.

Due to the proximity of the proposed project to these designated European sites, a Natura Impact Statement (NIS) has been completed to inform the Appropriate Assessment process, as required under Article 6 of the EU Habitats Directive.

3.2 DESCRIPTION OF THE PROPOSED PROJECT

The proposed project comprises a modification of the permitted Tincurry 110kV Substation and associated Grid Connection (Planning Reference ABP-318528-23), which will serve the consented but not yet built Tincurry solar farm at Ballycarney, Ballylough, Tincurry, Crory, Coolbaun, Lodgewood, Scarawalsh, Tombrackwood (Wexford County Council Planning Reference 20221309), and the consented but not yet built Ballylough solar farm at Ballylough, Coolbaun, Crory, Lodgewood, Tincurry, Scarawalsh (Wexford County Council Planning Reference 20231025) to the existing Lodgewood 220/110 kV substation, collectively referred

to in this report as the Lodgewood Solar Farm. The Grid Connection will also serve a Battery Energy Storage System (BESS), located adjacent to the Tincurry 110kV Substation which was subject to a separate planning application, (Wexford County Council Planning Ref: 20241593), and which was permitted in May 2025.

The proposed project site location plan and site layout are outlined in Figures 3-1 and 3-2 below.

While much of the electrical infrastructure associated with the consented Tincurry 110kV Substation remains part of the proposed project the amended proposal differs from the previously permitted Tincurry 110kV Substation in its updated substation configuration (Under-the-Fence as opposed to Tail-Fed), electrical infrastructure layout and configuration, as well as the connection route to the ESB Lodgewood 220kV Substation. Access roads, drainage details and other associated civil aspects have also been altered. This has required an amendment to the original red line boundary.

The extension of the Grid Connection Route (GCR) from the Tincurry 110kV substation compound to the new bay within the ESB Lodgewood 220kV substation was referenced in the original SID application but was not fully assessed as part of the application. The proposed grid connection cable will cross the Lodgewood Stream into the ESB Networks owned lands and will be ducted through the proposed clear span bridge crossing the stream. The GCR continues west passing through a combination of forest and greenfield lands before entering the existing ESB Lodgewood 220kV substation. A corridor, free of trees and roots, will be created for the installation of the cable. A total of 39 individual trees will need to be removed for the GCR including two mature Oaks and once mature beach. The remaining trees comprise early-mature mixed woodland species some of which are windthrown and collapsed. No portion of the underground grid connection cable is located within the public road network. Compensatory planting will be carried out to the north of the proposed substation compound, and this will have a net gain in woodland area.

An amendment to the permitted substation compound site entrance is required as a result of the reconfiguration of the substation layout. The compound entrance will be moved to the eastern side of the proposed amended substation compound to maintain a 10m buffer from the Lodgewood stream. Amendments to the access tracks within the site compound are also proposed in addition to the inclusion of 6No. parking bays and 2No. dedicated disabled parking bays. The proposed site access route has been subject to detailed auto track analysis and has been designed to accommodate the abnormal load (transformer) delivery. Minor adjustments are proposed to the consented site access track to facilitate vehicle overrun during deliveries. Road sightlines remain unchanged from the permitted project at the public road site entrance so do not require amendments.

The proposed project will cause long-term loss across several habitats, with a total area impacted of approximately 1.46 ha, representing the combined footprint of all operational and ancillary infrastructure required for the substation, Grid Connection route and the entirety of the access track. A total of 9.2 m of hedgerow will be removed to the south of the substation where the proposed access track crosses a field boundary at a new location. An additional approximate 4.8 m of hedgerow will be lost due to the altered access track alignment elsewhere. There will be a reduction of approximately 6.8 m of hedgerow loss to the south of the proposed substation, due to the alteration of the access track alignment. This will result in a 7.2 m net loss

of hedgerow as a result of this planning amendment application. Approximately 58 m of field boundary/earth bank will be lost due to the access track also.

The temporary construction compound location has changed from the original permitted development as a result of the amendments to the substation, however key components remain the same.

Surface and Foul Water details remain however the locations within the compound differ from that of the permitted development. So too does the potable water detail which will still be provided by means of an on-site bored well.

In summary the amended proposed project now comprises:

- A 110kV substation compound consisting of an Independent Power Producer (IPP) Control Room and operations building (of concrete block structure with slate roof),
- High Voltage (HV) electrical equipment,
- a 110kV grid connection to the ESB Lodgewood 220kV substation, ESB interface kiosk, Busbar extension and new bay in the ESB Lodgewood 220kV Substation and all associated and ancillary infrastructure including access tracks,
- 1 No. temporary construction compound,
- 2 No. Storage Containers,
- 2 No. clear span bridge crossings (one where the access track crosses the Lodgewood Stream, the second to facilitate the GCR crossing of the Lodgewood Stream) and 1No. Dry Drain Culvert Crossing at the substation compound entrance,
- Widening of the access tracks in parts to accommodate the delivery of the transformer (abnormal load),
- Surface water drainage system, foul and potable water systems, and palisade fences.

The proposed project also includes the installation of HV electrical equipment including a 110/33kV Transformer (TRAFO) with associated and ancillary equipment along with:

- Cable Sealing End (CSE);
- Surge Arrestor (SA);
- Earth Disconnect (DA, DB, DL, DT/DEM);
- Voltage Transformer (VT);
- Current Transformer (CT);
- House Transformer (HoT);
- Circuit Breaker (CB);
- Lightning Masts (LM);
- Diesel Generator;
- Harmonic filters if required by EirGrid;
- Capacitor Bank if required by EirGrid;
- Fire/Blast Wall;
- Telecoms Pole; and
- 110kV underground cable.

The proposed project also comprises permanent works at the ESB Lodgewood 220kV Substation including:

- New single bay connection point,
- Busbar extension,
- HV Switchgear,
- Circuit Breaker (CB),
- Isolators,
- Cable Sealing End (CSE),
- Surge Arrestor (SA),
- Earth Disconnect (DT/DEM),
- Current /Voltage Transformer (CT/VT),
- LCC and Control & Protection cabinet, and
- All associated and ancillary civil and electrical infrastructure.

3.2.1 Construction Phase Details

Following planning approval, the construction of the proposed project is envisaged to take a maximum of 24 months.

A temporary construction stage compound will be on site for the storage of machinery and materials. Staff parking will also be provided on site.

A Construction Environmental Management Plan (CEMP) for the proposed project site has been prepared and is presented in Appendix A of the PECR. Mitigation measures detailed within the CEMP will be adhered to by the assigned contractor in order to protect the environment.

If planning permission is granted, any planning conditions set by An Coimisiúin Pleanála, will also be adhered to and the CEMP updated accordingly.

3.2.2 Commissioning

Once constructed the proposed project will be commissioned. During commissioning a series of electrical testing, mechanical testing, performance evaluation and corrections reporting are undertaken to confirm the equipment has been correctly installed and will operate safely and efficiently. Upon completion of the commissioning phase the Tincurry 110kV Substation will enter into its operational phase. During the operational phase only site management and intermittent maintenance of the site will be required for the proposed project.

3.2.3 Decommissioning and Restoration

The project lifetime of this development will be approximately 40 years as determined by the grant of planning.

At the end of the project lifetime, Ørsted confirm that the system will be completely dismantled, and the site restored to its preconstruction state. Ørsted is committed to improving the environment and working with manufacturers to establish policies and procedures to maximise recycling and minimise waste during the project's construction, subsequent operation, and eventual decommissioning.

There are several aspects involved with the decommissioning phase and the main activities will comprise the following:

- The Substation facility will be disconnected from the power grid;
- Electrical equipment on site shall be disconnected and shipped to recycling facilities for recycling and material re-use;
- Concrete bases shall be broken up and removed off site. The ground will then be re-levelled to original contours using imported soil where necessary and reseeded with grass;
- Security systems, CCTV, associated supports and wiring shall be dismantled and removed off-site for recycling by an approved recycling facility; and,
- Fencing shall be dismantled and removed off site for recycling by an approved metals recycler.

The above activities will be carried out in accordance with timescales conditioned within the planning permission.

A separate Decommissioning and Restoration Plan has been prepared and is included in Appendix D of the PECR.

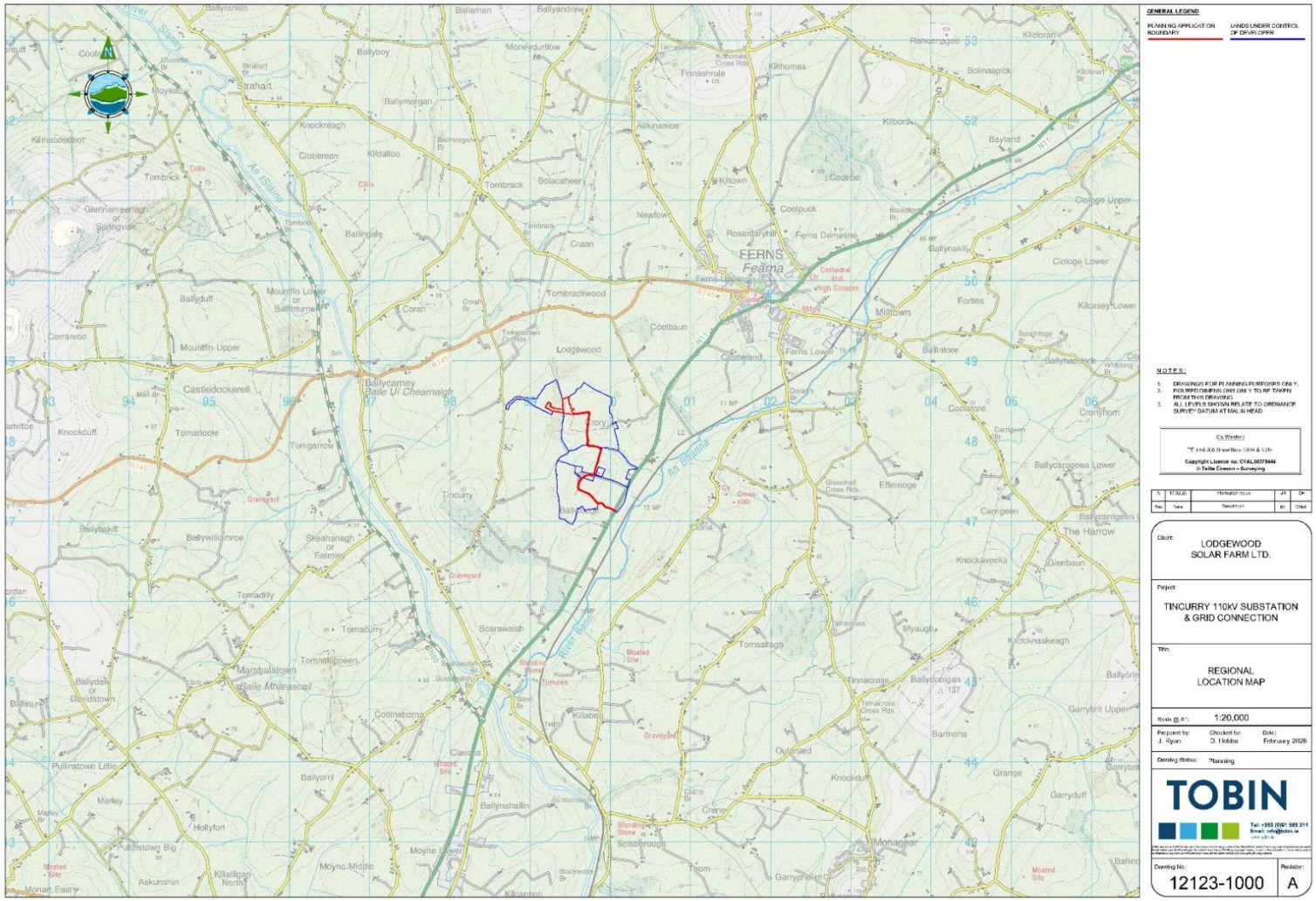


Figure 3-1: Site Location Map

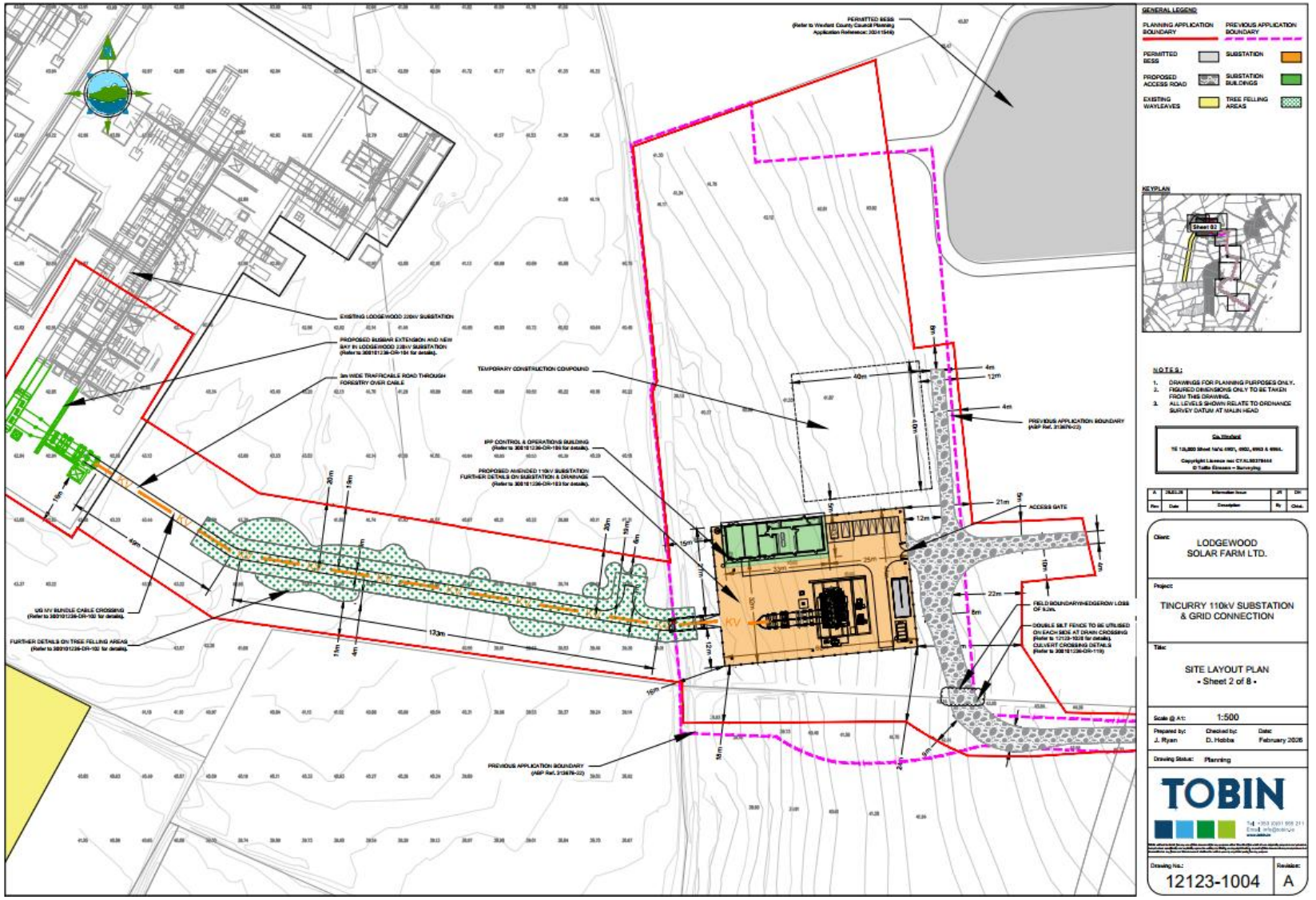


Figure 3-2: Site Layout Plan

4. SCHEDULE 5 PROJECT TYPE APPLICABILITY

This section considers the full proposed construction, operation, demolition and decommissioning of the proposed project with respect to Schedule 5 of the Planning and Development Regulations 2001, as amended.

The proposed project is located in a rural area and involves the construction of a Grid Connection and 110kV Substation on a green field site. At the end of the project lifetime the system will be completely dismantled (including underground electrical interconnection cables) and the site restored to its preconstruction state. Further details on the decommissioning phase are provided in Appendix D of the submitted PECR.

It is determined that the proposed project including its associated grid connection is not of a type included in Part 1 or Part 2 of Schedule 5 of the Planning and Development Regulations 2001, as amended and an Environmental Impact Assessment report is therefore not mandatory.

In regard to overhead electricity lines developments, paragraph 20 of Part 1 of Schedule 5 is noted, and this applies to the "construction of overhead electrical power lines with a voltage of 220 kilovolts or more and a length of more than 15 kilometers". Furthermore, paragraph 3(b) of Part 2 of Schedule 5 is applicable to "…transmission of electrical energy by overhead cables not included in Part 1 of this Schedule, where the voltage would be 200 kilovolts or more."

The proposed project includes underground cable trenches and cabling connecting the Tincurry 110kV Substation to the existing Lodgewood 220kV Substation. The Applicant has examined alternative options for an overhead line connection and have elected to proceed by way of an underground cable connection as opposed to an overhead line, therefore neither paragraph 20 of Part 1 of Schedule 5 or paragraph 3(b) of Part 2 of Schedule 5 apply to this project.

Paragraph 3(b) of Part 2 of Schedule 5 includes for "industrial installations for the production of electricity, steam and hot water not included in Part 1 of this Schedule with a heat output of 300 megawatts or more". The proposed project will convey energy produced by the consented Tincurry and Ballylough Solar farms to the existing Lodgewood 220kV Substation. The Tincurry 110kV substation will not generate electricity in its own right. As such, this class does not apply to the project.

Other classes noted under Part 2 of Schedule 5 include Infrastructure Projects under paragraph 10(dd) "all private roads which would exceed 2000 metre in length". A permeable gravel access track installed for the purpose of the proposed project is materially different from the definition of a road under the Roads Act 1993, as the purpose of the track is primarily for the purpose of construction and maintenance and not for the conveyance of people and vehicles.

Recognising the requirement to apply a 'wide scope' it is considered the proposed project should be subject to a sub-threshold development assessment as it is considered to fall within Part 2, Class 1 (a) is of relevance to the proposed project which states:

> *''Projects for the restructuring of rural land holdings, undertaken as part of a wider proposed project, and not as an agricultural activity that must comply with the European Communities (Environmental Impact Assessment) (Agriculture) Regulations 2011, where the length of field boundary to be removed is above 4 kilometres, or where re-contouring*

is above 5 hectares, or where the area of lands to be restructured by removal of field boundaries is above 50 hectares."

On review, the proposed project will involve the net removal of 7.2 m of hedgerow and 58 m of field boundary/earth bank. There will also be an element of land reprofiling associated with the cut and fill works required to level the site of the substation compound as well as works required to construct the associated access track. However the total area impaced is well below the 5 ha threshold.

5. INFORMATION PROVIDED FOR EIA (SCHEDULE 7A & 7 OF THE REGULATIONS)

Under Schedule 7A of the Regulations, as amended, the following information is to be provided by the applicant or development for the purpose of screening sub-threshold development for Environmental Impact Assessment:

1. A description of the proposed development including in particular—
    a. A description of the physical characteristics of the whole proposed development and, where relevant, of demolition works; and,
    b. A description of the location of the proposed development, with particular regard to the environmental sensitivity of geographical areas likely to be affected.
2. A description of the aspects of the environment likely to be significantly affected by the proposed development.
3. A description of any likely significant effects, to the extent of the information available on such effects, of the proposed development on the environment resulting from —
    a. The expected residues and emissions and the production of waste, where relevant; and,
    b. The use of natural resources, in particular soil, land, water and biodiversity.
4. The compilation of the information at paragraphs 1 to 3 shall take into account, where relevant, the criteria set out in Schedule 7, which is set out below.

Under schedule 7 of the regulations, as amended, the following criteria should be used for determining whether development listed in part 2 of schedule 5 should be subject to an Environmental Impact Assessment:

1. Characteristics of proposed development - The characteristics of proposed development, in particular—
    a) the size and design of the whole of the proposed development,
    b) cumulation with other existing development and/or development the subject of a consent for proposed development for the purposes of section 172(1A)(b) of the Act and/or development the subject of any development consent for the purposes of the Environmental Impact Assessment Directive by or under any other enactment,
    c) the nature of any associated demolition works,
    d) the use of natural resources, in particular land, soil, water and biodiversity,
    e) the production of waste,
    f) pollution and nuisances,
    g) the risk of major accidents, and/or disasters which are relevant to the project concerned, including those caused by climate change, in accordance with scientific knowledge, and

h) the risks to human health (for example, due to water contamination or air pollution).

2. Location of proposed development - The environmental sensitivity of geographical areas likely to be affected by the proposed development, with particular regard to—

   a) the existing and approved land use, the relative abundance, availability, quality and regenerative capacity of natural resources (including soil, land, water and biodiversity) in the area and its underground,

   b) the absorption capacity of the natural environment, paying particular attention to the following areas:

      i. wetlands, riparian areas, river mouths;

      ii. coastal zones and the marine environment;

      iii. mountain and forest areas;

      iv. nature reserves and parks;

      v. areas classified or protected under legislation, including Natura 2000 areas designated pursuant to the Habitats Directive and the Birds Directive and;

      vi. areas in which there has already been a failure to meet the environmental quality standards laid down in legislation of the European Union and relevant to the project, or in which it is considered that there is such a failure;

      vii. densely populated areas;

      viii. landscapes and sites of historical, cultural or archaeological significance.

3. Types and characteristics of potential impacts - The likely significant effects on the environment of proposed development in relation to criteria set out under paragraphs 1 and 2, with regard to the impact of the project on the factors specified in paragraph (b)(i)(I) to (V) of the definition of 'environmental impact assessment report' in section 171A of the Act, taking into account—

   a) the magnitude and spatial extent of the impact (for example, geographical area and size of the population likely to be affected),

   b) the nature of the impact,

   c) the transboundary nature of the impact,

   d) the intensity and complexity of the impact,

   e) the probability of the impact,

   f) the expected onset, duration, frequency and reversibility of the impact

   g) the cumulation of the impact with the impact of other existing and/or development the subject of a consent for proposed project for the purposes of section 172(1A)(b) of the Act and/or development the subject of any development consent for the purposes of the Environmental Impact Assessment Directive by or under any other enactment; and,

   h) the possibility of effectively reducing the impact.

6. SCHEDULE 7 AND 7A EIA SCREENING

This section provides an EIA Screening against the appropriate criteria as established by the EIA Directive Annex III and as transposed into Irish law, by Schedule 7 of the Planning and Development Regulations 2001, as amended.

It should be noted that under the EIA Directive, the EIA Screening process balances two objectives, in determining if a project listed in Annex II is likely to have significant effects on the environment and, therefore be made subject to an assessment of its effects on the environment; and it should ensure that EIA is only carried out for those projects for which it is thought that a significant impact on the environment is possible.

Table 6-1 below screens the proposed project against the Schedule 7 criteria. Information pertaining to Schedule 7A of the 2001 Regulations, as amended is provided herein.



Table 6-1 Schedule 7 Screening

Screening against Schedule 7 Criteria	
1. Characteristics of project	**Consideration of the proposed project**
The characteristics of projects to be considered, with particular, regard to: a) The size and design of the whole project; b) Cumulation with other existing and/or approved projects; c) The nature of any associated demolition works; d) The use of natural resources, in particular land, soil, water and biodiversity; e) The production of waste; f) Pollution and nuisances; g) The risk of major accidents having regard in particular to substances or technologies used and/ or disasters which are relevant to the project concerned, including those caused by climate change, in accordance with scientific knowledge; h) The risks to human health (for example due to water contamination or air pollution).	a) There is no likelihood of significant environmental effects arising from the project having regard to the characteristics of the project, as set out below: The boundary of the project covers an area of 4.75ha and consists of a 110kV Substation and associated Grid Connection to the existing Lodgewood 220kV Substation. The completed project will be able to transfer electricity from the consented Tincurry and Ballylough Solar Farms to the existing Lodgewood 220kV Substation to distribute the generated electricity onto the national grid. Permission is being sought for the project for a period of 10-years with an operational period of 40 years. The study area for the purposes of this EIA screening report considers the proposed amendments as set out under section 3.2 above, which involve the provision of a reconfigured 110kV substation, altered grid connection route and other altered elements such as access, drainage, landscaping and associated civil infrastructure. In summary the proposed project comprises: • A 110kV substation compound consisting of an Independent Power Producer (IPP) Control Room and operations building (of concrete block structure with slate roof), • High Voltage (HV) electrical equipment, • a 110kV grid connection to the ESB Lodgewood 220kV substation, ESB interface kiosk, Busbar extension and new bay in the ESB Lodgewood 220kV Substation and all associated and ancillary infrastructure including access tracks, • 1 No. temporary construction compound, • 2 No. Storage Containers, • 2 No. clear span bridge crossings (one where the access track crosses the Lodgewood Stream, the second to facilitate the GCR crossing of the Lodgewood Stream) and 1No. Dry Drain Culvert Crossing at the substation compound entrance,

- Widening of the access tracks in parts to accommodate the delivery of the transformer (abnormal load),
- Surface water drainage system, foul and potable water systems, and palisade fences.

At the end of the project lifetime, the system will be completely dismantled (including underground electrical interconnection cables), and the site restored to its preconstruction state.

There are some levelling works proposed due to the cut and fill required to level the site of the substation compound. levelling/regrading works will also include access tracks where there are areas of soft ground, underground cable trenches and cabling connecting the Tincurry 110kV Substation and the existing Lodgewood 220kV substation. The transformers and other key electrical infrastructure will be fixed in position onto concrete plynths. The ground surrounding the electrical infrastructure will be finished with gravel to limit surface water flows across the site. The operation and maintenance of the substation will also include monitoring and maintenance of the habitats surrounding the substation. Where compaction of soil is observed, the ground will be cultivated and re-seeded.

b) The Wexford County Council and An Coimisiún Pleanála on-line portals were reviewed with regard to planning applications within 5km from the proposed project site. Cumulative impacts arising from permitted projects within a 5 km radius of the proposed substation and grid connection site have been considered as part of the submitted PECR. The permitted projects identified as listed in Appendix A of this EIA Screening Report, include solar farms, wind farms, electricity infrastructure, quarry operations, the deposition of inert waste for site infill, multiunit housing development, and manufacturing units. It is noted that there are consented renewable energy developments located within the immediate surroundings of the project, namely the Tincurry and Ballylough Solar Farms, a small cluster of consented single solar arrays (planning reference 20160595, 20160594, 20161231 & 20161097) which have been constructed, and finally, Carney Stability Lodgewood BESS (planning reference 20241558) and Orsted Onshore Ireland Midco Ltd. Lodgewood BESS (planning reference 20241593).

The potential for cumulative effects is anticipated to be in relation to landscape and visual impact, traffic, noise and vibration, biodiversity, land, soils and geology and hydrology which have been evaluated within various specialist sections within the PECR submitted with this application. While each project contributes to the overall environmental baseline, the proposed substation is not anticipated to result in significant cumulative effects in combination with the identified projects due to its relatively low visual profile, limited operational

emissions (i.e. noise), and minimal ongoing traffic generation. Where relevant, mitigation measures have been proposed to ensure that any incremental impacts remain within acceptable thresholds.

The relevant cumulative impact assessment findings are summarised below:

- Biodiversity: Potential for significant effects on ecological receptors, these are managed through the implementation of mitigation measures. (section 3.3 of the PECR)
- Land, Soils and Geology: No significant cumulative environmental effects are anticipated (section 4.3 of the PECR)
- Hydrology and Hydrogeology: No likely significant cumulative effects anticipated (section 5.3 of the PECR)
- Noise and Vibration: The cumulative noise effects will be negligible (section 6.3 of the PECR)
- Landscape and Visual Impact: No likely significant cumulative effects anticipated (section 7.2 of the PECR)
- Cultural Heritage: No likely significant cumulative effects anticipated (section 8.3 of the PECR)
- Traffic and Transport: No likely significant cumulative effects anticipated (section 9.3 of the PECR)

c) At the end of the project lifetime the system will be completely dismantled (including underground electrical interconnection cables) and the site restored to its preconstruction state. All the components associated with the 110kV Substation and Grid Connection will be removed and recycled off-site. Concrete bases to sheltered housings and hard areas (e.g. substation compound) will be broken up and removed off site. The ground will be re-levelled to original contours using imported soil where necessary.

d) This Proposed Project is in a rural area. The land cover of the proposed site is mostly pasture and arable lands with the Grid Connection passing through an area comprising early-mature mixed woodland. The Proposed Project will involve the excavation of soil within the site to achieve the desired level. There is no recontouring of the site proposed, so excavations will only be associated with infrastructure.

Services such as power and water will be required during the construction phase. It is not considered that there will be significant use of these resources as part of the project. Power will provided by a portable generator. Water will be required during construction for welfare facilities in the temporary construction compound and for drinking. This will be brought to site by a tanker (in bottles for drinking).

There are watercourses (drains and streams) within and around the site of the proposed project, however it is not proposed to carry out works within any natural watercourses. There will also be no direct discharge of suspended solids or any other deleterious matter to drains (wet or dry) or watercourses. A CEMP has been



	developed for the project, which the contractor will be obliged to follow to remove any risk of a pollution incident. A list of mitigation measures is proposed in Section 5.25 of the submitted PECR to ensure standard practice pollution control measures are met. The biodiversity of the site is considered to be of low value within the improved agricultural field, and high local value along the bordering hedgerows and drainage ditches and the mixed broadleaved woodland. The biodiversity in the surrounding area is considered to be of local importance, as described in the Planning and Environmental Considerations report, and Natura Impact Statement submitted within this planning application. Both the immediate and wider surroundings of the site comprise agricultural lands. The total area resulting in direct habitat loss from the proposed substation and grid connection infrastructure will include all areas occupied by interconnecting cabling, and substation, with additional land required for the site access track and temporary construction compound. The project will result in the long-term loss of habitats within these areas (except for the temporary construction compound which will be reinstated), including grasslands, scrub, and other terrestrial habitats, and may temporarily disturb adjacent habitats during construction. The proposed project will cause long-term loss and temporary disturbance across several habitats, with a total area impacted of approximately 1.46 ha, representing the combined footprint of all operational and ancillary infrastructure required for the substation. A total of 9.2 m of hedgerow will be removed to the south of the substation where the proposed access track crosses a field boundary at a new location. An additional approximate 4.8 m of hedgerow will be lost due to the altered access track alignment elsewhere. There will be a reduction of approximately 6.8 m of hedgerow loss to the south of the proposed substation, due to the alteration of the access track alignment. This will result in a 7.2 m net loss of hedgerow as a result of this planning amendment application. Approximately 58 m of field boundary/earth bank will be lost due to the access track also. The GCR will require approximately 800m^2 of vegetation clearance which will translate into the long-term loss of part or some of the existing habitats and, potentially, affect their ecological value. Overall, impacts range from low to moderate locally, with mitigation measures in place to maintain ecological connectivity, protect sensitive habitats, and support the recovery of affected areas. However, considering the size and value of the habitat being removed, and the availability of similar suitable habitat in the wider surrounding environment, it is not expected that the habitat loss will result in significant negative effects on the biodiversity of the area.



	e) It is anticipated that limited waste will be produced during the construction process and the majority of earthworks will be backfilled or used for levelling within the site. There is likely to be general construction material waste which will be taken off site and disposed of in line with applicable requirements. All construction waste will be sorted and stored appropriately, prior to removal by a licenced waste management contractor, in accordance with the main contractor's Construction and Environmental Management Plan (CEMP). The CEMP will include a waste management plan describing the process. There will be small volumes of waste generated during the operational lifetime of the proposed project. Waste produced during the operational phase of the proposed project will be primarily associated with intermittent site maintenance. f) The Proposed Project during the construction, operation and decommissioning phase will not result in significant pollution or nuisance. Standard best practice pollution control measures will be incorporated into the Construction Environmental Management Plan (CEMP) for the project. During the construction stage, best practice construction methods as set out in CIRIA C741 'Environmental good practice on site guide' will be implemented in order to prevent water pollution. This will include proper site management during construction to ensure that all necessary measures are taken to prevent run-off/pollutants from entering any watercourse in the vicinity of the works. The construction compound and welfare facility will be located within the existing agricultural lands and set back a minimum of 20m from any watercourse. With the mitigation measures in place, the impact on soils and geology will be low during both the construction and operational phases. Similarly, the impact on the surface water and groundwater environment during the construction and operational phases will be of low impact. Construction works will generate noise, dust and exhaust emissions from general building works. These impacts will be temporary in duration and are not considered likely to give rise to significant impacts following the implementation of mitigation measures. As the plant and equipment required for the construction of the proposed project will be delivered in stages over the course of the project, machine emissions are not expected to be any greater than those used in the construction of domestic and agricultural buildings. Due to the minimal works that will be required at the proposed site during the operational phase of the project, the potential impact on air quality is expected to be low to negligible. All construction works will be carried out during the permitted hours of operation. Construction works will be subject to applicable standards and regulations. A Construction and Environmental Management Plan (CEMP) is included in the planning application documents



	(Appendix C of the PECR); the CEMP will be finalised / updated by the appointed contractor prior to construction commencing. The implementation of the mitigation measures outlined in the CEMP will ensure that any dust associated with construction works of the proposed project will be minimised, will not result in a significant increase in dust levels in the local environment, and the potential impact on air quality will be low. Construction vehicles, plant and machinery will be operated and maintained in accordance with the CEMP, in order to minimise emissions to air. It is not anticipated that there will be any significant change to existing air quality due to the construction or operational phases of the project. Other potential construction phase pollution nuisance could include visual intrusion/lighting, and traffic. A traffic and transport assessment has been carried out. A temporary car parking area will be provided within the temporary construction compound. Parking associated with the scheme will therefore be contained within the site and no parking will occur on the local highway network. Staff will be advised of this in advance of travelling to the site, with no parking to be permitted on the local road network. Access to the site will be via the access track off the R772. The site entrance will be sufficiently wide for HGVs and construction vehicles to enter the site without causing an obstruction on the main road network. Due to the anticipated levels of construction generated traffic, the traffic impact at the proposed project access location is considered to have low impacts on existing traffic levels provided the measures in the Traffic Chapter of the PECR, and CEMP are adopted in the Construction Traffic Management Plan and are adhered to. Motorists may encounter minor delays along the regional road fronting the proposed project. Any disruptions will be of short duration with minimal impact on the background traffic. Due to the relatively low operational traffic, it is envisaged that the operational impacts of the proposed project will be imperceptible when compared to the existing background traffic. Signage will be erected on all approaches to the site to notify motorists of the construction works ahead. Signage at the site entrance will be provided to ensure members of the public do not enter the site road mistakenly. Construction works will be coordinated to ensure construction traffic will have a limited impact on the surrounding road network and to have minimum impact on peak morning and evening traffic periods. Site activities will be sensitively managed to ensure that all potential noise and vibration impacts on nearby dwellings will be minimised to acceptable levels. All construction lighting will be utilised in line with permissible hours of construction.

	The timescale for the construction of the proposed project is approximately 24 months. The proposed construction works give rise to the potential for increased mobilisation of silt and suspended solids via surface water run-off. There are watercourses present on the proposed site. Given that no in-stream works are proposed and the drainage ditch has little or no flow, the potential for significant impacts affecting water quality and aquatic ecological receptors are evaluated as being low and imperceptible in the local context. The Water Framework Directive has been considered in this regard. Due to the nature of the proposed project, there will be a loss of area for rainfall to infiltrate to ground and replenish groundwater stores. However, this will be on a local scale and is considered an imperceptible effect due to the average recharge cap of 122 mm/yr over the proposed project area. There will be no significant impacts on the water environment during the operational phase of the proposed project. Insofar as is possible, ground excavation works will be scheduled during periods of dry weather to minimise potential for silt laden run-off from the works. A wheel wash system will be set up in the event there is a risk of debris deposit on the road. Also, routine cleaning/sweeping of site access tracks and site entrance will be undertaken, when required. Potential operational phase pollution or nuisance could include noise, visual intrusion, and lighting, which could be expected to increase with the increased usage of the site. Any potential noise impact will be controlled in accordance with BS 5228:2009 and A1:2014 'Code of practice for noise and vibration control on construction and open sites', the National Roads Authority 'Guidelines for the Treatment of Noise and Vibration in National Road Schemes', World Health Organisation 'Community Noise Guidelines' and BS 8233:2014 'Guidance on Sound Reduction and Noise Insulation for Buildings'. There are residential dwellings scattered throughout the area surrounding the sites. The town of Ferns, which is to the northeast of the site and contains small housing estates with a concentration of residential dwellings. The closest dwelling is located ca. 520m of the west boundary of the site with adjacent dwellings on either side of this dwelling. These dwellings are not likely to be negatively impacted by the noise associated with the construction works or the substation. However, due consideration will be taken during the construction phase of the project. It is not anticipated that the scale of operations involved either at construction or operation will generate significant visual intrusion or lighting. g) The proposed works are not likely to have a significant impact on the surrounding environment.

	The proposed project is not a COMAH site (Control of Major Accident Hazards Involving Dangerous Substances). There are no upper and lower tier COMAH sites in the surrounding area. During the proposal stage of the project, an initial review was carried out and determined that the site was not liable to flooding. The scheme is not located within a flood risk area as identified on the associated maps available from Floodinfo.ie. A Stage 2 Site Specific Flood Risk Assessment was prepared by TOBIN as part of the application and is set out in Section 5 of the PECR. The assessment demonstrated that the channel between the exsting Lodgewood 220kV Substation and the proposed project site has sufficient hydraulic capacity to safely convey the design Q1000 MRFS flow without overtopping, confirming that the risk of fluvial flooding is highly unlikely.The results of this Flood Risk Assessment estimated that the risk of flooding to the proposed project will be minimal, and that the project will not increase the risk of flooding elsewhere. h) The proposed works will generate noise during construction from general building works. Works will be undertaken during standard and regularised construction hours. Works will be restricted to standard day-time operational hours i.e. 07:00 to 19:00, Monday to Friday and 07:00 to 14:00 on Saturdays, with no works undertaken on Sundays or Bank Holidays. Evening activities will be significantly reduced in order to manage any associated noise. The construction works will be subject to applicable standards including BS 5228:2009: Parts 1 and 2, the TII's "Good Practice Guidance for the Treatment of Noise during the Planning of National Road Schemes, 2014", and European Union Environmental Noise Directive 2002/49/EC of the European Parliament and of the Council of 25th June 2002 relating to the Assessment and Management of Environmental Noise. With mitigation measures in place, construction works at the proposed site will not result in an increase in noise or vibration levels in the local environment and any potential impacts will be low and short term in nature. It is not anticipated that there will be significant noise or vibration related impacts on human receptors during the operational phase of the proposed project. Services such as power and water will be required during the construction phase. It is not considered that there will be significant use of these resources as part of the project. All surface run-off of sediment and risks from fuel/oil spills during construction stage will be carefully managed with appropriate mitigation measures outlined in the CEMP attached with this planning application. This will minimise the potential for any impacts on human health as a result of water contamination.

	In terms of nuisance/health impacts to human receptors associated with lighting, all construction lighting will be utilised in line with permissible hours of construction.
2. The Location of Project	**Consideration of the proposed project**
The environmental sensitivity of geographical areas likely to be affected by project must be considered, with particular regard to: - a) the existing and approved land use; b) the relative abundance, availability, quality and regenerative capacity of natural resources (including soil, land, water and biodiversity) in the area and its underground c) the absorption capacity of the natural environment, paying particular attention to the following areas: - i. wetlands, riparian areas, river mouths; ii. coastal zones and the marine environment; iii. mountain and forest areas; iv. nature reserves and parks; v. areas classified or protected under Member States' national legislation; special protection Natura 2000 areas designated by Member States pursuant to Directive 92/43/EEC and Directive 2009/147/EC; vi. areas in which there has already been a failure to meet the environmental quality standards, laid down in Union	In consideration of the location of the project, there are no anticipated significant environmental effects arising with regards to: a) According to Myplan.ie, run by the Department of Housing, Local Government and Heritage, the proposed project sites are located outside land use zoning designations identified within the Wexford County Project Plan 2022-2028. As stated within the Landscape and Visual Impacts (LVIA) section of the submitted PECR, a Landscape Character Assessment has been incorporated in Chapter 11, Landscape and Green Infrastruture, of the Wexford County Project Plan. 'LCU – Lowlands', while 'LCU – River Valleys' is also located within the study area. The Lowlands LCU comprises "*gently undulating lands and relates to extensive areas of the county. The slopes and topography in this unit are shallower*" and "*there are generally higher levels of population and more intensive agriculture*." Overall, the Lowlands LCU is classified as a '*Low*' sensitivity landscape. There are no scenic areas within the study area, nor are there any designated walking or cycling trails. The surrounding local and wider landscape is also influenced by an array of anthropogenic features such as major transport routes, urban settlements, and industrial project. Overall, the sensitivity of visual receptors within the more typical working landscape context tends to range between Medium and Medium-low, with those of a Medium sensitivity representing more open expansive views across the wider landscape. The site is located in the townlands of Tincurry, Ballylough, Lodgewood and Crory, Co. Wexford. It is situated approximately 2.4 km southwest of the village of Ferns, and approximately 6.5 km north of the town of Enniscorthy. The site is located in a rural environment with residential dwellings and farmyards located in the surrounding area. b) The project is not likely to have a significant impact on the relative abundance, availability, quality, or regenerative capacity of natural resources. In consideration of the size and scale of the land required and area of works of approximately 4.75 ha, no significant impact on the abundance, availability, and quality of land within the local area.

legislation have already been exceeded and relevant to the project, or in which it is considered that there is such a failure; vii. densely populated areas viii. landscapes and sites of historical, cultural or archaeological significance.	The site comprises mainly arable lands. The site boundaries are comprised predominantly of hedgerow, treelines and drainage ditches. Hedgerows surrounding the site are likely to be used as foraging corridors by commuting and foraging bats. Several trees on-site were recorded as having high bat roost potential. To facilitate the Grid Connection a corridor, free of trees and roots, will be created for the installation of the cable. A total of 39 individual trees will need to be removed for the GCR including two mature Oaks and one mature beach. The Construction Phase of the proposed project will involve works approximately 10m away from the nearest potential bat roost feature identified during the field survey.The potential for impacts affecting bats are evaluated as being imperceptible in the local context. As per the Landscape and Visual Impact Assessment (LVIA) section of the PECR submitted with this application, 'In terms of landscape character impacts', the proposed project is consistent with the original application. The extent of the proposed substation compound is reduced compared to the consented 110kV substation, while the extent of vegetation clearance is increased, however landscape character effects are unchanged from the original application as any such effects will be heavily offset as a result of the proposed project's location in a discrete and heavily contained part of the landscape that is already influenced by the existing Lodgewood 220kV substation. This is a productive rural landscape with associated landscape values, and the proposed amendments to the Tincurry 110kV substation do not represent an intensification of development in relation to the consented Tincurry 110kV substation, and as such does not markedly affect the prevailing landscape pattern or overriding rural landscape character of the area. Overall it is not considered that the proposed project will notably impact the surrounding landscape. • According to the Teagasc Soils Data maps (www.epa.ie), the underlying soil types at the proposed project site consist of acidic mineral soils with varying drainage characteristics. Poorly drained soils (AminPD) are present at the proposed substation location and along the section of the proposed access road that runs parallel to the Lodgewood stream. Deep, well-drained soils (AminDW) underlie the proposed access road immediately to the east of the proposed substation and at the entrance/exit where the proposed access road would join with the R772. Shallow, well-drained soils (AminSW) are found beneath the midsection of the proposed access road. The site is situated in the Bann[Wexford]_SC_010 subcatchment and the Slaney & Wexford Harbour catchment. The site is underlain by the Ballyglass Groundwater Body (IE_SE_G_011). There are a number of streams and rivers throughout the landscape surrounding the project site. There is one watercourse that flows south through the site boundary which is the Lodgewood Stream. It merges with the



	TINCURRY 12 ca. 1 km downstream of the site and then flows into the Bann [Wexford] river ca. 1.9km downstream of the site. c) A desk study, and a field survey was undertaken to inform the following assessment i. There are no wetlands or river mouths within the proposed project site. However there is a riparian area within the proposed project site. The site is split by the Lodgewood Stream ii. There are no coastal zones or marine environments within the proposed project site. iii. There are no mountains within the proposed project site. There is a forest area within the proposed project site. iv. There are no nature reserves or nature parks within the proposed project site. Three nationally important sites for biodiversity are within, or in near proximity to the ZoI/hydrological pathway (detailed in Section **Error! Reference source not found.**) of the proposed project: the Clone Fox Covert pNHA [000755]; the Slaney River Valley pNHA [000781]; and the Ballynabarney Wood pNHA [000746]. Connectivity between these nationally important sites and the proposed project has been assessed, and concluded that only the Slaney River Valley pNHA, separated from the proposed project by approximately 2.3km, is connected with the proposed project (through hydrological pathways). None of the National Parks, or Nature Reserves in Ireland are located within the ZoI of the proposed project. v. There are two Natura 2000 sites within the ZoI of the Proposed Project in the area surrounding the site; the Slaney River Valley SAC [000781], and the Wexford Harbour and Slobs SPA [004076]. The proposed project intersects the Bann_070 (IE_SE_12B011000) WFD river water body, which flows into the Slaney_170 WFD river water body (IE_SE_12S022300), establishing the freshwater component of the hydrological pathway from the proposed project. This pathway is completed immediately downstream, by the Upper Slaney Estuary WFD transitional water body (IE_SE_040_0300). The Wexford Harbour and Slobs SPA extent encompasses the Upper Slaney Estuary WFD transitional water body which is part of the hydrological pathway from the proposed project. Therefore, there is hydrological connectivity between the proposed project and this SPA.

		No other designated sites are located within the Zone of Influence (ZoI) of the proposed project site. The Chartered Institute of Ecology and Environmental Management (CIEEM) defines the ZoI of a project as the area(s) over which ecological features may be affected by the biophysical changes caused by the proposed project and associated activities (CIEEM 2018). In order to establish the ZoI of the proposed project works, the likely key biophysical changes associated with the works were determined having regard to the project characteristics.
	vi.	No areas in which there has already been a failure to meet the environmental quality standards, laid down in European Union legislation and relevant to the project, or in which it is considered that there is such a failure are within the boundaries of the proposed project.
	vii.	The area surrounding the proposed site boundary is sparsely populated and as such, the proposed project is not anticipated to have a negative impact on these local populations. The town of Ferns is situated to the north east of the proposed site boundary which has the highest population density in the surrounding area. Furthermore, the proposed project has been designed to prevent contamination of waterbodies and has considered the Water Framework Directive This includes control measures to prevent hydrocarbon contamination; silt fencing will be installed at the base of soil mounds to capture and retain any solids mobilised during rainfall events.
	viii.	An archaeological, architectural and cultural heritage desk-top study was carried out by Courteny Deery Ltd. within the proposed site boundary and in the surrounding area. This study and the assessment is detailed in Chapter 8 of the PECR. The archaeological study reported there are no recorded monuments within the boundary of the sites. Based on desktop review of archaeology and available information to date, it is not anticipated that the proposed project would have a significant impact based on the location of works relative to not interacting with mapped archaeological sites in the area. It is not considered that the proposed project would have any direct or indirect impact on any sites of historical, cultural, archaeological or architectural interest. There is the potential that unidentified archaeological remains will be uncovered during construction works. The archaeological report details the protocol the developer will follow if archaeological material is identified on site during the course of the project.



3. Types and characteristics of the potential impact	Consideration of the proposed project
The likely significant effects on the environment of proposed projectproject in relation to criteria set out under paragraphs 1 and 2, with regard to the impact of the project on the factors specified in paragraph (b) (i) (I) to (V) of the definition of 'environmental impact assessment report' in section 171A of the Act, taking into account: a. the magnitude and special extent of the impact (for example geographical area and size of the population likely to be affected); b. the nature of the impact; c. the trans frontier nature of the impact; d. the magnitude intensity and complexity of the impact; e. the probability of the impact; f. the expected onset, duration, frequency and reversibility of the impact; g. the cumulation of the impact with the impact of other existing and/or approved projects; b) h) the possibility of effectively reducing the impact	There are no anticipated likely significant environmental effects arising from the proposed project, taking the following into account: a) The magnitude and spatial extent of impacts associated with the proposed project are considered not significant. The proposed project will cause long-term loss across several habitats, with a total area impacted of approximately 1.46 ha, representing the combined footprint of all operational and ancillary infrastructure required for the substation. The predicted landscape impact will be localised due to the scale of the project and fabric of the surrounding landscape. This impact is reduced further with the proposed mitigation measures outlined in the CEMP. Regarding the expected onset, duration, frequency and reversibility of impacts, it should be noted that no significant impacts are anticipated with respect to construction or operation of the facility. Impacts associated with construction are expected to last approximately 24 months, during standard and regularised construction hours of operation. Impacts associated with operation, such as noise and traffic will be in accordance with best practice guidelines. b) The proposed project will result in the long-term habitat loss of low ecological value (improved arable land) and high ecological value (hedgerows, riparian areas and woodland) within the site. The proposed project is considered to have no likely significant impact on the surrounding lands. The nature of impacts during construction will be temporary in that on-site construction work, noise, dust and traffic, will have a temporary effect on existing on-site uses and surrounding uses. A Natura Impact Statement (NIS) has been completed for the proposed project to inform the Appropriate Assessment process, as required under Article 6 of the EU Habitats Directive. The NIS concluded that the proposed project will not result in any likely significant effects on any European Site, in view of their conservation objectives of the habitats and species for which it was designated, either alone or in-combination with other plans or projects. Considering the potential impacts, the potential effects on SACs and SPAs considered with the ZoI of the proposed project are discussed in Section C, v in the above table.

	There are two Natura 2000 site that are hydrologically connected to the proposed project. Slaney River Valley SAC and the Wexford Harbour and Slobs SPA The designation identified as relevant to the project (within the ZoI) is limited to Slaney River Valley SAC and the Wexford Harbour and Slobs SPA . There is no potential for likely significant effects to these Natura 2000 sites during the construction, operational and decommissioning phases of the proposed project. The predicted landscape impact will be localised and has been deemed imperceptible due to the scale of the project and fabric of the surrounding landscape. This impact is reduced further with proposed mitigation measures. There will be a temporary increase in noise during the construction phase of the proposed works due to construction machinery and the increase of vehicles. The noise generated by the machinery and the physical presence of the machinery can deter wildlife from the vicinity of the works. Leaks and spills of fuels, oils and construction materials i.e. concrete and sand may be carried in surface water runoff to nearby watercourses. Contaminated surface waters can affect habitat quality through deposition of materials in the environment. Contaminants can have toxic effects on plants and animals. There is also the potential for spills and leaks of oils, fuels and chemicals from storage areas or plant and equipment to impact on aquatic habitats. Entry of cement-based products to drains or other surface water features within the proposed project represents a risk to the aquatic environment at and downstream of the release. Dust arising from construction works and construction traffic has the potential to impact on habitats. Dust could settle on protected plant species and affect plant photosynthesis and could enter watercourses and cause pollution. The temporary generation of dust in the locality of the works area is likely to arise due to general construction phase activities (i.e., movement of construction vehicles and machinery, access track upgrade works and track construction, excavation activities). Plant communities may be affected by dust deposition (effects on photosynthesis, respiration, transpiration) which could in turn, alter community structure. The Institute of Air Quality Management provide guidelines which prescribes potential dust emission risk classes to ecological receptors (Holman et al., 2014). c) The project will not result in transboundary impacts d) As set out above, impacts arising during construction will be temporary and managed through best practice construction guidelines with respect to excavation, soil management, dust, traffic and lighting. Waste generated during the construction process will be controlled through measures adopted in a waste



	management plan It is considered that there is limited likelihood of significant magnitude and complexity of impact from the proposed project. The most significant source of impact with the highest potential for negative impact is the net removal of 7.2m of hedgerow from the site, 800 m^2 of woodland, and the loss of arable land. Hedgerows provide important habitat for nesting bird species and commuting bat species. To mitigate hedgerow loss across the proposed project site, 25m of new hedgerows will be planted. In addition, it is proposed provide 1,600m^2 of compensatory planting to mitigate the loss of woodland. There is no potential for likely significant effects to the Slaney Valley SAC, the Wexford Slobbs SPA during the construction, operational and decommissioning phases of the proposed project. e) Regarding the expected onset, duration, frequency and reversibility of impacts, it should be noted that no significant impacts are anticipated with respect to construction or operation of the facility. Impacts associated with construction are expected to last approximately 24 months, during standard and regularised construction hours. Impacts associated with operation, such as noise and traffic will be in accordance with best practice guidelines. • Cumulative effect with surrounding projects. The Wexford County Council planning database was consulted in February 2026 to determine if any nearby plans or projects were likely to result in potentially significant cumulative effects. A number of projects were identified in the region which formed the basis for the cumulative assessment of each discipline within the PECR. The reports concluded there are no anticipated cumulative effects arising from the proposed Tincurry 110kV Substation, and Grid Connection in combination with existing or approved developments in the region. g) With respect to the possibility of effectively reducing the impact of the design of the project. The project has been optimised to ensure that environmental impacts are minimised as much as possible. These impacts are not considered significant and do not result in a requirement for EIA. All existing hedgerows and treelines not removed as part of the proposed project will remain in situ. During the construction silt fencing must be used along water course boundaries to ensure sediment is not released off-site via surface water run-off. Surface water protective measures will form part of the Construction Environmental Management Plan (CEMP), which will be designed for the site prior to the commencement of works.



7. EIA SCREENING DETERMINATION

The proposed project does not meet or exceed Schedule 5 Parts 1 or 2 thresholds or criteria and as such an EIA is not mandatory.

The proposed project is considered a sub-threshold project under Schedule 5, Part 2 Class Part 2 Class 10 (dd), and Class 1 (a), where the proposed project involves the provision of private roads, and the removal of hedgerow.

Therefore, an EIA screening has been carried out considering the nature of the proposed project, its size and location having due regard to the criteria listed in Schedule 7 of the 2001 Regulations and the relevant information listed in Schedule 7A.

Having regard to same, it is determined that there is no real likelihood of significant effects on the environment arising from the proposed project and that an EIA is not therefore required. The main reasons and considerations with reference to the relevant criteria listed in Schedule 7 of the 2001 Regulations on which the determination is based are included in Section 6.0 above. We trust this EIA Screening in conjunction with all planning application documentation submitted will allow the Planning Authority to objectively rule out likely significant effects on the environment.

Appendix A RELEVANT PLANNING APPLICATIONS

Granted and Undecided Applications Within 5km of Proposed Development February 2026			
Reg. Ref.	**Proposal**	**Address**	**Grant Date**
Renewable Energy Developments			
20251224	RED III Application- A notice has been given under paragraph (a) of section 34D of the Planning & Development Act 2000 (as amended). A 10-year planning permission for the provision of a Battery Energy Storage System and compound on a site of c. 0.73ha to support the adjacent permitted solar farm (WCC Reg. Ref.: 20160595). The Battery Energy Storage System (BESS) compound will accommodate self-contained Lithium Ion Phosphate batteries, within 14 no. BESS units, 3 no. twin skid units and a single skid unit. A control room (c. 27.6m2) is proposed to the west of the compound. The proposed development includes for all associated development, boundary treatments, security fencing, site access works, ducting and cabling, and all associated ancillary works. A Natura Impact Statement will be submitted to the planning authority with the application. The development is covered by the provisions of the Renewable Energy Directive III (RED III) (Directive (EU) 2023/2413) and it is important to note that the planning application may be subject to section 34D of the Planning and Development Act 2000, as amended. When a notice issues in accordance with section 34D(b), the provisions of article 26A of the Planning and Development Regulations 2001 to 2025 shall apply	Ballycarney, Ballycarney	Undecided
20160595	Construction of an up to 5 mw solar pv farm comprising approximately 20,000 no. Photovoltaic panels on ground mounted frames within a site area of 12.94 hectares and associated ancillary development including 4 no.transformer stations, 4 no. Auxiliary transformer stations, 4 no. Inverters, 1 no. Client side substation, 1 no. Single storey storage building, 1 no. Single storey communications building, 1 no. Single storey dno building, 3 no.cctv security cameras mounted on 4 metre high poles, perimeter security fencing (2 metres high), site access road and the construction of a site access onto r745	BALLYCARNEY, BALLYCARNEY	22/07/2016 (Constructed)
20161097	Permission for the construction of up to 5mw solar pv farm development within a site area of up to 9.66 ha to include a single storey electrical substation building, electrical transformer/inverter station modules, solar pv panels ground mounted on steel support structures, access roads, fencing and associated electrical cabling, ducting and ancillary infrastructure	Tincurry, Ballycarney	21/12/2016 (Constructed)

20161231	Permission for the development of a solar pv panel array comprising photovoltaic panels on ground mounted frames within a site area of 7.96 hectares , 4 no. Single storey mv substations, 1 no. Single storey dso substation, 1 no. Single storey customer substation with 1 no. Communications pole attached , 1 no single storey spares building, boundary security fencing, cctv, associated, electrical cabling and ducting, alteration to existing entrance to include access gates, access track and all associated ancillary development and landscaping works	Tincurry, Ballycarney	21/12/2016 (Constructed)
20250263	A 10 year planning permission for a 100% carbon negative renewable energy 2 mega watt (9400m2) ground mounted solar PV array, inverter room, battery storage pod, underground cables, deer fencing and all associated works. The purpose of the installation will be to feed 100% green energy to the national grid. The solar installation will have an operating life of c. 40 years. A Natura Impact Statement will be submitted with the application	Moneydurtlow, Tombrack	27/08/2025
20241558	Permission for a battery energy storage system (BESS) facility. The development will consist of the following elements: Battery Energy Storage System facility, consisting of battery containers with HVAC (Heating, Ventilation, Air Conditioning) units, transformers, inverters, underground cabling, associated control rooms, internal access routes, lighting, CCTV, lightning masts, fencing. Electrical and Operations compound consisting of: low voltage operations compound including three (3) operations containers (switchgear room, control and metering room and communications room), outdoor electrical plant, above ground and underground cabling, lighting, CCTV, lightning masts, diesel generator and diesel tank, welfare and maintenance containers and stores, parking and adjoining; High voltage electrical yard comprising outdoor electrical plant, cabling, lighting, CCTV, lightning masts and associated compound. Underground high voltage electrical cable to facilitate a connection to the existing 110/220kv Lodgewood Substation. Upgraded entrance and access road to the site from the L5130 local road, and all associated drainage and ancillary works necessary to facilitate the development. A 10 year permission is sought in respect of the development. Certain details of the proposed development are unconfirmed in the planning application and an opinion on unconfirmed details also accompanies the application. A Natura Impact Statement (NIS) has been prepared and is included with this planning application.	Lodgewood, Ferns	16/06/2025
20241593	Permission for a 10 year Battery Energy Storage System (BESS). The proposed development will comprise of the following; A Battery Energy Storage System with associated infrastructure including a new internal access road approximately 100 metres in length; A 100 metre 33kv double circuit underground cable grid connection to the permitted Lodgewood 110kv substation (Planning Ref ABP-318528-23), to be installed in an excavated trench including underground ducting; Modular office and welfare buildings; Three steel storage containers and all associated site development and reinstatement works	Crory, Ferns	30/07/2025

20160594	Construction of an up to 5 mw solar pv farm comprising approximately 20,000 no. Photovoltaic panels on ground mounted frames within a site area of 12.94 hectares and associated ancillary development including 4 no. transformer stations, 4 no. Auxiliary transformer stations, 4 no. Inverters, 1 no. Client side substation, 1 no. Single storey storage building, 1 no. Single storey communications building, 1 no. Single storey dno building, 3 no.cctv security cameras mounted on 4 metre high poles, perimeter security fencing (2 metres high), site access road and the construction of a site access onto r745	Ballycarney, Ballycarney	22/08/2016 (Constructed)
20171127	Permission for the development of a temporary (27 years) ground-mounted solar photovoltaic (pv) farm to generate renewable electricity on a 12.7ha site, comprising solar arrays, energy storage, associated electrical infrastructure, fencing, access improvements and ecologically beneficial landscape works	Killabeg, Tinnacross	13/11/2017
20171114	Permission to install solar panels on the roof of existing agricultural shed including all associated site works on site. (ballyduff house is a protected structure - ref wcc1097 & niah 15701527. The works above are within the curtilage of ballyduff house).	Ballycarney, Ballycarney	13/11/2017
20171275 (ACP Ref. 300427)	Permission for development to consist of : a 10 year permission for the construction of a solar pv energy development comprising installation of solar photovoltaic (pv) panels on ground mounted frames/ support structures within existing field boundaries; underground cabling and ducting; 11 no. Inverter/ transformer stations; 11 no. Hv cabins; 2 no. Electricity control buildings with associated hard standing area; 1 no. Communications cabin; site perimeter stock-proof security fencing (c.36 ha); cctv security cameras; upgrade of existing agricultural site entrance located to the north of the site for construction and operational access; site access tracks; landscaping and all associated site development works. A temporary construction compound will also be provided	Tomsallagh, Tinnacross	10/10/2018
20171680	Permission for the development of a temporary (27 years) ground mounted solar panel photvoltaic (pv) farm to generate renewable electricity on a 10.4 ha site, comprising solar arrays, energy storage, associated electrical infrastructiure, fencing, access improvements and ecologically beneficial landscape works	Killabeg, Tinnacross	20/03/2018
20220127	Permission for the proposed green energy initiative development consisting of the installation of Photovoltaic Panels on the existing roof structures and a ground mount installation, together with all associated site works.	Ferns Upper, Ferns	27/04/2022
20221309	Permission for a 10 year planning permission for a solar farm with a total area of circa 108 hectares in the townlands of Ballycarney, Ballylough, Coolbaun, Crory, Lodgewood, Scarawalsh, Tincurry and Tombrackwood. The solar farm will consist of solar photovoltaic panels on ground mounted frames, 13 no. Single storey electrical inverter/transformer stations, 13 no. Single storey energy storage modules, 3 no. Single storey spare parts containers, 4 no. Weather stations, underground electrical ducting and cabling within the development site, private lands and within the R745 and	Ballycarney, Ballylough, Tincurry & Crory, Ballycarney & Ferns	27/03/2023

	L5130 public roads to connect solar farm field parcels, security fencing, CCTV, access tracks, 12 no. Stream and drain deck crossings, temporary construction compounds, landscaping and all associated ancillary development and drainage works. Construction and operational access will be via entrances from the R745, R772 and L5130. The operational lifespan of the solar farm will be 35 years and planning permission is requested for this duration. A Natura Impact Statement (NIS) has been prepared and will be submitted to the Planning Authority with the application		
20201080	Permission for the development of grid connection infrastructure to connect the approved solar farms and energy storage (consented under planning references 20171127, 20190440, 20171680, 20190441 and 20200691) to substation (the solar farms connecting at 20kv and the energy storage connecting at 38kv) on a 7.2 ha site, comprising the laying of 20kv and 38kv underground electricity cables and associated infrastructure, horizontal directional drilling, and upgrades to Crane substation (within the existing substation fence line) including extension of an existing 38kv busbar, installation of a new 38kv line bay, extension of existing 38kv control room building, installation of new arc suppression coil and associated ancillary works. A Natura Impact Statement has been prepared in respect of the application for planning permission.	Killabeg & Crane, Tinnacross	05/03/2021
20180055 (ACP Ref. 301329)	Permission for development consisting of a 10 year permission for the construction of a solar PV energy development.	Tomsallagh, Tinnacross, Co. Wexford.	11/12/2018
20231025	A 10 year planning permission for a solar farm with a total area of circa 55 hectares in the townlands of Ballylough, Coolbaun, Crory, Lodgewood, Scarawalsh and Tincurry. The solar farm will consist of solar panels on ground mounted frames, 9 no. Single storey electrical inverter/transformer stations, 5 no. Single storey energy storage modules, 2 no. Single storey spare parts containers, 2 no. Ring main units, 2 no. Weather stations, underground electrical ducting and cabling within the development site, private lands and within the L5130 public road to connect solar farm field parcels, security fencing, CCTV, access tracks, 5 no. Stream and drain deck crossings as well as 6 no. Cabling open trench undercrossings and 2 no. Horizontal directional drills, temporary construction compounds, landscaping, netting adjacent GAA playing fields and all associated ancillary development and drainage works. Construction and operational access will be via. 5 no. Entrances from R772 and L5130 (3 no. Of which were permitted under Wexford County Council Planning Reference 20221309). The operational lifespan of the solar farm will be 40 years and planning permission is requested for this duration. A Natura Impact Statement (NIS) has been prepared and will be submitted to the Planning Authority with the application.	Ballylough/Coolbaun/ Crory/Lodgewood/Tincurry, Ferns/Ballycarney	02/01/2024

20230009 (ACP Ref. 316163)	10 year permission for the construction and completion a solar PV development with a total site area of circa 38.6 hectares and all associated works. A Natura Impact Statement was submitted with the application.	Tomsallagh, Enniscorthy, Co. Wexford.	16/04/2024
20161231	Permission for the development of a solar pv panel array comprising photovoltaic panels on ground mounted frames within a site area of 7.96 hectares , 4 no. Single storey mv substations, 1 no. Single storey dso substation, 1 no. Single storey customer substation with 1 no. Communications pole attached , 1 no single storey spares building, boundary security fencing, cctv, associated, electrical cabling and ducting, alteration to existing entrance to include access gates, access track and all associated ancillary development and landscaping works	Tincurry, Ballycarney	27/01/2017
Electrical, Telecommunications and Water Services			
20120630	Erection of a 36m high, free standing lattice type communications structure, carrying antennae and communication dishes, to be shared with third party operators and associated ground mounted cabins and cabinets(exempted development), within a 2.4m high palisade compound	Crane, tinnacross	14/05/2013
20241226	Permission for the installation of approx. 845m of underground low voltage electrical cabling and all associated works between the permitted Solar PV energy development granted under planning permission (20171275) and the permitted Solar PV energy development granted under planning permission (20230009)	Tomsallagh, Tinnacross	14/04/2025
20180572	Permission for development consisting of a 24 metre multi-user free standing structure carrying telecommunications equipment, together with associated exchange cabinets, fencing, access track, access gate and all associated site development works. The development will carry telecommunications apparatus that will form part of three ireland ltd.'s 2g voice, 3g and 4g network.	Clavass, Enniscorthy rural	24/09/2018
20181025	Planning permission for the construction of communications infrastructure comprising of; a 36 metre lattice tower, associated equipment and cabinets, fencing, extension to existing access track, and use of existing access track	Coolroe, Kilbora	22/10/2018
20211251	Permission to erect a 30m high lattice telecommunications support structure	Tincurry, Ballycarney	26/10/2021
20200485	Permission for the replacement of an existing 15m wood pole telecoms structure with an 18m monopole, with associated dishes, antennae and ground-mounted equipment as required (exempted development under Class 31 of Planning Regulations).	Ferns Upper, Ferns	17/08/2020

20160070	Permission for retention (ref. No 2009/03150) for an existing development consisting of an existing 24 metre high telecommunications support structure with antennas, equipment container and associated equipment within a fenced compound and access track. The development forms part of vodafone ireland limited's existing gsm and 3g broadband telecommunications network	Coolroe, Kilbora	21/04/2016
ACP Ref. 318528	10 year planning permission for the proposed 110kv AIS Single Bay Tail-Fed electricity substation (with 33kv customer compound) and associated grid connection and site works	At Tincurry, Ballylough and Crory (Townlands), Co. Wexford.	04/06/2024
20170256 (ACP Ref. 248524)	Construction of communications infrastructure comprising of a 36 metre lattice tower, associated equipment cabin and cabinets, fencing and access track.	Carrigroe Hill, Ballymore, Co. Wexford.	17/08/2017
VA26.319499	Proposed 110kv substation to facilitate connection of the permitted Solar Energy Development	On lands at Tomsallagh, Ferns, Co. Wexford, to the National Grid.	29/08/2024
20180250 (ACP Ref. 301660)	Permission for the construction of communications infrastructure comprising of; a 15 metre monopole, associated equipment and cabinets, fencing, access track and new access	Milehouse, Enniscorthy, co. Wexford	14/12/2018
Roadworks			
20250268	Permission to construct a proposed new link road with foot paths and cycle track which will extend from the R772 (downgraded N11) to the Old Dublin Road, Enniscorthy, to provide access to adjoining commercial businesses (Enniscorthy Motor Company/BYD and Kavanagh Meats Ltd), to include the construction of 2 number steel portal framed buildings, building no. 1 with proposed floor area of 225 m sq (EV diagnostics unit) and building 2 proposed floor area of 600 m sq (new vehicle inspection and storage unit), proposed road lighting and road signage, site signage, suds and storm water management, landscaping, CCTV, covered bicycle storage, alterations to existing car parking layout and adjoining land which are included in the site and revision/alterations to the existing entrance junction to the property and all associated site works. A Natura Impact Statement will be submitted to the planning authority with the application	Moyne Lower, Enniscorthy Rural	03/06/2025

Industrial			
20251441 W	Permission for a development comprising of the construction of two no. Warehouses structures - Building 1 (300 sqm) and Building 2 (1200 sqm) and associated site development works to include on site car parking, landscaping, bin storage compound and connection to existing on site services (foul water and mains water systems)	Moyne Lower, Enniscorthy Rural	N/A
20251274	Permission for 2 No. Detached fully serviced industrial warehouse buildings	Moyne Lower, Enniscorthy Rural	N/A
20241482	Permission for a soil screening and concrete crushing facility and ancillary site development works. The development also requires a waste facility permit under regulations 2007 (S.I. 821 of 2007 & S.I. 86 of 2008)	Moneydurtlow, Tombrack	03/03/2025
20250007	Permission for the construction of a new building to provide segregated materials storage and a plant/vehicle workshop area, and all associated site works, with the existing enterprise operating under an Environmental Protection Agency (EPA) waste licence	Coolatore, The Harrow	13/10/2025
20230656	Permission for development comprising a materials recovery building of gross floor area 3,102 sq.m, ancillary office building of gross floor area 274 sq.m, associated yard and car park, firewater storage tanks, power supply substation, drainage, services, boundary treatment and associated site works. The development is for the purposes of an activity that will require an Industrial Emissions Licence. An Environmental Impact Assessment Report (EIAR) and a Natura Impact Statement (NIS) will be submitted to the Planning Authority with the application.	Corah, Tombrack	16/10/2023
20240140	Permission to erect a steel framed building for the purpose of processing grain	Tomgarrow, Castledockrell	07/05/2024
20240219	Permission for the change of use of existing warehouse to light manufacturing	Moyne Lower, Enniscorthy Rural	08/07/2024
20250649	Permission for the construction of assembly unit with associated works ancillary to existing works	Clavas/Ballynahallin, Enniscorthy Rural	20/11/2025
20211932	Permission for the proposed erection of a new 1660sqm 2-storey furniture production building with office, product display & staff facilities, together with ancillary site works including the provision of a wastewater treatment system and percolation area	Clavass, Enniscorthy Rural	14/03/2022

20220500	Permission to erect a steel framed building for the purpose of commercial storage with all ancillary site development works.	Ballyboy, Tombrack	14/11/2022
20231261	Permission for a development comprising of a proposed extension (1.700 hectares) to an existing quarry (2.6595 hectares) for stone extraction to a level of 95.00 metres O.D. together with landscaping, screen mounding, planting, fencing and ancillary works. (Processing and stockpiling of materials including crushing/screening plant, portable office/chemical toilet, silt trap lagoon and settled water lagoon will take place within the boundaries of the existing quarry and access will be via the existing haul road and vehicular entrance previously granted planning permission under Ref. 20100166 and 20200379).	Ballaman/Moneydurtlow, Tombrack	22/01/2024
20211337	Permission for the construction of 1No. Office building, 1No. Industrial warehouse building, 19No. Car Park spaces, 1No. Foul weather treatment system including percolation area, the re-alignment of entrance piers and all associated site works	Ballynahallin, Enniscorthy Rural	21/02/2022
20160469	The construction of anaerobic digestion and organic fertiliser production facility, comprising of 1 no. Digester tank, 1 no. Storage tank, 1 no. Combined heat and power unit, 1 no. Flare, bio filter, agricultural feedstock storage, parking space and all associated site works and services	Moneydurtlow, tombrack	02/08/2016
20160549	Permission for the proposed erection of a new recycling facility which will cater for mixed wastes received in skips from construction & demolition, commercial, industrial and municipal sources, together with all associated site works and ancillary services, on a site which comprises an activity requiring a waste permit	Tomgarrow, Castledockrell	15/08/2016
20160629	Erection of an industrial unit and associated site works	Moyne lower, Enniscorthy rural	13/01/2017
20160197	Permission to erect a steel framed building for the purpose of processing grain	Tomgarrow, Castledockrell	18/05/2016
20180383	Permission is being sought for the erection of a new warehouse (362.40 sq. M.) And associated site development works	Moyne lower, Enniscorthy rural	30/07/2018

20210567	Permission for a fully serviced industrial warehouse building with ancillary offices. All with associated and ancillary site works and connection to existing mains services at Moyne Business Park.	Moyne Lower, Enniscorthy Rural	12/07/2021
20220873	Permission for the erection of 12 No. Light Industrial and Warehouse units comprising: 4 No. 225 m2 units, Block D. 6 No. 216 m2 units, Block E. 2 no. 150 m2 units, Block F. Permission also sought for the provision of solar PV panels to roofs of Blocks D, E & F. Alterations to existing vehicular entrance, introduction of vehicular one-way system within the development, new vehicular exit onto Old Dublin Road and associated site works	Clavass, Enniscorthy Rural	18/04/2023
20200379	Proposed continuance of use of existing quarry (2.6595 hectacres) for stone extraction to a level of 95.00 metres O.D. including the processing of stone, together with the continuance of use of existing haul road, vehicular entrance and ancillary works including crushing/screening plant, portable office/chemical toilet, settlement ponds, landscaping & screen planting as previously granted planning permission for a 10 year period by Wexford County Council (Ref. 20100166).	Ballaman, Moneydurtlow, Tombrack	22/01/2021
QO15 (ACP Ref. QD0025)	Further development of quarry. Curralane, Ferns, Co. Wexford.	Curralane, Ferns, Co. Wexford.	15/03/2017
20200754 (ACP Ref. 310595)	Permission for the lateral extension and continuation of working of an existing quarry in a southerly direction together with ancillary operations including blasting, crushing and screening.	Drumgold, Enniscorthy. Co. Wexford	03/06/2022
Residential			
20251699	Permission for the erection of a fully serviced dwelling house together with all ancillary site works	Ballydonigan, Tinnacross	N/A
20110574	Construct a split level house, a garage and associated site services	Corah, Tombrack	16/02/2012
20250793 (ACP. Ref. 323578-25)	Permission for the replacement of existing partially demolished house (Foley's Cottage) with a new 2 storey house and associated works	Ferns Upper, Ferns	25/11/2025
20130933	Erect a dwelling house with services	Ballycarney, Ballycarney	20/03/2019

20250356	Permission to erect a dwelling with services and domestic garage	Ballybay, Tombrack	26/08/2025
20221617	Permission to erect a two-storey dwelling with services, car port under roof	Clone, Ballycarney	08/03/2023
20250776	Permission to erect a single-storey dwelling with domestic garage, services	Tincurry, Ballycarney	22/10/2025
20240533	Permission to erect a fully serviced dwelling house and domestic garage	Ferns Upper/Newtown (ed Kilbora), Ferns/Kilbora	31/07/2024
20240715	Permission to construct a fully serviced two-storey dwelling house	Effernoge, Tinnacross	16/09/2024
20241224	Permission to construct a fully serviced split-level dwelling house	Oulartard, Tinnacross	31/01/2025
20241573	Permission to erect a dwelling house with services and domestic garage	Tombrack, Tombrack	18/03/2025
20221343	Permission to construct a fully serviced dwelling house with associated site works	Knockduff (ed Tinnacross), Tinnacross	13/03/2023
20230130	Permission to demolish existing fire damaged dwelling and erect in its place a dwelling with connection to existing services	Clone, Ballycarney	17/07/2023
20231419	Permission for a dwelling house and associated site works	Crane, Tinnacross	28/02/2024
20231478	Permission for the construction of a dwelling house and all associated site work	Craan, Ferns	13/03/2024
20240329	Permission to erect a dwelling house with services and domestic garage	Newtown, Kilbora	02/10/2024

20250467	Permission to erect a fully serviced dwelling house and domestic garage (planning number 20212006 refers)	Clone, Ballycarney	N/A
20250958	Permission to demolish an existing dwelling and erect 2 no. Dwellings	Castleland, Ferns	N/A
20220028	Permission to erect a dwelling with services and domestic garage and all associated site and ancillary works	Effernoge, Tinnacross	30/05/2022
20251378	Permission to erect a single storey serviced dwelling house and to carry out all associated ancillary site works, including the opening of a shared entrance	Tombrack, Tombrack	N/A
20220518	Permission to construct a fully serviced dwelling house with associated site works	Knockduff (ed Tinnacross), Tinnacross	05/09/2022
20220627	Permission for the construction of a dwelling house, alterations to existing entrance and all associated site works	Bolacaheer, Tombrack	12/09/2022
20220764	Permission to erect a dwelling house with services & domestic garage	Ferns Upper, Ferns	26/09/2022
20201386	Permission to construct a fully serviced dwelling house with detached domestic garage and associated site works and permission to relocate existing site boundaries to adjacent dwelling granted under planning register numbers 910008, 20022395 & 20181714 to accommodate proposed dwelling	Ballintore, Ballymore	16/04/2021
20230853	Permission to erect a dwelling with services and domestic garage	Tinnacross, Tinnacross	06/12/2023
20230994	Permission to erect a dwelling house with services and domestic garage attached	Ballymorgan, Tombrack	11/01/2024
20210009	Permission to erect a fully serviced dwelling house and domestic garage together	Ferns Upper & Newtown (E.D. Kilbora), Ferns & Kilbora	31/03/2021
20231300	Permission to construct a two-storey dwelling with services	Ballaman, Tombrack	02/04/2024

20210425	Permission to 1) construct a fully serviced dwelling house, 2) to refurbish existing dwelling with elevational changes & 3) upgrade existing treatment system to EPA guidelines with associated site works	Marshalstown, Marshalstown	16/06/2021
20240020	Permission to erect a single storey serviced dwelling house, to erect a domestic garage/store and to carry out all associated ancillary site works	Ballydonigan, Tinnacross	08/04/2024
20210617	Permission to erect a dwelling with services and domestic garage	Clone, Ballycarney	19/07/2021
20211009	Permission to erect a dwelling with services and domestic garage and all associated site and ancillary works	Oulartard, Tinnacross	20/09/2021
20211165	Permission for construction of a fully serviced flat roof two storey dwelling house, proposed treatment system and polishing filter, and all associated site works.	Tombrack, tombrack	14/01/2022
20211479	Permission to erect a dwelling house with services and domestic garage	Tombrack, Tombrack	15/12/2021
20211546	Permission to erect a fully serviced dwelling house and domestic garage	Bolacaheer, Tombrack	17/08/2022
20211568	Permission to erect 2 No. single storey dwelling units with connection to existing public services on site	Castleland, Ferns	07/04/2025
20211676	Permission to construct a fully serviced dwelling house and garage with associated site works.	Coolatore, The Harrow	28/01/2022
20160121	Permission to construct a fully serviced dwelling house with domestic garage	Ballingale, tombrack	04/05/2016
20160423	Erect a dwelling with services and domestic garage	Tombrack, tombrack	18/07/2016
20160541	Permission for development to consist of proposed construction of a new dwelling	Crane, tinnacross	08/08/2016
20160628	Erect a replacement dwellinghouse on site at corah, (e.d. tombrack), ballycarney	Corah, tombrack	29/08/2016

20160679	To erect a two storey dwelling house with services (planning register number 20151002 refers)	Ballycarney, ballycarney	07/09/2016
20160376	Erection of a fully serviced dwelling and domestic garage and associated site works	Clone, ballycarney	04/07/2016
20160552	Permission to erect a fully serviced dwelling house and domestic garage	Myaugh, the harrow	12/09/2016
20160652	Erect a fully serviced dwelling house with domestic garage	Clone, ballycarney	07/11/2016
20160711	Permission to erect a fully serviced dwelling house with domestic garage	Clone, ballycarney	07/11/2016
20170277	Permission for erection of a dwelling house, domestic garage/ store and associated works.	Ballingale, tombrack	29/05/2017
20160954	ERECTION OF FULLY SERVICED DWELLING HOUSE, SEPTIC TANK AND PERCOLATION AREA, DOMESTIC GARAGE AND PERMISSION TO DEMOLISH OUTBUILDINGS AND ASSOCIATED SITE works	Tincurry, ballycarney	14/11/2016
20180297	Permission to erect a dwelling house with services and domestic garage	Newtown (e.d. kilbora) & ferns upper, kilbora & ferns	05/09/2018
20170774	Permission for development that will consist of the completion of 13 no. Two storey dwellings, which are currently constructed to ground floor slab level only. The development comprises of 5 no. 4 bed detached units (type a), 4 no. 4 bed semi-detached units (type c), 4 no. 3 bed semi-detached units (type d) and connection to public services, boundary treatments and all associated site works.	Ferns lower, ferns	06/09/2017
20180859	Full planning permission for the erection of a fully serviced dwelling and domestic garage and all associated site works	Knockduff (e.d. tinnacross), tinnacross	01/11/2018
20180933	Permission for the erection of a dwelling house, domestic garage/ store and associated works.	Tincurry, ballycarney	19/09/2018

20181281	Permission for proposed development to consist of the construction of a part single storey, part two storey detached dwelling house, form new entrance, waste water treatment plant and all associated site works	Ballyduff (ed castledockrell), castledockrell	19/02/2019
20181350	Permission to construct a two-storey dwelling, ancillary storage/garage building	Clone, ballycarney	26/03/2019
20171235	Permission to construct a fully serviced dwelling house & garage with associatedworks	Tomadilly, marshalstown	06/12/2017
20181660	Permission to erect a serviced dwelling house with attached domestic garage/store and to carry out all associated ancillary site works. Permission is also sought to demolish existing agricultural buildings/structures on site	Scarawalsh, ballycarney	05/03/2019
20171505	Permission to erect a dwelling house with services and domestic garage	Corah, tombrack	28/03/2018
20190067	Permission to erect a dwelling house with on-site sewerage treatment system	Milltown, ballymore	29/07/2019
20190086	Permission to erect a dwelling with services and domestic garage	Ballydonigan, tinnacross	23/04/2019
20190088	Permission to erect a dwelling with services and domestic garage and all associated works	Mountfin lower or ballinturner, castledockrell	23/04/2019
20190525	Permission to erect a serviced dwelling house and detached domestic garage	Corah, tombrack	08/08/2019
20190946	Permission to erect a fully serviced dwelling house with domestic garage	Tombrack, tombrack	06/11/2019
20191167	Permission to erect a dwelling with services and domestic garage	Tincurry, ballycarney	11/12/2019
20191223	Permission to erect a fully serviced dwelling house with domestic garage	Tomgarrow, castledockrell	04/02/2020

20180588	Permission to erect a dwelling with services and domestic garage	Tomsallagh, tinnacross	03/09/2018
20191366	Permission to construct a fully serviced dwelling house with associated site works.	Solsborough, tinnacross	08/01/2020
20180732	Permission to (a) erect 34 no. Dwelling houses, consisting of 22 no. 3-bedroom dwellings (house type a & a1), and 12 no. 2-bedroom dwellings (house type b); (b) provision of vehicular and pedestrian access to the existing public roadway on the northern boundary; (c) provision of pedestrian access to the existing car-park adjoining the existing supermarket building and commercial premises on the northeastern boundary, (d) the completion of demolition and removal works of an existing dilapidated dwelling, which is listed as a protected structure (n.i.a.h. register no. 15612019), together with adjacent outhouses, and (e) ancillary site works and connection to existing services	Castleland, ferns	03/12/2018
20180767	Permission to construct a fully serviced dwelling house and associated site work	Knockduff (e.d. tinnacross), tinnacross	27/08/2018
20200072	Permission for fully serviced dwelling house and domestic garage and associated site works.	Knockduff (ed tinnacross), tinnacross	09/06/2020
20180968	Permission to erect a serviced dwelling house and detached domestic garage	Askinamoe, kilbora	02/10/2018
20200282	Permission to erect a fully serviced dwelling house with domestic garage	Moneydurtlow, Tombrack	15/07/2020
20181322	Permission to erect a serviced dwelling house to erect a domestic garage/store and to carry out all associated ancillary siteworks	Crane, tinnacross	21/02/2019
20181345	Permission to erect a fully serviced dwelling house together with all ancillary site works.	Newtown (ed kilbora) & ferns upper, kilbora & ferns	02/01/2019
20181346	Permission to erect a fully serviced dwelling house and domestic garage together	Newtown (ed kilbora) & ferns upper, kilbora & ferns	02/01/2019

20200875	Permission for the erection of a fully serviced detached dwelling house and attached carport/domestic garage. Together with connection to a private treatment plant/ percolation area and private well and all associated site works	Knockduff (E.D Tinnacross), Tinnacross	14/12/2020
20181523	Permission to erect a dwelling house with services	Tombrackwood, ferns	30/01/2019
20181695	Planning permission for 18 no. 2 storey 3 bed semi-detached dwellings, 12 no. Dwellings of which were previously approved under pl. Ref. No. 20170774 and are now being revised and relocated and 6no. Additional dwellings are being provided, with all associated site works and services	Ferns lower, ferns	11/03/2019
20201441	Permission to erect a dwelling with services and domestic garage	Clone, Ballycarney	03/03/2021
20190058	Permission to erect a dwelling house with services and domestic garage	Clone, ballycarney	18/04/2019
20210064	Permission to erect a dwelling house and domestic garage with connection to existing watermains and provision of on site sewage treatment system with all associated site works.	Ferns Lower, Ferns	14/04/2021
20210241	Permission to erect a dwelling with services and domestic garage.	Clone, Ballycarney	29/09/2021
20190298	Permission to erect a fully serviced dwelling house with domestic garage	Ferns lower, Ferns	02/08/2019
20210933	Permission to erect a dwelling house with services and domestic garage	Kilbora, Kilthomas	24/11/2021
20211117	Permission to erect a dwelling house with connection to existing watermains and provision of on site sewage treatment system, with all associated site works.	Ferns Lower, Ferns	06/10/2021
20190756	Permission for the proposed erection of a fully serviced dwelling house,	Crane, Tinnacross	19/08/2019
20190848	Permission to construct a dwelling house with services, domestic garage,	Ballaman, Tombrack	03/09/2019

20211348	Permission to erect a dwelling with services, domestic garage and stables	Clone, Ballycarney	14/01/2022
20211355	Permission to construct a fully serviced dwelling house & garage with associated site works.	Coolnahorna, Marshalstown	13/12/2021
20190889	PERMISSION TO ERECT A TWO-STOREY DWELLING WITH SERVICES, CAR PORT UNDER ROOF, DOMESTIC GARAGE AND ANCILLARY works	Clone, Ballycarney	29/10/2019
20211381	Permission to erect a dwelling house and domestic garage with connection to existing water mains and provision of on-site sewage treatment system, with all associated site works (planning ref: 20181673)	Ferns Lower, Ferns	04/01/2022
20191099	Permission to erect a serviced dwelling house and detached domestic garage.	Corah, Tombrack	17/02/2020
20191158	PERMISSION FOR THE ERECTION OF A DWELLING HOUSE, DOMESTIC GARAGE/STORE AND ASSOCIATED works	Coolnahorna, Marshalstown	06/11/2019
20211685	Permission to erect a fully serviced dwelling house and domestic garage.	Corah, Tombrack	03/05/2022
20191199	Permission to erect a fully serviced dwelling house with domestic garage	Ballyduff (ed Castledockrell), Castledockrell	18/12/2019
20211717	Permission to construct a fully serviced dwelling house with associated site	Bolacaheer, Tombrack	07/02/2022
20191294	Permission for fully serviced dwelling house and associated site works	Castleland, Ferns	13/07/2020
20191311	Permission to construct a fully serviced extension to existing dwelling house	Killabeg, Tinnacross	18/12/2019
20212006	Permission to erect a fully serviced dwelling house and domestic garage	Clone, Ballycarney	16/05/2022

20220129	Permission to construct a fully serviced dwelling house & garage with associated site works	Bolacaheer, Tombrack	27/06/2022
20191578	Permission to erect a dwelling with services	Knockavocka, the harrow	02/03/2020
20220301	Permission to erect a fully serviced dwelling house and domestic garage	Ballycarrigeen Lower, The Harrow	02/08/2022
20220517	Permission for the erection of a fully serviced dwelling house and domestic garage	Ballyduff (ed Castledockrell), Castledockrell	06/07/2022
20200298	Permission to erect a fully serviced dwelling house, on a site which lies within the curtilage of a protected structure (Tinnacross House, NIAH Ref. No. 15702035 and Wexford Record of Protected Structures Ref: WCC1121)	Tinnacross, Tinacross	21/10/2020
20221139	Permission to erect a dwelling house with services & domestic garage	Ferns Upper, Ferns	11/01/2023
20221480	Permission to construct a fully serviced dwelling house, domestic	Knockduff (ed Tinnacross), Tinnacross	22/05/2023
20200866	Permission for a single-storey building containing a living room & WC associated	Ballaman, Tombrack	07/12/2020
20221617	Permission to erect a two-storey dwelling with services, car port under roof,	Clone, Ballycarney	08/03/2023
20221653	Permission to erect a dwelling house with services and domestic garage	Milltown, Ballymore	02/05/2023
20230169	Permission to construct a fully serviced dwelling to provide accommodation for farm workers with all associated site works	Ballycarney, Ballycarney	17/07/2023
20230379	Permission to erect a dwelling house with services and domestic garage	Corah, Tombrack	23/08/2023

20230380	Permission to erect a dwelling house with services and domestic garage	Knockduff (ed Tinnacross), Tinnacross	05/07/2023
20201269	Permission to construct a fully serviced single storey dwellinghouse	Clone, Ballycarney	29/01/2021
ACP Ref 249240	Permission for the replacement of existing partially demolished house with a new 2 storey house and all associated site works.	Foleys Cottage', Main Street, Ferns, Ferns Upper, Co. Wexford	06/02/2018
20250793 (ACP Ref. 323578)	Replacement of existing partially demolished house with a two storey house.	Main Street, Ferns, Ferns Upper, Co. Wexford	25/11/2025
20191014 (ACP Ref. 305557	60 houses, ancilliary site works, site access, and overall site ancilliary works granted under planning register reference number 20180945, NIS submitted with application.	Clonhasten, Ennistorthy, Rural.	28/01/2020
Agricultural			
20130445	Erect a steel framed building for the purpose of selling agricultural supplies	Tomgarrow, Castledockrell	13/06/2018
20221654	Permission for the erection of a steel framed building for the purpose of feed	Askinamoe, Kilbora	21/08/2023
20231414	Permission to construct an agricultural shed with all associated site works	Mountfin Upper, Castledockrell	06/06/2024
20250455	Permission to 1) demolish existing agricultural sheds and 2) construct an agricultural shed for cattle with slatted units with all ancillary and site works	Tombrick, Castledockrell	06/10/2025
20240190	Permission to erect a dwelling with services and domestic garage	Ballaman, Tombrack	15/05/2024
20240955	Permission to erect an agricultural storage shed and carry out associated ancillary site development works	Moneydurtlow, Tombrack	04/11/2024

20241479	Permission to construct soiled water/dairy washing tank with all associated site works in existing farmyard. (A protected structure: WCC No. WCC1097/NIAH Ref. No. 15701527, Ballyduff House, Ballycarney, Enniscorthy is located within the site boundaries)	Ballycarney, Ballycarney	03/03/2025
20160168	Permission to erect a cubicle house with slatted underground effluent tanks	Tomsallagh, Tinnacross	18/05/2016
20160459	CONSTRUCT AN AGRICULTURAL SHED FOR USE AS A CUBICLE SHED AS WELL AS STORAGE OF STRAW ALONG WITH ALL ASSOCIATED SITE works	Askinamoe, Kilbora	26/07/2016
20160270	Permission for (a) construction of a new milking parlour, slatted tank, flow channel, holding pen, automatic drafting and handling facilities, waiting yard, dairy ancillary rooms and calf rearing area (b) construction of external meal bin and water tank (c) construction of an agricultural cubicle shed and underground slatted tanks and all other associated site works	Tinnashrule, kilbora	04/07/2016
20171560	Permission to erect grain silos and grain drying facilities to the rear of existing grain shed	Tomgarrow, Castledockrell	06/03/2018
20170115	Permission to erect a grain storage shed	Tomgarrow, Castledockrell	02/05/2017
20180709	Permission for erection of a manure storage shed and effluent storage tank and and associated site works.	Tomacurry, marshalstown	20/08/2018
20170805	Permission to erect the following: 1. Grain storage shed . 2. Hay/straw storage shed. 3. Roof cover over feed passage. 4. Cattle handling unit 5. Silage pit, and also permission to relocate existing farmyard entrance 9 meters to the south of its existing location	Tomgarrow, Castledockrell	23/10/2017
20171596	Permission to construct a steel framed shed to contain a straw bedded housing & feeding area, slatted unit and a robotic milking system and associated site works	Mountfin upper, Castledockrell	06/03/2018
20190716	Permission to construct an agricultural shed with tank for storage of cattle slurry and storage of organic materials used in agriculture as well as all associated site works.	Tinnashrule, Kilbora	07/08/2019
20180814	Permission for the following: (a) demolition of 3 no. Existing straw storage sheds (b) construction of cubicle shed with underground slatted tank and all other associated siteworks. (please note: ballyduff house is a protected structure - ref. Wcc1097 & niah 15701527. The works above are within the curtilage of ballyduff house).	Ballycarney, Ballycarney	04/09/2018

20200361	Permission for the erection/ installation of underground slatted slurry storage tanks, a concrete silage slab and associated works	Knockavocka, The Harrow	04/09/2020
20181137	Permission for 2 number maize pits with associated site works	Tomadilly, Marshalstown	07/11/2018
20201598	Permission for (A) Erect an extension to existing Agricultural Building for dry feed storage and all associated building alterations and site layout works (B) for provision of open and roofed yard area designed for seasonal storage of touring campervans and caravans and all associated alterations and site layout works	Corah, Tombrack	23/08/2021
20190076	Permission to erect an overground circular slurry store and all associated site and ancillary works	Kilthomas, Kilbora	18/04/2019
20190821	Permission for the following: (1) change of use of existing straw bedded agricultural building to include new livestock cubicles (2) construction of an extension to existing agricultural building to include cubicles, a covered feed passage and underground slatted slurry tank (3) construction of an overground slurry store and underground reception tank and all associated site works	Forties, the Harrow	02/09/2019
20191466	Permission to erect an overground circular slurry store and all associated site and ancillary works.	Tinnashrule, Askinamoe	24/02/2020
20221616	Permission for the erection of a steel framed building for storage of hay and straw with associated site development works	Tinnashrule, Kilbora	08/03/2023
20230371	Permission to erect grain silos with all associated site development works	Tomgarrow, Castledockrell	28/06/2023
Other			
20230114	Permission for the proposed erection of alternations and extensions to an existing school comprising of (a) 1 no mainstream classroom, (b) 1 no classroom SEN base, (c) associated and auxiliary accommodation, (d) upgrade of existing sewerage system to a new treatment plant system, (e) associated and auxiliary site works, including the upgrade of the existing entrance	Tombrack, Tombrack	02/05/2023
20230289	Permission for change of use of Parish Hall to Preschool & Afterschool service	Mountfin Upper, Castledockrell	13/11/2023

20240043	Permission for change of use from previously approved Class 4 light industrial to Class 2 office use (professional services accountants)	Moyne Lower, Enniscorthy Rural	04/04/2024
20230821	Permission for the change of use from health and wellness centre at ground floor as granted under planning ref. 20190508 to residential use (two no. Apartments) including all associative site works within the curtilage of a NIAH listed property NIAH Register No. 15612012 on site.	Ferns Upper, Ferns	11/12/2023
20210486	Permission for a mixed-use development comprised of alterations/extension to existing retail shop at ground floor level measuring c. 186 sqm; new build commercial/store extension at first floor level measuring c. 193 sqm. 1 no. One bedroom apartment and 3 no. Two bedroom apartments at first floor level with roof terrace. Totem signage and fixed signage panels on the shop facades. Demolition of 2 no. Existing sheds and revised car park layout with connection to existing local public mains services and all associated site works	Castleland, Ferns	20/09/2021
20241594	Permission to erect an innovation centre which will be ancillary to the grain processing plant previously granted under planning register number 20240140 with all ancillary services	Tomgarrow, Castledockrell	15/10/2025
20180267	Permission for the establishment of a waste facility for the deposition of surplus natural materials of clay, salt, sand, gravel and stone, not exceeding 100,000 tonnes in total for the purposes of the improvement of land and subsequent restoration to agricultural use	Ballynabarney, Enniscorthy rural	23/07/2018
20190701	Permission for the placement of a pay-to use portable waste compactor for the accceptance of residual and food waste and a pay-to-use portable waste compactor for mixed recycables. This acitivity requires the developers to possess a waste collection permit/certificate of registration	Castleland, Ferns	07/08/2019
20230101	Permission for the provision of 6 No. Glamping pods and 6 No. Yurts with installation of a new wastewater treatment system and percolation area with all ancillary site works, which will be ancillary to a reception/display area for proposed new horticultural facility and woodland walk, and on-site parking previously granted under Planning Register Number 20191479.	Kilthomas, Kilbora	26/02/2024
20220995 (ACP Ref. 315663)	Demolition of store, construction of extension and all associated site works	Moyne Upper, Enniscorthy Rural, Co. Wexford	28/03/2024





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Appendix B CONSTRUCTION METHODOLOGY

2026

Tincurry 110kV Substation and Grid Connection - Construction Methodology

LODGEWOOD SOLAR FARM LIMITED

JANUARY 2026

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Revision	Date	Author	Checked	Notes
01	12/01/2026	NN	GH/OR	Planning Issue

1 Introduction

1.1 Overview

Lodgewood Solar Farm Limited has prepared this Construction Methodology report for the Tincurry 110kV substation and grid connection amendment application to An Coimisiúin Pleanála (ACP). The report forms part of the planning amendment application for the previously consented Tincurry 110kV substation, a Strategic Infrastructure Development (SID) application to An Bord Pleanála (ABP-318528-23), which was consented in June 2024.

The proposed 110kV substation and grid connection will service the Tincurry Solar Farm, which was permitted by Wexford County Council in February 2023 (Planning Register Reference: 20221309), the Ballylough Solar Farm, which was permitted by Wexford County Council in November 2023 (Planning Register Reference: 20231025) and a Battery Energy Storage System (BESS) which was permitted by Wexford County Council in July 2025 (Planning Register Reference: 20241593).The purpose of this document is to set out the construction techniques and methodologies which will be implemented during the construction of the proposed 110kV substation and 110kV grid connection.

A summary of the development is provided below:

110kV Substation

The 110kV substation is a 110kV AIS single bay, under the fence electricity substation. The substation will consist of an Independent Power Producers (IPP) control room and solar farm operations building, compound, high voltage electrical equipment, generator and fuel storage, harmonic filter, roads and car parking, security fencing, security lighting, drainage infrastructure, telecoms pole, lightning masts, services infrastructure, storage container and temporary construction compound.

110kV Grid Connection Cable

An underground 110kV grid connection cable will connect the proposed 110kV substation into the existing Lodgewood 220/110kV substation. The cable route will be approximately 221 metres in length in total and will connect to a proposed new cable bay within the existing Lodgewood 220/110kV substation.

The cable route will include a 10.85m bridge to facilitate a dry crossing of the Lodgewood stream. A 3m wide trafficable road with turning head is included above the grid connection cable between the Lodgewood stream crossing and the Lodgewood 220/110kV substation. Tree and vegetation removal will be undertaken between the Lodgewood stream and the

existing Lodgewood 220/110kV substation prior to the construction of the 110kV grid connection.

Lodgewood Substation 110kV Bay

To facilitate the connection of the grid cable to the Lodgewood substation, a new 110kV bay in Lodgewood 220/110kV substation is proposed. These works include a cable sealing end, surge arrestor, line/earth disconnects, voltage transformer, current transformer, circuit breaker, post insulators, lightning mast, tubular busbar, block ducts and a control and protection cabinet. The proposed works in the Lodgewood substation are shown on drawing 300101236-DR-104 submitted with the planning application.

Substation Access Road

To facilitate the construction of the 110kV substation, grid cable and Lodgewood Substation 110kV bay, a construction access road is proposed. The entrance will be from the R772 regional road.

This document is intended as an aid to understand the construction methods and timelines of the project and should be read in conjunction with all other specialist reports pertaining to the project. This document will be updated prior to the commencement of any construction activities by the electrical infrastructure construction contractor. The final Construction Method Statement will be agreed with the Planning Authority in advance of commencement of construction.

1.2 Structure of Report

The structure of the remainder of this report is as follows:

- Section 2: provides details the proposed electrical works;
- Section 3: provides information on the preliminary site investigations to be undertaken;
- Section 4: provides details of the underground cable construction methodologies for 110kV grid connection;
- Section 5: provides details of the 110kV Substation construction methodologies;
- Section 6: provides details on the Emergency Response Plan;
- Section 7: provides information on relevant best practice design and construction mitigation; and
- Section 8: provides a summary of the report.

2 Description of Proposed Electrical Infrastructure

2.1 110kV Substation

The substation will be based on EirGrid design specifications. The 110kV substation compound will consist of an IPP Control Room and Solar Farm operations' building, road and car parking, storage container, palisade fencing, concrete post and rail fencing, utility services, lighting, High Voltage (HV) electrical equipment and associated infrastructure. The installation of HV electrical equipment will include a 110/33kV Transformer (TRAFO) with associated equipment along with:

- Cable Sealing End (CSE);
- Surge Arrestor (SA);
- Earth Disconnect (DA, DB, DL, DT);
- Current Transformer (CT);
- Voltage Transformer (VT);
- House Transformer (HoT);
- Circuit Breaker (CB);
- Lightning Masts (LM);
- Diesel Generator;
- Harmonic filters if required by EirGrid;
- Fire/Blast Wall;
- Telecoms Pole;
- 110kV underground cable trench comprising of 3 no. power ducts, 2 no. telecom ducts, 1 no. control and protection duct and 1 no. earth continuity ducts.

The substation compound has a total area of 2,657m^2. Earthworks will be undergone so the compound is level, with a finish compound level of 41.007m.

2.2 110kV Grid Connection

The proposed 110kV underground grid connection is approximately 221m in length and will transport electricity from the proposed Tincurry 110kV substation to the existing ESB 220/110kV Lodgewood substation.

The first section of this cable route is approximately 31 metres and is located within the stone compound of the substation. The second section is 10.85m and is enclosed in a new proposed bridge over the Lodgewood stream. The third section is approximately 179 metres and is in forest and greenfield lands between the proposed bridge over the Lodgewood stream and the

proposed new cable bay within the existing Lodgewood 220/110kV substation. No portion of the underground cable grid connection is located within the public road network.

3 Site Investigations

Site Investigations will be required for the detailed design of foundations and compound build-ups prior to construction and to inform project costs prior to detailed design.

The site investigation works will be scoped and specified by a geotechnical engineer during detailed design but will generally include the following:

- Boreholes: will be carried out at the location of the IPP Building to determine the depth of bedrock. Boreholes may be required at the pile locations of the proposed bridge over the Lodgewood stream.
- Trial holes: will be carried out in order to obtain information on the ground conditions and measure the thermal resistivity of the soil.
- Dynamic probes: will be carried out to determine soil strength/density characteristics.
- Dynamic Cone Penetrometers and Pavement Cores: will be carried out for pavement design.

It is anticipated that these site investigation works will take approximately 1 week to complete for the substation and the grid connection cable route.

4 Underground Cable Construction Methodology

4.1 Introduction

The complete route of the 110kV grid connection cable can be seen in Figure 1, in context of the Lodgewood 220/110kV substation and the proposed substation compound.

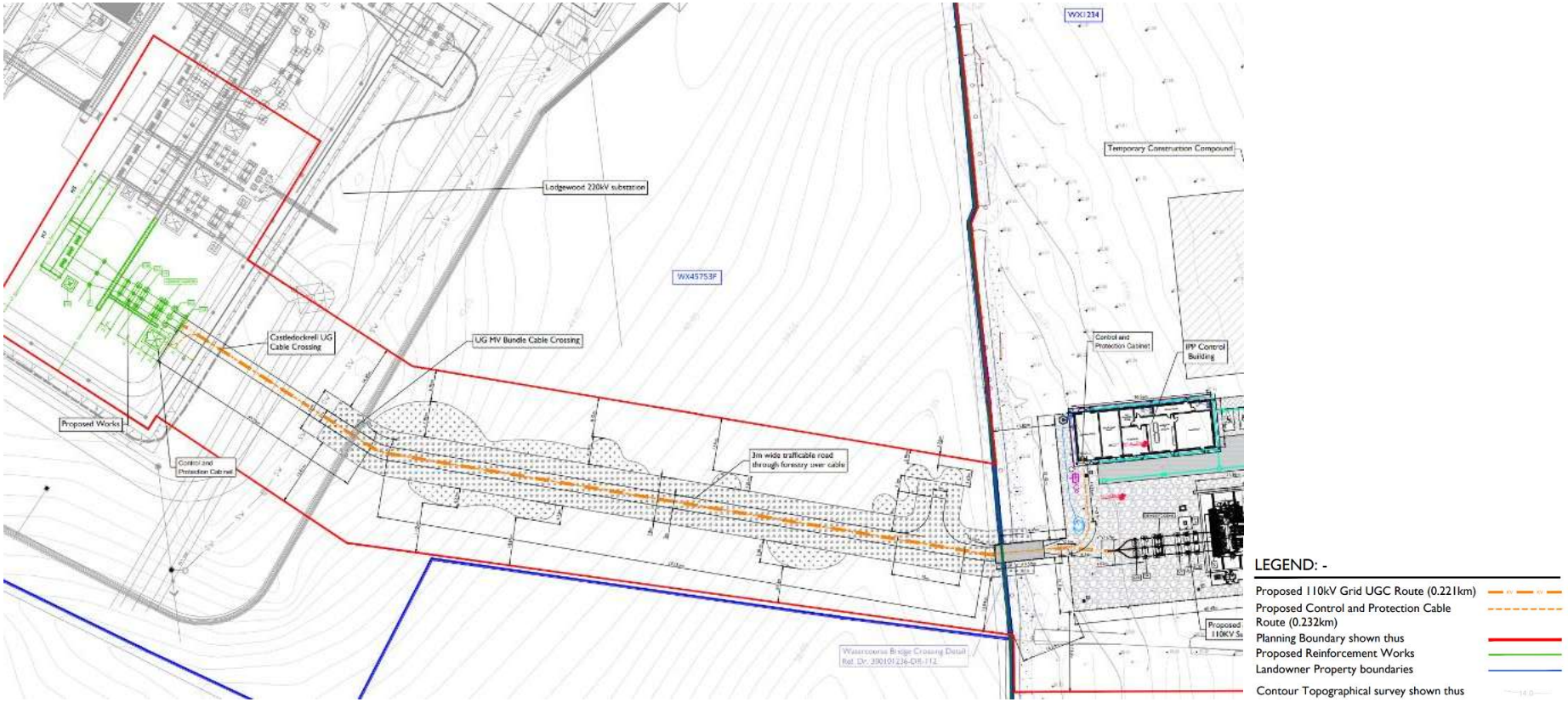


Figure 1: Indicative 110kV Grid Connection Route

4.2 Underground Cable Design Characteristics

The 110kV underground grid connection cable will comprise a single circuit cable which will run within the substation compound, grassland and forestry land. This will consist of a cable trench 825mm wide and 1315mm deep. The trench will contain 5 ducts, 3 no. 160mm ducts for power, 2 no. 125mm duct for communications and 1 no. 63mm duct for an earth continuity conductor. The 110kV underground grid connection cable will also include a control and protection cable trench 449mm wide and 925mm deep. The trench will contain 1 no. 125mm duct. See Figure 2 below for details of the single circuit grid connection cable trench. Full details can be found on drawing 300101236-DR-111.

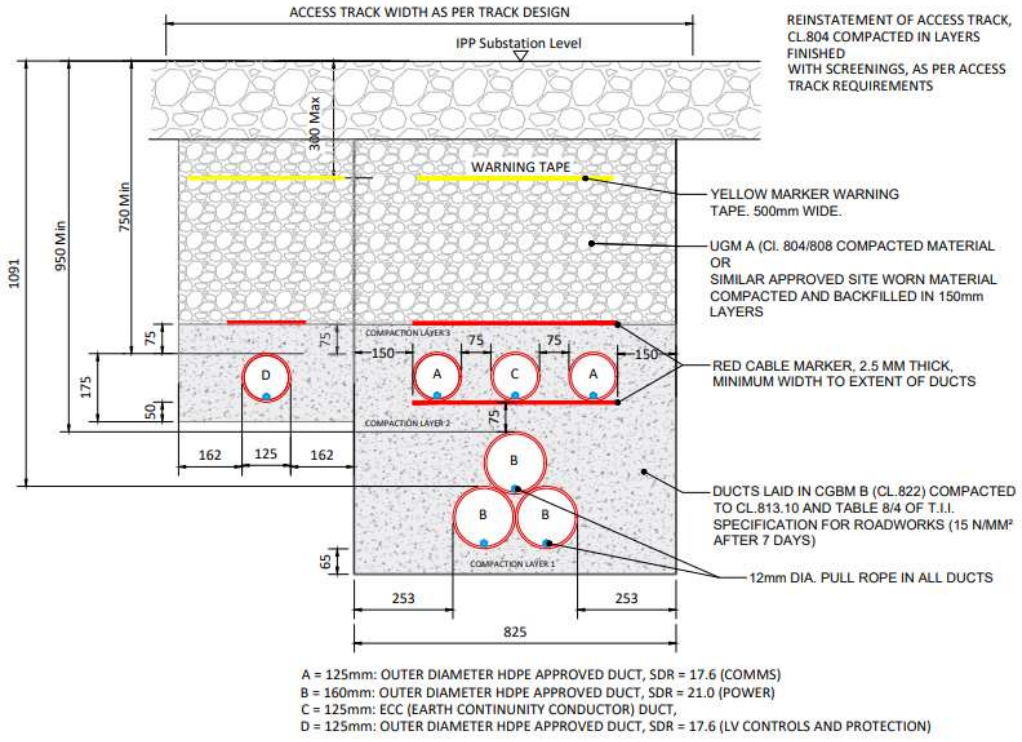


Figure 2: 110kV Grid Connection Cable Trench

Bridge over the Lodgewood Stream

The 110kV grid connection cable will travel across the Lodgewood stream within a concrete bridge. The bridge consists of concrete deck on precast beams, pilecaps and bored cast in-situ piles. The bridge will have palisade fencing and an interface kiosk. See Figure 3 below and drawing 300101236-DR-112 for details of the Lodgewood stream bridge.

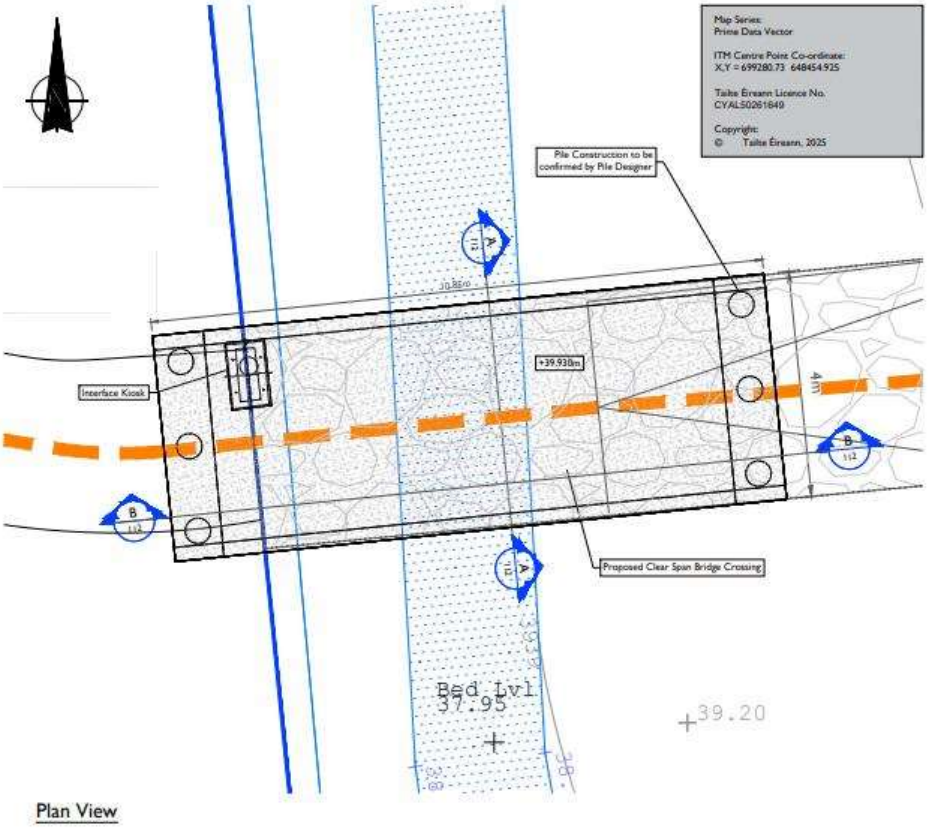


Figure 3: Lodgewood Stream Bridge

4.3 Underground Cable Trench Construction Methodology (Greenfield and Forestry)

The bullet points below outline the construction methodologies to be used during trenching works for the 110kV Grid Connection cable:

- Prior to construction the Contractor and the appointed Site Manager will prepare a detailed Method Statement for each section of the cabling based on the detailed design of same. The Method Statements will take into account any mitigation measures where required, or any planning conditions set out by An Coimisiúin Pleanála (ACP);
- Excavated material will be temporarily stockpiled onsite for re-use during reinstatement. Stockpiles will be restricted to less than 2m in height. Stockpiles will be in suitably safe locations and all stockpiling locations will be subject to approval by the Site Manager and Ecological Clerk of Works (ECOW);
- Excavated material shall be employed to backfill the trench where appropriate and any surplus material will be re-used on site or transported off site and disposed of at a fully authorised soil recovery site (as appropriate);
- Any earthen (sod) banks to be excavated will be carefully opened with the surface sods being stored separately and maintained for use during reinstatement;
- Where required, grass will be reinstated by either seeding or by replacing with grass turves.
- For the trench sections crossing through land currently under forestry, a corridor of trees and vegetation will be removed as detailed in Chapter 3 of the Planning and Environmental Considerations Report.
- Tree felling will be undertaken by a specialist contractor. The trees will be cut using chainsaw and winch, depending on the size of the trees. A stump grinder will be used to grind down the tree stump for removal. The trees will be transported off site once all felling is complete.
- The trench will be excavated in 50-100m sections. The trench will be dug to a 1315mm depth and varying width depending on the cable installation. Following this the trench sections will be trim and smoothed.
- The trench will be laid with a bedding layer for the ducts. This layer will be compacted in accordance with the design specifications.
- The ducts will be lowered into the trench and laid in a trefoil formation. Spacers will be used where appropriate to ensure the ducts are centred within the trench section.

- The ducts will then be carefully covered with the bedding layer and compacted to the required standards, as per the detailed design. The layer with be levelled to the appropriate height. Care will be taken to not damage or displace the ducts.
- A backfill will be placed on top the of the bedding layer and compacted as per the detailed design specifications.
- At the required level a yellow warning tape will be laid in accordance with the ESB Code 2955092.
- The ducts will then be cleaned and tested by pulling through a brush and mandrel. Following this a 12mm draw rope will be installed in each duct. The ducts will then be sealed using end seals, each fitted with rope attachment eyes to allow for cable installation.
- Cable lubricant will be applied to jacket (outer sheath) of the cables. This reduces friction between the cable and the rollers and also prevents the cable from snagging.
- The specialised winch will monitor the tension on the cables being pulled, ensuring the cables do not exceed their tensile limit.
- Works will only be conducted in normal working hours of Monday to Friday 08:00 to 18:00 and Saturday 08:00 to 16:00, with no works on Sundays or Bank Holidays except in exceptional circumstances or in the event of an emergency;
- The excavation, installation and reinstatement process typically take an average of 1 day to complete a 100m section.
- Following the installation of ducting, pulling the cable will take approximately 1 no. day.
- The electrical cable is supplied in pre-ordered lengths on large cable drums. Once the ducting installation works are completed, the ducts have a 12mm polyethylene rope blown through them. This guide rope is then used for proving the ducts by attaching a mandrel, a sponge and brush, for cleaning the duct installed.
- Once the ducting is proved, the electrical cables (situated on a drum) are pulled through the ducting by a specialised mechanical winch. The electrical cable will be connected to the winch rope using approved suitably sized and rated cable pulling stocking and swivel or the pulling head fitted by the cable manufacturer. Installing “one section” of electrical cable normally involves pulling three individual conductors into three separate ducts via the winch. The winch will also monitor the tension on the cables being pulled so as not to damage the cables. The cable pulling winch must be set at a predetermined cut off pulling tension as specified by the designer.
- Cable lubricant is applied to the outside of the cables being pulled through the duct. The lubricant assists in the pulling process by removing friction between the cable and

the rollers. This not only speeds up the process but also prevents snagging and therefore damage to the cable.

- Once the cables are pulled into the ducting the cables can be terminated at both ends i.e. Lodgewood 220/110kV substation and Tincurry 110kV substation.
- Two existing service crossings are expected along the cable route i.e. Castledockrell cable and MV cable bundle. Under or over crossings will be utilised at these locations, see drawing 300101236-DR-115 and 116 for further information.

The following equipment and materials are required for trench construction:

- 2-3 General Operatives;
- 1 Excavator Operator;
- 1 no. tracked excavator;
- 1 no. dumper or tractor and trailer.
- 160mm, 125mm and 63mm diameter HDPE ducting
- Sand for pipe bedding;
- Ready-mix Concrete where necessary;
- Trench backfilling material to relevant specifications; and
- Temporary Surface Reinstatement Materials.

The following equipment is required for tree felling:

- Chainsaw;
- Impact Bar;
- Felling Wedge;
- Winch;
- Stump Grinder;
- 1 no. tracked excavator; and
- 1 no. dumper or tractor and trailer.

4.4 Lodgewood Stream Bridge Construction Methodology

The cable stream crossing will be via a clear span concrete bridge, see Figure 4.

The proposed methodology is as follows:

- A works area will be fenced on both sides of the Lodgewood stream.
- The drilling rig will drill the piles and the pile reinforcement will be installed. Pile caps will be excavated. The pile cap reinforcement will be integrated with the pile reinforcement and the pile caps will be poured.
- The pre-cast beams will be installed on top of the pile caps.
- A protective barrier will be positioned below the pre-cast beams to prevent any material falling into the Lodgewood stream.
- The joints between the pre-cast beams will be sealed with mortar to the manufacturer's specification.
- Cable ducts will be installed above the pre-cast beams.
- The concrete deck will be poured with steel plates and ESBN warning tape installed.
- Palisade fencing, post and rail fencing and the interface kiosk will be installed.
- Grid cables and control and protection cables will be installed in the ducting within the bridge structure.

All required mitigation measures will be implemented and the area and proposed works inspected and approved by the Ecological Clerk of Works in advance of construction.

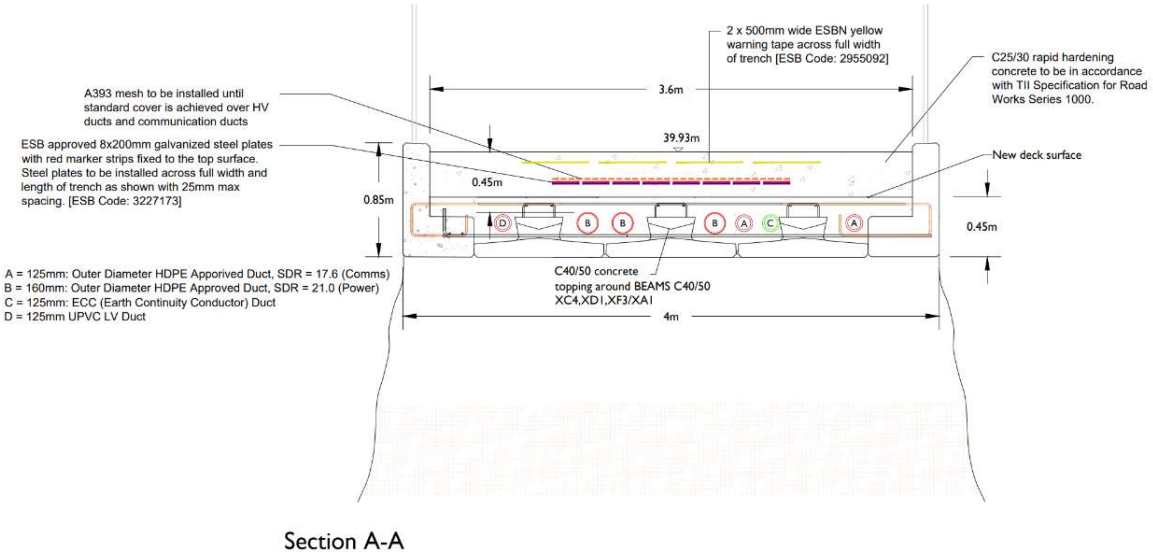


Figure 4: Lodgewood Stream Bridge Cross Section

5 110kV Substation Construction Methodology

5.1 Substation Compound

The proposed 110kV substation compound area is approximately 2,657 m^2 including the surrounding fence. The substation area will be secured by a 2.6m high palisade fence. A detailed layout of the substation compound can be found on drawing 300101236-DR-103 submitted with this planning application. The construction sequence will be as follows;

- Any mitigation measures or conditions of the planning permission will be implemented.
- An Assigned Certifier will be appointed in accordance with Building Control Regulations.
- The AF2 Commencement Notice will be submitted upon completion of a comprehensive Preliminary Safety and Health Plan (PSHP) by the PSDP. This Health and Safety Plan will be built up from the preliminary plan;
- A temporary construction compound with appropriate mobile sanitary facilities will be set up to facilitate the construction process. The location of this temporary construction compound is shown in drawing 300101236-DR-102 submitted with this planning application. Sanitary facilities will be pumped to a holding tank which will be monitored and disposed off-site by a suitably licensed waste contractor;
- To construct the temporary construction compound topsoil and subsoil will be removed from the footprint of the compound using an excavator and stored for reinstatement. A layer of geotextile material will be laid over the footprint of the compound. Using an excavator, a base layer of Clause 804 material will be laid followed by a 6F2 capping layer and finally a finished surface. Each layer will be compacted using a vibrating roller. Following completion of construction of the works the temporary construction compound will be reinstated.
- The extents of substation compound and drainage will be marked out by a qualified engineer.
- Earthworks will be undertaken in order to create a level compound level across the entire substation footprint. Details of this are shown on 300101236-DR-113. Suitable material will be reused on site and otherwise stored on the site.
- A drainage system will be excavated and installed around the compound area including soakaway and oil interceptor.
- Topsoil and subsoil will be removed from the footprint of the compound using an excavator.
- A layer of geotextile material will be laid over the footprint of the compound.

- Using an excavator, a base layer of Clause 804 material will be laid followed by a 6F2 capping layer and finally a finished surface.
- Each layer will be compacted using a vibrating roller.
- Earthing cable will be laid underground around the substation compound for connection to the various electrical components during the electrical fit out phase.
- The construction of the substation compound comprising of IPP Control and Solar Farm operations' building and all associated outdoor electrical equipment, including 1 no. 110kV transformer, generator and fuel storage, harmonic filter, associated internal access track and car park, security lighting, drainage infrastructure, communications mast, services infrastructure, 2.6m high station perimeter fencing and concrete post and rail property boundary fence will be built.
- Underground services such as foul and storm water network will be installed within the compound.
- External fencing will be installed around the substation compound.
- The construction of the substation control building will begin by setting out the foundations. The building foundations will consist of reinforced concrete rafts or footings. Pre-formed works will be constructed to the specifications of the detailed design. The concrete will be mixed off site and transported to site in concrete trucks where the foundations will be poured in-situ in the preformed works. The building will be constructed using traditional techniques for constructing small buildings (i.e. concrete block walls with render, timber and slate tile roof). The building will be fitted out internally and all necessary electrical equipment will be installed.
- Adequate lighting will be installed around the compound on the lighting columns.
- Lightning protection masts will be installed to protect the station from direct lightning strike.
- A 110kV cable sealing end and associated cable equipment will be required to connect the 110kV incoming underground cables into the substation. Concrete foundations for all equipment will be poured in-situ prior to the installation of the equipment. Concrete bunds and blast wall will be constructed within the substation compound.
- An underground cable chamber will be installed outside the IPP compound entrance to act as the common interface point for the 33kV interconnector cables coming from the solar farm inverter/transformer stations going into the substation. The solar farm contractor will be responsible for routing all the interconnector cables into this chamber and then the separate substation contractor will manage the short connection of the 33kV cables from this chamber into the switchgear housed in the IPP control building.

Following the completion of construction works, the electrical infrastructure can be installed. The following electrical installation works will take place.

- Delivery and installation of 33kV/110kV transformer. The delivery of the transformer will be managed in accordance with regulations governing the movement of abnormal loads. In advance of undertaking abnormal load deliveries necessary permitting, approvals and infrastructure accommodation works will be agreed with An Garda Síochána and implemented accordingly. Delivery vehicles will only follow agreed routes and where possible will be delivered overnight to minimise potential for delay and obstruction to general traffic.
- Delivery and installation of all other HV equipment.
- Wiring and cabling of HV/LV equipment, protection and control cabinets.
- Commissioning of all newly installed equipment.

The following equipment is required for the construction of the substation compound:

- 360˚ tracked excavators (13 ton normally, 22 ton for rock breaker);
- Tracked dumpers / tractors and trailers;
- Vibrating rollers;
- Power Tools;
- Scaffolding;
- Crane;
- Hoist; and
- Generator.

5.2 Access Track

Construction access to the substation will be provided by private lands, with an entrance from the regional road R772. The entrance will be widened and reinforced on its northern side using fill material to facilitate the transformer delivery. This access track will be permanent and will also be used for operational access. A traffic management plan will be implemented for the delivery of the 33kV/110kV transformer. For overview of the access track refer to drawings 300101236-DR-102, 122, 123, 124, 125 and 126. The construction methodology for the access track is as follows:

- The site entrance will be opened up to facilitate access to the site off the regional road R772.
- Topsoil and subsoil will be removed from the footprint of the access track as required and stored on site for re-use.

- A layer of geotextile material will be laid over the footprint of the access track if required.
- Using an excavator, a base layer of Clause 804 material will be laid followed by a 6F2 capping layer and finally a finished surface.
- Each layer will be compacted using a vibrating roller.

Stream and drain crossings will be required as shown on drawing 300101236-DR-119. See Detail I for drain crossing and Detail II for Lodgewood stream crossing.

The proposed drain crossing methodology is as follows:

- Topsoil and subsoil will be removed from the footprint of the drain crossing as required and stored on site for re-use.
- Concrete will be installed to provide a suitable base for the culvert.
- Culvert pipe to be installed and surrounded in compacted granular fill.
- Concrete slab over culvert to be poured and stone roadway installed.

The proposed bridge construction methodology is as follows:

- A works area will be fenced on both sides of the Lodgewood stream.
- The drilling rig will drill the piles, pile reinforcement will be installed and concrete installed. Pile caps will be excavated. The pile cap reinforcement will be integrated with the pile reinforcement and the pile caps will be poured.
- The pre-cast beams will be installed on top of the pile caps.
- A protective barrier will be positioned below the pre-cast beams to prevent any material falling into the Lodgewood stream.
- The joints between the pre-cast beams will be sealed with mortar to the manufacturer's specification.
- Once the mortar has cured and sealed the bridge deck the concrete deck will be poured.
- Post and rail fencing will be installed.

All required mitigation measures will be implemented and the area and proposed works inspected and approved by the Ecological Clerk of Works in advance of construction

5.3 Drainage

5.3.1 Surface Water

Surface water drainage proposals for the proposed 110kV substation compound have been designed to mimic the natural drainage patterns of the site and thereby be in accordance with the Best Management Practices (BMPs) of Sustainable Drainage Systems (SuDS).

This is achieved when the following parameters are considered:

- The compound construction is formed with permeable stone thus mimicking a soakaway scenario. ESB compound stone is single sized for the first 150mm for safety purposes. It then changes to a graded 6F2 material. The area of this permeable surface is circa 1,295m².
- Assuming even the most basic of infiltration rates down through the permeable compound stone, the existing greenfield situation is easily maintained.
- The main areas to be drained includes the roofs, road, footpath and car parking. These equate to approximately 954m². These areas drain to a soakway to the south of the compound. Rainwater harvesting is proposed for the building however conservatively this is not considered in the above areas.

The surface water generated in the bunded areas will discharge to soakaway via a Class 1 Full Retention Oil Separator. The electrical transformer in the substation is oil filled equipment and, as such, is protected with impermeable bunds. Surface water generated in this bund will be pumped out by an oil sensitive pump ensuring that only non-contaminated water enters the site drainage network.

Details on the proposed locations of surface water drainage infrastructure can be seen on drawing 300101236-DR-103 submitted with this planning application.

5.3.2 Foul Water

There are no existing foul sewer water drains on or near the proposed substation site. The dispersed settlement pattern of the surrounding area suggests that the individual farm dwellings use standalone private foul treatment and disposal systems.

The foul drainage proposal must cater for the wastewater generated in the welfare facilities of the proposed substation. These welfare facilities include a toilet, wash hand basin and shower in the IPP control and Solar Farm operations' building. The station will be manned with a permanent staff of 6 and occasional maintenance crews. The average flow rate for design (per person/day) is approximately 50 litres for an industrial setting (office without canteen) based on Uisce Éireann 2020 Code of Practice for Wastewater Infrastructure.

A foul holding tank to be emptied periodically is proposed. Foul holding tanks are normally used in EirGrid and ESB substations.

The foul holding tanks will have a capacity of 18m^3 and will be emptied every three months or as required. The foul holding tank will also be inspected by a suitably qualified and indemnified person at these intervals and records of inspections will be held on site for inspection by the local authority. A freeboard of 300mm will be provided for and the foul holding tank will be fitted with a high-level alarm. This alarm will be connected to a manned control station via the substation's Supervisory Control and Data Acquisition (SCADA) telecom relay system. This will allow for non-scheduled maintenance and emptying of the tank between the regular three-monthly intervals in the event that this is required. The tank will hold approximately 15m3 of wastewater before the alarm will be triggered. At a loading of 300l/day for 6 personnel this would require emptying every 50 working days, approximately once every 2.5 months.

The foul holding tank will also be vented to the atmosphere to avoid the buildup of noxious and dangerous gases.

Details on the proposed foul water holding tank can be seen on drawing 300101236-DR-108 submitted with this planning application.

5.3.3 Water Supply

A bored well is included in the proposed substation as well as rain water harvesting from the building roof. It is proposed to provide the required potable water demand of the station with a bored well on site. The potable water demand within the site will be low as the proposed station staffing is relatively low.

The water demand within the proposed development will be low and will be similar to the figures for foul sewer water generation as set out above in this report. Details on the indicative location of the bored well can be found on drawing TNCY-DR-030 submitted with this planning application.

5.4 Earthworks

Topographical data for the location of the proposed 110kV substation shows the site does not have any severe or steep slopes, with most areas being relatively flat. The compound level of 41.007m has been chosen to minimise changes to the existing landform.

Analysis of available topographic data suggest that cutting and filling of the existing terrain will be required to establish a level platform for the substation compound. Cutting into the existing terrain and the requirement to relocate soil has been minimised by establishing the compound

level to 41.007 m. For further details on the cut, fill and level details can be found on drawing 300101236-DR-113 and 300101236-DR-114 submitted with this planning application.

6 Emergency Response Plan

All site personnel will be inducted in the provisions of the Emergency Response Plan. The following outlines some of the information, on the types of emergencies, which must be communicated to site staff (list not exhaustive)

- Release of hazardous substance – Fuel or oil spill;
- Concrete spill or release of concrete;
- Flood event – extreme rainfall event;
- Environmental buffers and exclusion zones breach;
- Housekeeping of materials and waste storage areas breach; and
- Stop Works order due to environmental issue or concern.

The Emergency Response Plan will be completed by the appointed Contractor before the project begins.

7 Best Practice Design and Construction Mitigation

Prior to commencement of construction works the contractor will draw up a final Method Statement including a Construction Environmental Management Plan which will be based on established best practice measures. These documents will be adhered to by the contractors and will be overseen by the project representative/foreman.

The following documents will contribute to the preparation of the Method Statement and CEMP:

- Inland Fisheries Ireland (2016) *Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters*. Inland Fisheries Ireland*, Dublin,*
- *National Roads Authority (2008) Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes*. National Roads Authority, Dublin.
- E. Murnane, A. Heap and A. Swain. (2006) *Control of water pollution from linear construction projects.* Technical guidance (C648). CIRIA.
- E. Murnane et al., (2006) *Control of water pollution from linear construction projects*. Site guide (C649). CIRIA.
- Murphy, D. (2004) *Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites*. Eastern Regional Fisheries Board, Dublin.
- H. Masters-Williams et al (2001) *Control of water pollution from construction sites. Guidance for consultants and contractors* (C532).
- Enterprise Ireland (unknown). *Best Practice Guide (BPGCS005) Oil storage guidelines.*
- Law, C. and D'Aleo, S. (2016) *Environmental good practice on site pocketbook*. (C762) 4th edition. CIRIA.
- CIRIA *Environmental Good Practice on Site (fourth edition) (C741) 2015*.

The final Construction Method Statement and CEMP will comply with any planning condition specified by An Coimisiúin Pleanála. The environmental measures to be included in the final CEMP and which are consistent with the existing Tincurry Solar Farm and Ballylough Solar Farm planning permissions will include the measures as set out in the following sections:

7.1 General

All plant, machinery and equipment will be stored within the temporary construction compound. The environmental control measures associated with compounds have already been established in the planning permission for the solar farms and includes the following:

- Materials, plant and equipment shall be stored in the proposed site compound.
- All hazardous liquid materials shall be stored in a bunded area and spill containment measures will be in place.
- Re-fuelling of machinery, plant or equipment will be carried out in the site compounds.
- Fuel pipes on plant, outlets at fuel tanks etc. will be regularly checked and maintained to ensure that no drips or leaks to ground occur. The following precautions will also be installed on fuel delivery pipes:
- Any flexible pipe, tap or valve must be fitted with a lock where it leaves the container and be locked when not in use.
- Flexible delivery pipes must be fitted with manually operated pumps or a valve at the delivery end that closes automatically when not in use.
- Warning notices including “No smoking” and “Close valves when not in use” shall also be displayed.
- Any pouring of concrete will only be carried out in dry weather. Washout of concrete trucks shall be strictly confined to designated and controlled impermeable wash-out areas remote from watercourses, drainage channels and other surface water features.
- Spill kits will be available within each plant/vehicle on site and located close to identified pollution sources or sensitive receptors (fuel storage areas, etc.).
- Interceptor drip trays will be positioned under any stationary mobile plant to prevent oil contamination of the ground surface or water. Plant and site vehicles are to be well maintained and any vehicles leaking fluids must be repaired or removed from site immediately. Any servicing operations shall take place over drip trays.
- Areas used to store fuel and oil on the site will be appropriately lined and bunded to prevent the downward percolation of contaminants to natural soils and groundwater.
- Fuel for construction vehicles will be stored on an impervious base within a bund able to contain at least 110% of the volume stored. Rainwater will not be allowed to accumulate within the bund and in any way compromise the required 110% volume capacity. No tanks or containers may be perforated or dismantled on site. A competent operator shall empty all contents and residues for safe disposal elsewhere.
- Suitable wheel wash facilities, complete with C/W silt traps will be put in place to ensure vehicles entering/existing the site do not carry/transport debris.

- If very wet ground must be accessed during the construction process bog mats will be used to enable access to these areas by machinery.
- Daily environmental toolbox talks / briefing sessions will be conducted for all persons working to outline the relevant environmental control measures and to identify any environment risk areas/works.

7.2 Water Quality

- A buffer of 5 m from the closest drain or watercourse will be established and clearly marked out prior to the commencement of construction activities where possible. The buffer will be maintained with the exception of localised areas where access, crossing or cable trenching is required.
- Silt fencing will be installed within the works area for the proposed substation and grid cable. The silt fence will provide protection from sediment and potential site water runoff.
- The silt fencing will be checked twice daily during construction and once per day thereafter to ensure that it is working satisfactorily until such time as the re-instated ground/material has been fully established.
- If dewatering is required as part of the proposed works e.g., in trenches for underground cabling or in wet areas, water must be treated prior to discharge. The Contractor shall employ best practice settling systems to ensure maximum removal of suspended solids prior to discharge of any surface water or groundwater from excavations to receiving waterbodies. This may include treatment via settlement tanks. There will be no direct pumping of water from the works to any watercourses or drains at any time.
- An emergency-operating plan will be established to deal with incidents or accidents during construction that may give rise to pollution within any nearby watercourses or drains. This will include means of containment in the event of accidental spillage of hydrocarbons or other pollutants (spill kits etc.).
- The contractor will ensure that good housekeeping is always maintained and that all site personnel are made aware of the importance of the nearby estuary/aquatic environments and the requirement to avoid pollution of all types.

7.3 Soils

- Excavated material will be temporarily stockpiled onsite for re-use during reinstatement. Stockpiles will be restricted to less than 2m in height.

- No stockpiles associated with the excavation works associated with the proposed substation and grid connection will be located within 10m of drains.
- Imported materials and any site won materials will be tested prior to use to determine its geotechnical and geo-environmental properties to assess their suitability for use
- Any earthen (sod) banks to be excavated will be carefully opened with the surface sods being stored separately and maintained for use during reinstatement.

7.4 Ecology

- No removal of habitats or movement of construction machinery will occur outside of the development works area/footprint during the construction phase, where the works area/footprint will be clearly marked for associated site staff.
- The following best practice measures form part of the construction methodology and will help to contain and/or prevent the introduction of invasive species on the site as follows:
    - When deemed necessary, all plant and equipment employed on the proposed works (e.g., diggers, tracked machines, footwear etc.) will be thoroughly cleaned down using a power washer unit, and washed into a dedicated and contained area prior to arrival on site and on leaving site to prevent the spread of invasive aquatic / riparian species. A sign off sheet will be maintained by the contractor to confirm cleaning.
    - Material gathered in the dedicated and contained clean down area will need to be appropriately treated as contaminated material on site.
    - For any material entering the site, the supplier must provide an assurance that it is free of invasive species.
    - Ensure all site users are aware of invasive species management plan and treatment methodologies. This can be achieved through “toolbox talks” before works begin on the site.
    - Adequate site hygiene signage should be erected in relation to the management of non-native invasive material.
    - All excavations/trenches should be covered at night, or a suitable means of escape provided for nocturnal mammals such as Badger.

7.5 Noise

All plant will be required to conform to the British Standards (BS) 5228 Code of practice for noise and vibration control on construction and open site. BS5228 provides a comprehensive

guidance on construction noise including details of typical noise levels associated with various items of plant or activities, prediction methods and measures and procedures and is an accepted standard for construction practise in Ireland given the absence of statutory Irish guidelines.

7.6 Air Quality

The main activities that may give rise to dust emissions during construction include the following:

- Excavation and removal of earthworks.
- Materials handling and storage.
- Movement of vehicles (particularly HGV's) and mobile plant.
- Suspended solids in surface water runoff.

7.7 Waste Management

All waste arising during the construction phase will be managed and disposed of in a way that ensures the provisions of the Waste Management Act 1996 and associated amendments. A Waste Management Plan will be prepared by the contractor before the commencement of construction. All waste material will be disposed of at a fully licensed facility.

8 Summary

The construction of the proposed 110kV substation, access track and grid connection can be summarised as follows:

- Construction of the substation will consist primarily of an electrical compound to house a transformer, high voltage equipment, and an IPP control and Solar Farm operations' building.
- All substation construction activities will take place at fixed construction sites within the extents of the proposed site boundary.
- Earthworks will be required to create a level compound area for the substation, with cut material reused on site and import of fill material required for the substation, grid cable and access track delivered by truck to the site.
- The duration of the substation construction works will be confirmed and agreed with the Local Authority prior to construction. The construction programme is estimated to be a total of 12-15 months.
- Prior to commencement of development, a detailed Construction Environment Management Plan (CEMP) shall be submitted to, and agreed in writing with, the planning authorities, following consultation with relevant statutory agencies.
- All planning conditions will be complied with, and contractor(s) will be supervised and managed closely to ensure full compliance.

Appendix C CONSTRUCTION & ENVIRONMENTAL MANAGEMENT PLAN

TOBIN

Tincurry 110kV Substation Amendment

Construction & Environmental Management Plan (CEMP)

Ørsted

BUILT ON KNOWLEDGE

Document Control Sheet	
Document Reference	Construction & Environmental Management Plan (CEMP)
Client:	Ørsted (Lodgewood Solar Farm Ltd.)
Project Reference	12123 Tincurry 110kV Substation Amendment

Rev	Description	Author	Date	Reviewer	Date	Approval	Date
A	Final	FDF	07/10/2025	DH	13/02/2026	OF	26/02/2026

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1. INTRODUCTION

This Construction Environmental Management Plan (CEMP) has been prepared on behalf of Lodgewood Solar Farm Ltd. ('the Applicant'). It defines the project specific construction environmental measures that are to be implemented and the procedures to be followed for the proposed amendments to the permitted Tincurry 110kV Substation and Grid Connection (Planning Ref: ABP-318528-23) at Lodgewood Co. Wexford in the townlands of Tincurry, Crory, Ballylough and Lodgewood (OS ITM Reference 699271 648472) (herein referred to as the proposed project).

The CEMP sets out the arrangements that the Contractor will use for planning, managing, and monitoring the construction phase activities to safeguard the environment throughout the construction stage.

A specialist and experienced Contractor will be appointed by the Applicant to undertake these works as described in this CEMP prior to the commencement of development. This CEMP should be considered a live document and as such once a Contractor is appointed, the CEMP will be updated and developed as the project progresses through detailed design.

1.1 SCOPE OF THE CEMP

The purpose of this CEMP is to communicate the key environmental obligations that apply to all Contractors, their sub-Contractors and personnel while carrying out any form of construction activity for the development of the proposed project. It will assist in the control of environmental risks that may arise during construction to ensure that these works do not result in an environmental incident, environmental damage or undue nuisance to the local environment.

This CEMP should be read in conjunction with the Planning Documents & Drawings, that support the planning application for the proposed project. The CEMP draws from relevant good practice guidance, standards, and codes of practice applicable to the work being undertaken as part of the proposed project. The documents used to prepare this CEMP are listed below and in the reference section at the end of this document.

- CIRIA C741 - Environmental Good Practice on Site (4th edition) (CIRIA, 2015);
- CIRIA C532- Control of Water Pollution from Construction, Guidance for Consultants and Contractors (CIRIA, 2001);
- CIRIA C753 - The SuDS manual (CIRIA, 2015);
- BS 5228-1 + A1:2014: Code of Practice for noise and vibration control on construction and open sites- Part 1: Noise (BSI, 2009) and Part 2 Vibration (BSI, 2009);
- Guidance for Invasive non-native species (NRA, 2010);
- Inland Fisheries Ireland (2016) Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters. Inland Fisheries Ireland, Dublin.
- E. Murnane, A. Heap and A. Swain. (2006) Control of water pollution from linear construction projects. Technical guidance (C648). CIRIA.
- E. Murnane et al., (2006) Control of water pollution from linear construction projects. Site guide (C649). CIRIA.

- Murphy, D. (2004) Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites. Eastern Regional Fisheries Board, Dublin.
- H. Masters-Williams et al (2001) Control of water pollution from construction sites. Guidance for consultants and contractors (C532).
- Enterprise Ireland (unknown). Best Practice Guide (BPGCS005) Oil storage guidelines.
- Law, C. and D'Aleo, S. (2016) Environmental good practice on site pocketbook. (C762) 4th edition. CIRIA.

The CEMP is a live document that will evolve during the detailed design and construction stages of the proposed project. As such it will be subject to constant review to address:

- Any conditions required in the planning permission;
- To ensure it reflects best practice at the time of construction;
- To ensure it incorporates the findings of pre-construction site investigations;
- Changes resulting from the construction methods used by the contractor(s); and,
- Unforeseen conditions encountered during construction.

This CEMP provides a mechanism for ensuring compliance with environmental legislation and statutory consents. It defines the approach to environmental management at the site during the construction phase and addresses all relevant environmental aspects of the management of site preparation and construction work within the development works area.

1.2 OBJECTIVES OF THE CEMP

The key aims of the CEMP are:

- To ensure the project is undertaken in accordance with best practice guidance for the management of the environment during construction works;
- To set out the client's expectations to guide contractors on their requirements with regards to environmental commitments and environmental management;
- To ensure that mitigation measures to protect all aspects of the environment as set out in the Planning and Environmental Considerations Report (PECR) and the Natura Impact Statement (NIS) are put in place;
- To ensure compliance with legislation and identify where it would be necessary to obtain authorisation from relevant statutory bodies;
- To ensure that construction activities are carried out in accordance with all planning conditions for the development;
- To carry out the works with minimal impact on the environment;
- Ensure that appropriate proposed project monitoring and reporting will be in place; and,
- To ensure procedures are in place so that there is a prompt response to effects requiring remediation, including reporting and any additional mitigation measures required to prevent a recurrence.

The primary objectives to ensure the above aims are achieved during the construction phase are:

- Appointment and delegation of responsibility to an individual for monitoring environmental compliance and adherence to the Contractor's CEMP;
- Updating the Contractor's CEMP on a continuous basis in accordance with regular environmental auditing and site inspections. This will confirm the efficacy and implementation of all relevant mitigation measures and commitments identified in the planning application documentation;
- Providing adequate environmental training and awareness to all project personnel;
- Establishing documented schedules and records for monitoring and inspections;
- Establishing reporting procedures for any incidents on site with potential to impact on the environment;
- Provide a framework for reporting, compliance auditing and inspection to ensure environmental aims will be met;
- Providing opportunities for community feedback and submission of complaints; and
- Adopting a sustainable and socially responsible approach to construction.

Any reviews to the document will be carried out in consultation with those affected by the changes. The measures identified in the CEMP should be:

- Viewed as mandatory and common practice on-site; and,
- Embedded within the construction company's policies and site procedures, e.g., within an existing environmental management system framework.

1.3 Implementation of the CEMP

In terms of overall environmental responsibility, everyone on site is responsible for ensuring that their actions constitute good environmental practice. All site personnel are charged with following good practice and encouraged to provide feedback and suggestions for improvements. All site personnel are also required to ensure compliance with the requirements of the CEMP.

Compliance with the CEMP, the procedures, work practices and controls will be mandatory and must be adhered to by the Contractor, all site personnel, and sub-contractors employed during the construction phase. The CEMP seeks to:

- Provide a basis for achieving and implementing the construction related mitigation measures identified in the PECR and NIS; and
- Promote best environmental on-site practices for the duration of the construction phase.

1.4 Revisions to the CEMP

As mentioned above, the CEMP is considered a 'live' document and as such will be reviewed on a regular basis to allow any changes to construction programme, operations or unforeseen

issues be incorporated at any stage throughout the project as deemed necessary by the Applicant, their agents or relevant authorities.

The Contractor's CEMP will incorporate the conditions associated with any grant of planning for the proposed project. This CEMP will be subject to ongoing review (throughout the construction phase of the development), through regular environmental auditing and site inspections. This will confirm the efficacy and implementation of all relevant mitigation measures and commitments identified in the application documentation.

The appointed Contractor is required to include further details and/or confirmation in the updated version of the CEMP which will include:

- Details of emergency plan including personnel and contact numbers;
- Site and traffic signage; and
- Method statements.

The appointed Contractor shall also agree and implement monitoring measures to monitor the effectiveness of the CEMP.

1.5 Environmental Training and Awareness

In order to ensure that environmental awareness and compliance is communicated effectively at the start and throughout the construction works, this CEMP and its contents will be communicated to all site personnel, including management staff, operatives and sub-Contractors. The key elements of this CEMP will form part of the site induction which will be mandatory for all employees, Contractors and visitors attending the site.

Environmental toolbox talks will be provided to all site personnel and sub-consultants on a regular basis. These will be targeted at particularly sensitive environmental issues such as:

- Protection of sensitive ecological habitats and key ecological receptors;
- Works close to sensitive water bodies;
- Invasive species management;
- Water pollution and silt control;
- Water pollution in relation to cement and concrete handling;
- Spill prevention and control; and,
- Dust management.

1.6 Emergency Response Plan

The Contractor will be responsible for developing a detailed environmental Emergency Response Plan (ERP) for the proposed works, to cover environmental emergencies, as part of the Health and Safety (H&S) Plan. Details related to the ERP are outlined in Section 5 (Emergency Response Plan / Procedures) of this CEMP.

1.7 Incidents And Complaints

Details related to the incidents / complaints are outlined in Section 5.4 of this CEMP

2. SITE LOCATION AND PROJECT DETAILS

The key elements of the proposed project are presented below.

2.1 LOCATION OF THE PROPOSED PROJECT

The proposed project site is located in Co. Wexford, in the townlands of Tincurry, Crory, Ballylough and Lodgewood.

The total area of the proposed project is 4.86 ha. The proposed project site is within the administrative boundary of Wexford County Council. The proposed project site is located approximately 2.4 km southwest of the town of Ferns, Co. Wexford.

The main land parcel consists of a portion of an agricultural field currently used as arable cropland and broadleaved woodland. The proposed infrastructure will have three intersections with watercourses, having two stream crossings (using clear span bridges) and one drain crossing (using a culvert).

A description of the proposed project is provided in Chapter 1 of the PECR. Site layout plans are provided to support the planning application. An overall site layout plan (for the proposed substation and grid connection, but excluding the access track) is presented as Figure 2-1.

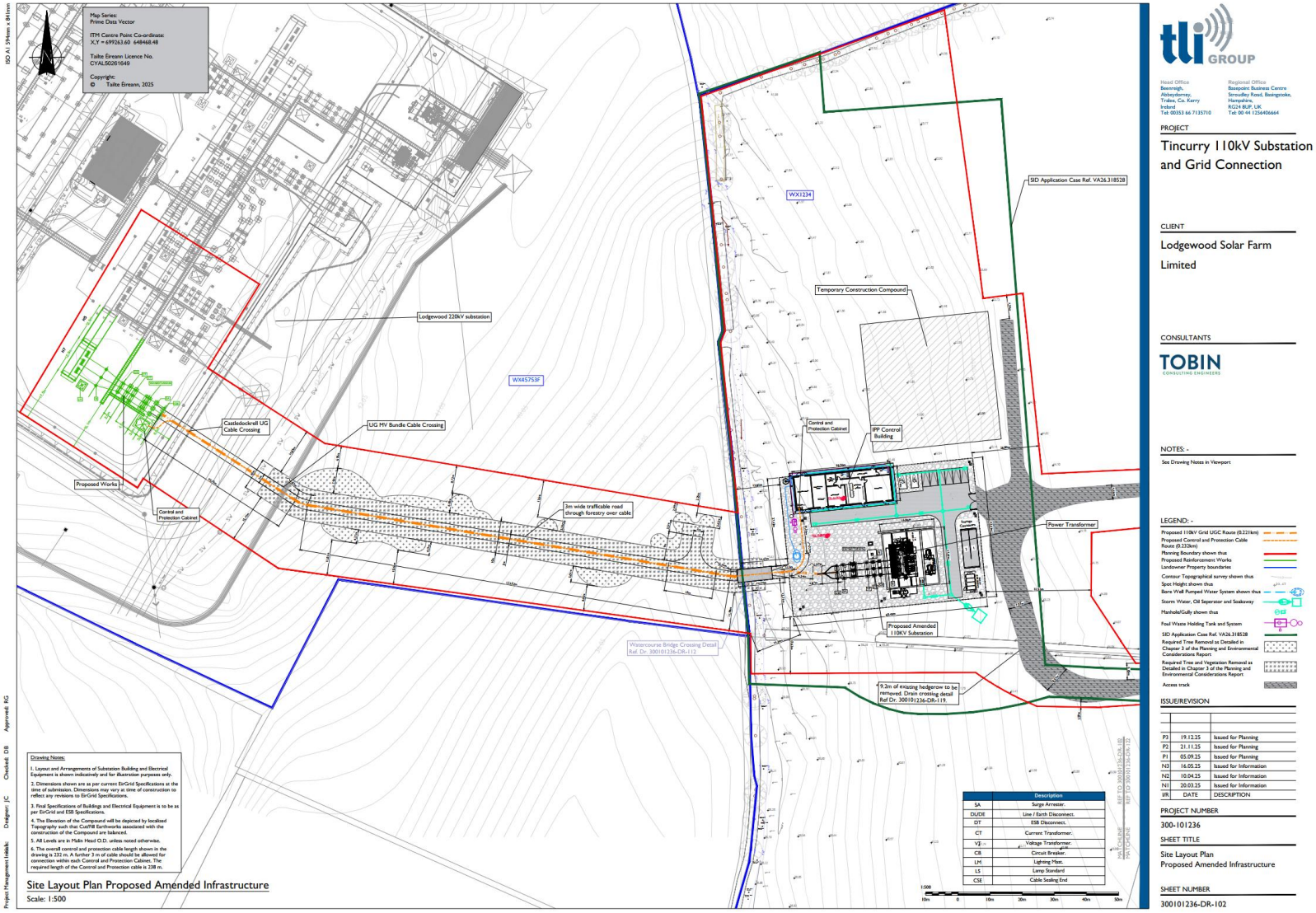


Figure 2-1: Site Layout (for the proposed substation and grid connection, but excluding the access track)

3. CONSTRUCTION MANAGEMENT

3.1 CONSTRUCTION PROGRAMME AND DURATION

It is estimated that the construction phase will take approximately 18-24 months from starting onsite to completion of commissioning of the 110 kV Substation. Where practical, vegetation clearance that is required during construction works will commence outside the breeding bird season, which runs from the 1st of March to the 31st of August. If any minor clearance or trimming is required within those dates, or if the initial vegetation clearance extends past the 1st of March due to unsuitable weather conditions, the works will be preceded by an ecological survey (from a qualified and suitably experienced ecologist) to ensure there are no sensitivities associated with the action.

The project is expected to employ 50-100 people onsite during peak construction.

3.2 CONSTRUCTION HOURS

The hours of construction activity will align with planning conditions as per the previously permitted Tincurry 110kV Substation and Grid Connection (Planning Ref: ABP-318528-23). Construction operations will generally be restricted to standard day-time operational hours i.e. 07:00 to 19:00, Monday to Friday inclusive and 07:00 to 14:00 on Saturdays, with no works undertaken on Sundays or Bank Holidays.

However, during the following critical periods longer hours will be required:

- Concrete pours for foundations;
- Delivery of oversized loads;
- In the unlikely event of an emergency (see Section 4.0 Emergency Response Plan / Procedures).

Any such out of hours working will be agreed in advance with Wexford County Council apart from in the case of an emergency and in line with the Schedule of Mitigation requirements of the PECR.

3.3 OVERVIEW OF CONSTRUCTION METHODOLOGY

A detailed Construction Methodology is presented in Appendix B of the PECR; Section 4.0 (Underground Cable Construction Methodology) and Section 5.0 (110 kV Substation Construction Methodology, including Access Track and Substation Compound).

3.4 KEY ROLES AND RESPONSIBILITIES

At this stage it is envisaged that the following roles will be appointed for the construction phase of the proposed project; Construction/ Site Manager; Environmental Manager, Ecological Clerk of Works (ECoW); and Archaeological Clerk of Work (ACoW).

The names and contact details of the individuals with responsibility for implementation and supervision of mitigation measures during all phases of the development will be clearly identified and set out in documents such as the Contractor's CEMP and site- specific method statements as appropriate.

Summary details of these roles are outlined in the following sections. At construction stage, the Contractor's CEMP will confirm roles and finalise responsibilities and contact details once appointed.

3.4.1 Construction / Site Manager

A suitably qualified Construction / Site Manager will be appointed by the contractor for the duration of the construction period. The Construction / Site Manager will have overall responsibility for the organisation and execution of all related environmental activities as appropriate, in accordance with regulatory and project environmental requirements.

3.4.2 Environmental Manager

The Environmental Manager will ensure compliance with all relevant environmental regulations, and environmental quality control on-site during the construction stage. The Environmental Manager will be responsible for:

- The daily implementation of the CEMP and any other monitoring/mitigation proposals required under the planning consent;
- Ensuring that the objectives of the CEMP are achieved and maintained;
- Informing the appointed contractor(s) of the CEMP and ensuring that appropriate training and awareness materials are developed and implemented on-site;
- Co-ordinating and monitoring the inputs from the ECoW and ACoW;
- Implementing appropriate measures in the event of any environmental incidents and managing communications with relevant authorities.

3.4.3 Environmental Clerk of Works (ECoW)

The role of the ECoW is defined by British Standard BS 42020:2013[1] as "*person who has the ecological qualifications, training, skills and relevant experience to undertake appropriate monitoring and to provide specialist advice to "development" site personnel on necessary working practices required to i) safeguard ecological features on site and ii) aid compliance with any consents and relevant wildlife legislation related to the works.*".

Typically, the requirements of the ECoW role is largely fulfilled by a single individual, with support and assistance provided by technical specialists and senior colleagues when required, and will include:

- The ECoW (individual or team of individuals) must therefore have appropriate qualifications, training and experience to meet the requirements of the role and in addition, where needed, can access support from senior ecologists within the company with the required qualifications, training and experience;
- The ECoW will have the power to "Stop Works" at any time they deem it necessary to do so;
- The ECoW will be responsible for monitoring compliance with the mitigation measures and construction phase monitoring requirements relating to ecology / biodiversity as set out project PECR, NIS and supporting documents such as the, CEMP etc.;

- The ECoW will have authority over the content of routine reports and will act independently in determining instances of non-compliance with the consents and licenses or any breaches of environmental legislation; and,
- The ECoW will provide the contractors team, with advice on environmental issues and compliance with planning conditions, commitments etc. as required. This includes managing certain activities that may be required in discharging consent conditions. The ECoW will inform the Contractor and Applicant of any information that could increase the risk of a non-compliance and/ or require a new licence, consent or approval.

During construction there will be occasions when the ECoW will be required to rapidly respond to unplanned events such as any wildlife incidents, pollution incidents, etc. The ECoW will have a very specific role within the emergency response teams responding to these incidents. Further detail is provided in Section 6.0. The ECoW will also be expected to support the project team in resolving any other unplanned events that are not classified as emergency responses or incidents.

3.4.3.1 Non-Compliance Events

The ECoW shall produce a procedure setting out the sequence of actions to be completed and the lines of communication required to resolve and appropriately report on a non-compliance event relating to ecology/biodiversity, should one occur.

This procedure shall be approved by the Applicant prior to construction commencing. The ECoW, and any other individual present on-site, has a duty of care to report any wildlife crime or breach of environmental legislation to the Applicant. The Applicant must report such breaches to the relevant authorities.

3.4.3.2 Reporting and Follow Up

After the ECoW has responded to an incident or non-compliance event the ECoW will produce a report to the Environmental Manager for approval before it is issued to the Applicant. The report will set out the following information as a minimum;

- Precise details of the event and those involved;
- Assessment of impact and severity (method for assessment to be developed by ECoW);
- Mitigation introduced;
- Subsequent revision of risk assessments and construction method statements and/or construction programme; and
- Lessons learnt.

3.4.4 Archaeological Clerk of Works (ACoW)

Archaeological monitoring will be undertaken of all groundworks related to the development of the site by a suitably qualified Archaeological Clerk of Works under licence from the National Monuments Service of the Department of Housing, Local Government and Heritage.

3.4.5 Environmental Compliance Audits and Communications

The ECoW and Environmental Manager will develop appropriate procedures and programmes for the following non exhaustive list of items:

- Environmental Audits. A programme of planned and spot check audits shall be developed and approved by the client;
- A programme of toolbox talks shall be developed. Toolbox talks covering relevant topics during construction;
- The ECoW and Environmental Manager will support the project team in producing site induction material tailored to the different activities carried out on site, and ensuring this material is appropriately incorporated into the overall project induction material. This will require attendance at project meetings, and production of material relevant to planning conditions and Environmental Legislation. The toolbox talks and site inductions shall include information on the role of the ECoW in the event of an incident;
- The ECoW shall ensure this information is included in the relevant induction and toolbox talk material. Once the above programmes and plans have been agreed, the Environmental Manager will be responsible for managing these plans and conducting the necessary audits, toolbox talks etc.;
- The ECoW shall check progress, and the Environmental Manager will be reporting on progress against the programmes, plans and status of completed audits, toolbox talks etc to the ECoW on a daily basis;
- The ECoW will be required to report on audits and toolbox talks delivered in the monthly compliance report; and,
- Occasionally the ECoW will be required to deliver toolbox talks and produce site induction material depending on the topic being considered.

3.5 Facilities, Safety and Security

The proposed project will be constructed, in accordance with all relevant Health and Safety Legislation.

Aspects of the development that will present health and safety issues include:

- Health and safety aspects of construction activities;
- General construction site safety (e.g. slip/trip, moving vehicles etc);
- On site traffic safety during construction associated with localised high road embankments;
- Traffic safety during the transport of abnormal loads to the site;
- Lifting of heavy loads overhead using cranes;
- Working at heights; and
- Working with electricity during commissioning.

A (Preliminary) Health and Safety (H&S) Plan covering all aspects of the construction process will address the Health and Safety requirements in detail. This will be prepared prior to the construction stage by the PSDP.

Rigorous safety checks will be conducted on the equipment installed during construction. Signs will be erected at suitable locations across the site as required. Further details regarding signage is provided in Section 3.5.3 of this CEMP.

3.5.1 Site Access and Public Safety

Public safety will be addressed by restricting site access during construction works and the erection of security fencing as appropriate at construction work areas. The entrance to the proposed construction site will be controlled by the Contractor.

3.5.2 Compound and Facilities

One temporary construction compound is included as part of the proposed project.

The construction compound will typically consist of temporary site offices, staff welfare facilities, storage areas (including waste and recycling areas), and car-parking areas for staff and visitors. The location of the temporary construction compound is shown on Planning Drawing 300101236-DR-102 submitted with this application. An overview of the proposed temporary construction compound layout is presented in Figure 3-1.

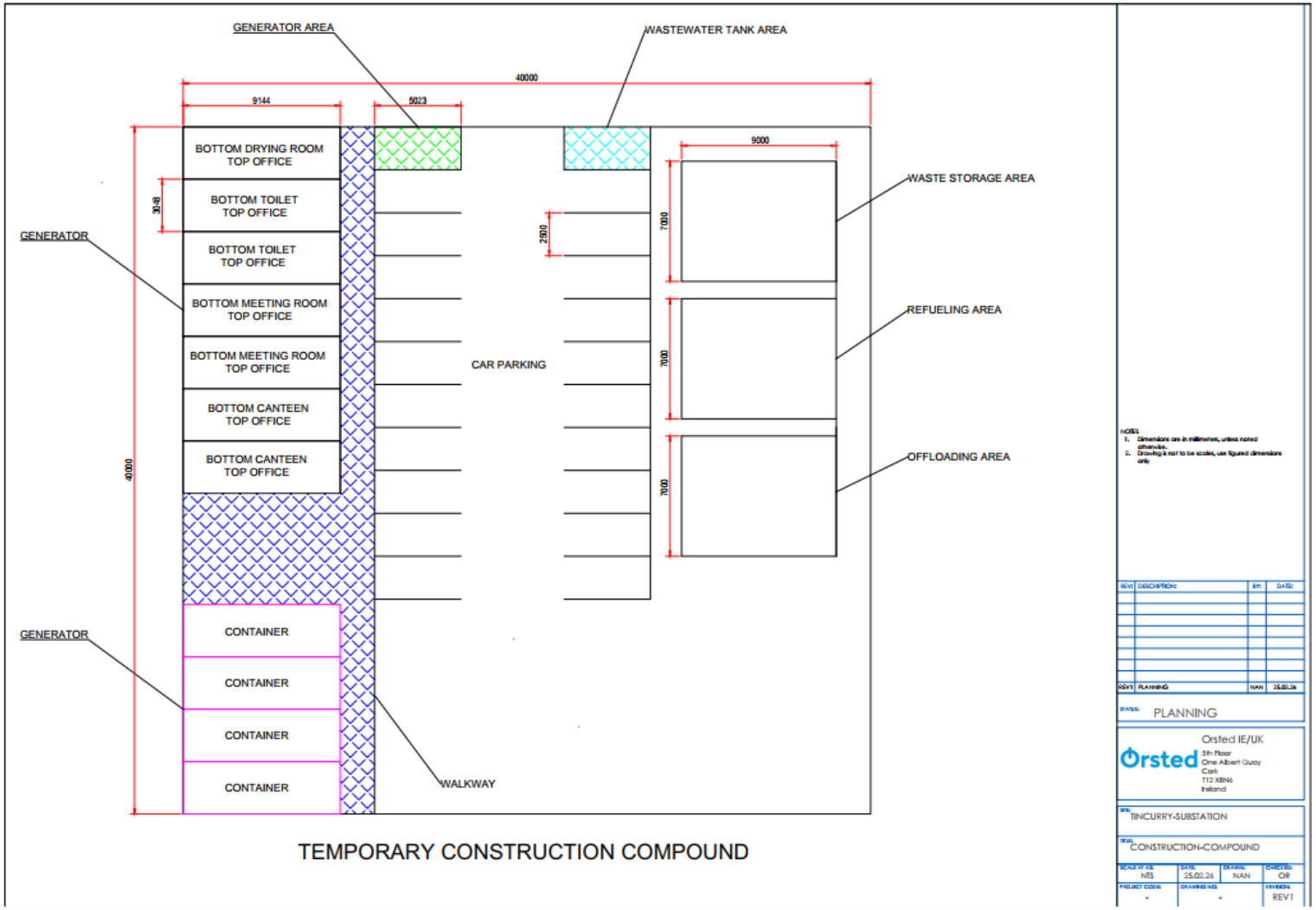


Figure 3-1 Temporary Construction Compound Layout

Temporary toilets will be used during the construction phase as part of the welfare facilities for site staff and visitors. Wastewater from toilets will be directed to a sealed storage tank, which will be collected and tankered off site by an appropriately consented and licensed waste collector to wastewater treatment plants.

3.5.3 Signage

Warning Signs will be erected at the construction work areas clearly stating that construction works are underway. A notice board will be erected at the site entrance and at the construction compound gates with the information on the contact details for site management, PPE requirements for the site and any other information deemed necessary in accordance with the H&S Plan.

Signage will be erected on both sides of the local, regional and national, roads associated with the proposed site entrance to warn approaching vehicles of the construction site entrance location and the potential presence of slow-moving vehicles.

On the internal site access road, prior to exit from the site, signage will be erected to inform construction traffic that they are leaving the site and directing them in the correct direction.

Road signage on the public road will be in accordance with the current Traffic Signs Manual and associated best practice guidelines. Signage in respect of traffic management will be in accordance with the Local Authority recommendations and relevant planning conditions. Within the site, maximum speed signage will be erected along the access roads for construction vehicles.

3.5.4 Emergency Response Plan

The appointed main Contractor will be responsible for developing a detailed Emergency Response Plan (ERP) for the proposed works, to cover health and safety emergencies as well as environmental emergencies, as part of the H&S Plan. Details related to the ERP are outlined in Section 5 (Emergency Response Plan / Procedures) of this CEMP.

Further information relating to the management of spills or leaks is outlined in Section 4.6.

3.5.5 Incidents / Complaints

All safety or environmental incidents associated with the proposed project will be reported and investigated in line with the ERP. Details related to the Incidents / Complaints are outlined in Section 5.4 (Emergency Response Plan / Procedures) of this CEMP.

3.5.6 Safety and Security

All activities carried out by the appointed Contractor on the proposed project will be in accordance with the requirements of the *Safety, Health and Welfare at Work Act 2005* as amended and Regulations made under this Act.

The scale and scope of the proposed project will require the appointment of a Project Supervisor Design Process (PSDP) and Project Supervisor Construction Stage (PSCS) in accordance with the provisions of the *Safety, Health and Welfare at Work (Construction) Regulations 2013 (S.I. No. 291 of 2103)*, as amended. These persons will be appointed by the Applicant and notified to

the Health and Safety Authority (HSA) prior to commencement of detailed design works (in the case of the PSDP) and prior to commencement of construction (in the case of the PSCS). As mentioned, the PSDP will prepare a Preliminary H&S Plan which will identify any particular risks, residual risks and particular sequences of work that are envisaged during the design of the works.

Prior to commencement of construction, this Preliminary H&S Plan will be provided to the Contractor and the PSCS will further develop the document to prepare a Construction Stage H&S Plan addressing all aspects of the construction process and providing relevant contact details and emergency response procedures for the project. This H&S Plan will be developed at the procurement stage and developed further at construction stage to the satisfaction of the Applicant. The H&S Plan will identify the potential safety hazards associated with the site and the works and assess the associated risks. Mitigation and control measures will be implemented to minimise the identified risks.

Evidence of completion of construction safety training, typically in the form of a Safepass Card, will be required for all construction personnel prior to commencing on site. A record of Safepass Cards and personnel approved for entrance to site will be completed as part of a site induction process. The Contractor's H&S Plan will detail the site induction and access requirements. Where relevant, equipment operators or specialist works will require personnel to hold a valid Construction Skills Scheme Card. All equipment and machinery used on site will be appropriately certified for its intended purposes. The Applicant will ensure that only competent contractors are appointed to carry out the construction works on the site.



4. ENVIRONMENTAL MANAGEMENT

4.1 ENVIRONMENTAL TRAINING AND AWARENESS

In order to ensure that environmental awareness and compliance is communicated effectively at the start and throughout the construction works, this CEMP and its contents will be communicated to all site personnel, including management staff, operatives and sub-Contractors. The key elements of this CEMP will form part of the site induction which will be mandatory for all employees, Contractors and visitors attending the site.

Environmental toolbox talks will be provided to all site personnel and sub-consultants on a regular basis. These will be targeted at particularly sensitive environmental issues such as:

- Protection of sensitive ecological habitats and key ecological receptors;
- Works close to sensitive water bodies;
- Invasive species management;
- Water pollution and silt control;
- Water pollution in relation to cement and concrete handling;
- Spill prevention and control;
- Dust management.

4.2 GENERAL SITE MANAGEMENT

All plant, machinery and equipment will be stored within the temporary construction compound. The environmental control measures associated with compounds have already been established in the planning permission for the solar farms and includes the following:

- Materials, plant and equipment shall be stored in the proposed site compound.
- All hazardous liquid materials shall be stored in a bunded area and spill containment measures will be in place.
- Re-fuelling of machinery, plant or equipment will be carried out in the site compounds.
- Fuel pipes on plant, outlets at fuel tanks etc. will be regularly checked and maintained to ensure that no drips or leaks to ground occur. The following will also be installed on fuel delivery pipes:
    - Any flexible pipe, tap or valve must be fitted with a lock where it leaves the container and be locked when not in use.
    - Flexible delivery pipes must be fitted with manually operated pumps or a valve at the delivery end that closes automatically when not in use.
    - Warning notices including “No smoking” and “Close valves when not in use” shall also be displayed.
- Any pouring of concrete will only be carried out in dry weather. Washout of concrete truck chutes shall be strictly confined to designated and controlled impermeable wash-

out areas remote from watercourses, drainage channels and other surface water features. Washout of trucks will be offsite at a controlled location.

- Spill kits will be available within each plant/vehicle on site and located close to identified pollution sources or sensitive receptors (fuel storage areas, etc.).
- Any servicing operations shall take place over drip trays.
- Areas used to store fuel and oil on the site will be appropriately lined and bunded to prevent the downward percolation of contaminants to natural soils and groundwater.
- Fuel for construction vehicles will be stored on an impervious base within a bund able to contain at least 110% of the volume stored. Rainwater will not be allowed to accumulate within the bund and in any way compromise the required 110% volume capacity. No tanks or containers may be perforated or dismantled on site. A competent operator shall empty all contents and residues for safe disposal elsewhere.
- If very wet ground must be accessed during the construction process bog mats will be used to enable access to these areas by machinery.
- Regular environmental toolbox talks/ briefing sessions will be conducted for all persons working to outline the relevant environmental control measures and to identify any environment risk areas/works.

4.3 General Ecology Management

- No removal of habitats or movement of construction machinery will occur outside of the development works area/footprint during the construction phase, where the works area/footprint will be clearly marked for associated site staff.
- The following best practice measures form part of the construction methodology and will help to contain and/or prevent the introduction of invasive species on the site as follows:
- When deemed necessary, all plant and equipment employed on the proposed works (e.g., diggers, tracked machines, footwear etc.) will be thoroughly cleaned down using a power washer unit, and washed into a dedicated and contained area prior to arrival on site and on leaving site to prevent the spread of invasive aquatic riparian species. A sign off sheet will be maintained by the contractor to confirm cleaning.
    - Material gathered in the dedicated and contained clean down area will need to be appropriately treated as contaminated material on site.
    - For any material entering the site, the supplier must provide an assurance that it is free of invasive species.
    - Ensure all site users are aware of invasive species management plan and treatment methodologies. This can be achieved through “toolbox talks” before works begin on the site.
    - Adequate site hygiene signage should be erected in relation to the management of non-native invasive material.

- All excavations/trenches should be covered at night, or a suitable means of escape provided for nocturnal mammals such as Badger.

4.4 Traffic Management

The successful completion of this project will require careful co-ordination in terms of traffic management and all traffic mitigation measures will be put in place before and during the construction and operational phase of the project. A Traffic Management Plan will be developed by the contractor incorporating the measures from the permitted development and will be agreed with the planning authority in advance of construction.

4.5 Vehicle Management

Vehicles will be kept on site access roads for the vast majority of the construction phase, however in the initial construction phases, there will be some requirement for off-road vehicle movements (for vegetation clearance and hedgerow trimming).

4.6 Refuelling - Fuel and Oil Management

Any easily manoeuvrable road-going vehicles (i.e. cars, jeeps, lorries etc) will be refuelled off-site. For any vehicles which are slow moving or tracked or those for whom regular trips off-site to refuel will not be practical, on-site fuelling will be required.

A limited amount of fuel will need to be stored on the site within the construction compounds for this purpose, and this will be within a double skinned and bunded mobile tank which can be moved around the site using a 4x4 vehicle to refuel. This will be stored in the construction compound when not in use.

A spill kit in the form of a supply of fuel absorbent material and mats and a drip tray will be kept with the tank at all times. The drip tray and fuel absorbent mats will be used at all times during refuelling. Similar spill kits will be stored in each construction compound, and at the on-site substation in case of emergency.

No refuelling will be carried out within 50 m of a stream. The fuel bowser, typically a double-axle custom-built refuelling trailer, will be re-filled off-site, where possible, or the construction compound and will be towed as required within the site by a 4x4 vehicle to where machinery is located. It is not practical or preferable for most heavy construction vehicles (such as cranes, excavators, dozers, dumpers etc.) to travel back to the refuelling point in the construction compound given the size of the proposed Substation site. The 4x4 vehicle will also carry fuel absorbent material and pads in the event of any accidental spillages. The fuel bowser will be parked on a level impermeable area in either of the construction compound when not in use.

Oils, lubricants and other hazardous liquids required for maintenance of equipment during the construction phase will be stored on the dedicated impermeable storage platform in the construction compound. Any additional fuel containers, other than the fuel bowser, used for smaller equipment (such as generators, lights etc.) will be stored within additional secondary containment e.g. bund for static tanks or drip trays for smaller mobile containers. Taps/nozzles for fuels and storage containers for oils will be fitted with locks to ensure their use is controlled. Only designated trained and competent operatives will be authorised to refuel plant on site.

New clean ancillary machinery equipment such as hoses, pipes and fittings required on-site will be contained within a bunded area, however any used or damaged parts will not be stored on-site and will be removed immediately. Any repair works required on machinery involving fuel and oil control will be carried out off-site where practical, or in the construction compound over an impermeable surface. Unless unavoidable, repair works carried out in the field where machinery is operational will use spill trays and absorbent materials to prevent release of contaminants to the ground. Maintenance and repair works will be carried out at least 50m from any stream.

At least daily checks prior to start-up of plant and machinery will minimise the risk of break-down and associated contamination risks for on-site repairs. Records of daily pre-start checks will be maintained and kept in the site office. A clean site policy and diligent housekeeping will also reduce the potential of hydrocarbon release on-site.

4.6.1 Spill Control and Response

Emergency spill kits with oil boom and absorbent materials will be kept on-site in the event of an accidental spill. Spill kits will be stored in the construction compound, and at the on-site substation in case of emergency and with the 4x4 vehicle transporting the fuel bowser, smaller spill control kits will also be kept in all construction machinery. All construction personnel will be notified of where the spill kits are located as part of the site induction and will be trained on the site procedures for dealing with spills.

In the event of a leak or accidental fuel spill in the field, the source of the spill will be fixed, and the fuel will be contained and cleaned as quickly as possible using the spill kits to contain and absorb the pollutant and prevent any further potential contamination. The absorbed pollutants and contaminated materials will be placed into leak proof containers and transferred to a suitable waste container for hazardous materials in the construction compounds. Where a leak has occurred from machinery, the equipment will not be permitted to be used further until the issue has been resolved. The incident will be reported to the Construction/Site Manager and Environmental Manager, and appropriate remediation will be carried out i.e. soil removal for safe disposal by licensed waste collectors.

The Environmental Manager (or equivalent appointed person) will be notified of any spills on-site and will determine the requirement to notify the authorities as set out in Section 5.4 (Incidents / Complaints).

4.7 Noise and Vibration Control

4.7.1 Construction Phase

It is recommended that appropriate noise abatement measures are implemented, when deemed necessary, to comply with the recommendations of BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction on open sites.

The hours of construction activity will be limited to avoid unsociable hours where possible. Construction operations shall generally be restricted to between 07:00 to 19:00, Monday to Friday inclusive and 07:00 to 14:00 on Saturdays, with no works undertaken on Sundays or Bank

Holidays. However, any necessary or emergency out of hours working will be agreed in advance with the local Planning Authority.

The Contractor undertaking the construction of the works will be obliged to take specific noise abatement measures when deemed necessary to comply with the recommendations of British Standard BS 5228-1:2009+A1:2014 *Code of practice for noise and vibration control on construction and open sites – Noise*[1].

The Environmental Manager, or equivalent, will supervise the works to ensure compliance with the noise and vibration limits set out in the Standards document referred above and the PECR. The following list of measures will be considered, where necessary, to ensure compliance with the relevant construction noise criteria:

- No plant used on site will be permitted to cause an on-going public nuisance due to noise;
- Regular and proper maintenance of plant and machinery, will be employed to minimise the noise produced by on site operations;
- Plant with low inherent potential for generation of noise and/ or vibration will be selected where practicable;
- Noisy / vibratory plant will be placed as far away from sensitive properties as permitted by site constraints;
- Where practicable, all vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of the contract;
- Compressors will be attenuated models, fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic tools will be fitted with suitable silencers;
- Machinery that is used intermittently will be shut down or throttled back to a minimum during periods when not in use;
- Any plant, such as generators or pumps, which is required to operate before 07:00hrs or after 19:00hrs will be surrounded by an acoustic enclosure or portable screen;
- Channels of communication will be established between the Contractor/Applicant, Local Authority, and residents;
- A site representative responsible for matters relating to noise and vibration will be appointed;
- Should noise complaints occur, periodic noise monitoring at the boundary adjacent to these receptors should be implemented. Noise monitoring procedures will adhere to

[1] British Standards Institute (BSI), *BS 5228-1:2009+A1:2014 Code of Practice for noise and vibration control on construction and open sites* (2008)

International Standard ISO 1996: 2017: Acoustics – Description, measurement and assessment of environmental noise.

4.8 Dust Suppression and Management

There will be some temporary dust and exhaust emissions from construction activities during the construction phase.

The Contractor will have due regard to relevant guidance such as *The Control of Dust and Emissions during Construction and Demolition* published by the Greater London Authority (GLA) in 2014 and *Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes* published by the NRA (now TII) in 2011.

During the construction phase, dust or air pollutants generated from the proposed project will typically arise from:

- Movement of construction vehicles;
- Laying hardstanding areas and access tracks (i.e., roads);
- Transportation of construction materials to and within the site;
- Excavation, movement and placement of soil stockpiles (excavated soils / fill materials); and,
- Wind generated dust from stockpiles, exposed unconsolidated soils and roads.

Potential effects arising from dust and exhaust emissions will be minimised through the implementation of the following best practise measures:

- Minimisation of extent of working areas;
- Stockpiling of excavated materials will be limited to the volumes required to practically meet the construction schedule;
- Drop heights of excavated materials into haulage vehicles will be minimised to a practicable level;
- Daily inspections by site personnel to identify potential sources of dust generation along with implementation measures to remove causes where found;
- Provision of dust suppression measures (e.g. sweeps/water bowsers) will be used on stockpiles and the road surface during periods of extended dry weather;
- If necessary, water will be spread to dampen down haul roads and site compounds to prevent the generation of dust;
- Silty or oily water will not be used for dust suppression, because this will transfer the pollutants to the haul roads and generate polluted runoff or more dust;
- Water bowser movements will be carefully monitored, as the application of too much water may lead to increased runoff;
- Traffic coming to site will only use the specified haul routes;

- Vehicles and plant will be routinely serviced to minimise the exhaust emissions during construction; and,
- Vehicles will not be left running unnecessarily and low emission fuels will be used where possible.

4.9 PROTECTION OF WATER QUALITY

During the construction stage, best practice construction methods as set out in CIRIA c741 *"Environmental good practice on site guide"* will be implemented in order to prevent water (both surface water & groundwater) pollution. This will include proper site management during construction, to ensure that all necessary measures are taken to prevent run-off/pollutants from entering any watercourse in the vicinity. There will also be no direct discharge of suspended solids or any other deleterious matter to drains (wet or dry) or watercourses.

The list of mitigation measures that will be in place for water pollution control is detailed in the water pollution section in Table 5.

- A buffer of 5 m from the closest drain or 10 m from the nearest watercourse will be established and clearly marked out prior to the commencement of construction activities where possible. The buffer will be maintained with the exception of localised areas where access, crossing or cable trenching is required.
- Silt fencing will be installed within the works area for the proposed substation and grid cable. The silt fence will provide protection from sediment and potential site water runoff.
- The silt fencing will be checked twice daily during construction and once per day thereafter to ensure that it is working satisfactorily until such time as the re-instated ground/material has been fully established.
- If dewatering is required as part of the proposed works e.g., in trenches for underground cabling or in wet areas, water must be treated prior to discharge. The Contractor shall employ best practice settling systems to ensure maximum removal of suspended solids prior to discharge of any surface water or groundwater from excavations to receiving waterbodies. This may include treatment via settlement tanks. There will be no direct pumping of water from the works to any watercourses or drains at any time.
- An emergency-operating plan will be established to deal with incidents or accidents during construction that may give rise to pollution within any nearby watercourses or drains. This will include means of containment in the event of accidental spillage of hydrocarbons or other pollutants (spill kits etc.).
- The contractor will ensure that good housekeeping is always maintained and that all site personnel are made aware of the importance of the nearby estuary/aquatic environments and the requirement to avoid pollution of all types.

4.10 Site Drainage

The proposed Substation site will have both temporary (for the duration of the construction phase) water management features and permanent drainage infrastructure installed as part of the proposed site development.

The site drainage measures will be installed from the outset, being constructed at the same time as the initial civils works (site roads, hardstands, etc.). This will ensure that there is no uncontrolled runoff from the site during proposed works.

4.11 Pre-emptive site drainage management

The works programme for the initial construction stage of the proposed project will take account of weather forecasts and predicted rainfall in particular. Large excavations and movements of subsoil or vegetation 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 a combination of them will be used on a daily basis at the site to direct proposed construction activities:

- General Forecasts: Available on a national, regional and county level from the Met Eireann website (www.met.ie/forecasts). These provide general information on weather patterns including rainfall, wind speed and direction but do not provide any quantitative rainfall estimates;
- 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 Eireann website (www.met.ie/latest/rainfall_radar.asp). The images are a composite of radar data from Shannon and Dublin airports and give a picture of current rainfall extent and intensity. Images show a quantitative measure of recent rainfall. A 3-hour record is given and is updated every 15 minutes. Radar images are not predictive; and,
- Consultancy Service: Met Eireann provide a 24-hour telephone consultancy service. The forecaster will provide interpretation of weather data and give the best available forecast for the area of interest. Using the safe threshold rainfall values will allow work to be safely controlled (from a water quality perspective) in the event of forecasting of an impending high rainfall intensity event.

4.12 Soil / Spoil Management

Stockpiling of large volumes of loose soil material onsite will be avoided, where possible, and surplus material will be removed from the proposed project as soon as work is completed. Exposed ground, soil, and other material stockpiles and any imported backfill material which are to be left in situ for extended periods of time will be seeded with soil-binding grasses.

4.13 Concrete

All concrete will be mixed off-site and imported into the site. All concrete bowser chutes will be washed down at a dedicated concrete washout bund (the full truck will be washed offsite at a controlled location) and at least 50m from a drainage ditch or watercourse. All washings will be removed off-site and treated at a licensed facility.

4.14 Works near waterbodies

The construction works will involve works within 50 m of streams. However, no instream works are proposed in any natural watercourse (there will be works in two drains when they are dry), and a suite of measures are in place to avoid any adverse effects on streams. Clear span bridges will be utilised for the stream crossings. During the near stream construction work, silt traps and a double (at access track crossings) or triple row (at the substation itself) silt fences will be placed immediately down-gradient of the construction area for the duration of the construction phase.

4.15 Invasive Species Management

All works involved with the proposed project must follow the biosecurity measures outlined within the Transport Infrastructure Ireland guidelines to avoid the spread of invasive species (TII, 2020). No invasive species were recorded within the proposed project site during the baseline survey. However, it is possible that the movement of construction vehicles and material to and from the site may result in the introduction of invasive species if not appropriately managed. Invasive species may also travel via watercourses if a sufficient buffer is not established from the riparian zone. Colonization of invasive species to an area can inhibit growth and crowd out native plant species, alongside reducing the overall biodiversity of an area.

4.16 Waste Management

Best practice in waste management will be employed during all phases of the proposed project, with a view to reducing, reusing, recycling and recovering waste produced, in that order of preference. Waste disposal will be avoided where possible. The following sections outline the Waste Management Plan (WMP) and waste management practices associated with the proposed project, which will be in accordance with relevant provisions of the Waste Framework Directive (Directive 2008/98/EC on waste), the Waste Management Act 1996 as well as all other Irish and EU legislation.

4.16.1 Waste Management Plan

The main site contractor will ensure that all waste contractors have the correct permits for any waste streams they are removing from site, and that they are taking it to the appropriately licensed/permitted waste facilities. They will also ensure that all parts of the WMP will be implemented onsite.

All waste generated from the construction phase will be managed in accordance with the provisions of the Waste Management Act 1996 as amended and associated Regulations. In line with good industry practice, the following measures will be implemented on site by the appointed Contractor for the duration of construction:

- Ensure all excavated topsoil and subsoils will be reused within the site boundary, insofar as possible. Any excess material which cannot be reused in creating berms or other landscaping will be transferred off-site to a licensed waste facility. However, it is not anticipated that any excess material will not be suitable for reuse within the site;
- Ensure typical waste streams (such as metals, paper, cardboard, plastics, wood, rubber, textiles, bio-waste, packaging, WEEE (electronic waste, batteries, accumulators) and construction waste) will be managed, collected, segregated and stored in separate area(s) at the site before being removed off site by a licensed waste management contractor at regular intervals for the duration of the construction works;
- Provide skips and bins of appropriate sizes onsite in a designated area(s) and used to maximise source segregation of waste materials. This will include food and packaging waste from canteen and welfare facilities. Appropriate control of food waste in the compound will minimise the potential for pests and rodents to visit the area;
- Any contaminated materials used for spills and equipment maintenance works will be separately stored in a suitable container for collection by the appointed authorised hazardous waste contractor(s);
- Encourage all staff to minimise waste generation and to maximise the segregation of waste at source. Material wastage will be avoided by delivering only the required quantities of material to site and utilising off-site manufacturing of materials as much as possible;
- It is noted that illegal dumping is common in rural areas and may be encountered at the time of construction. Where illegal dumping is discovered, appropriate communication and measures will be taken to try and identify the source of the illegal waste. The appropriate authorities will be notified, and the materials will be removed from site by authorised waste collection contractors and transferred to suitably licensed waste facilities:
- The Environmental Manager, or other appropriate person, will be designated by the appointed Contractor as the Waste Manager for the duration of the project in accordance with the general guidance set out in the *Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects*[2], published by the EPA in November 2021;
- At the pre-construction stage, the Waste Manager will be in a position to require fellow designers to take full advantage of all reasonable Construction and Demolition (C&D) waste prevention, reuse and recycling opportunities;
- During construction, the practicalities of waste prevention, salvaging re-useable materials, and the need to synchronise the recycling of waste materials through the timing of their use in the new construction works will be emphasised by the appointed Waste Manager.

[2] EPA *Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects* (November 2021) - https://www.epa.ie/publications/circular-economy/resources/CDWasteGuidelines.pdf (26 August 2022)

5. EMERGENCY RESPONSE PLAN

5.1 HAZARD IDENTIFICATION

In order to establish the type of potential emergencies that may occur, the hazards outlined in Table 5-1 have been identified as being potential situations that may require an emergency response if they occur, this list is not exhaustive. In the event of the occurrence of these events, site staff must be informed. The Emergency Response Plan will be completed by the appointed Contractor before the project begins.

Table 5-1: Hazard Identification (Adapted from the Construction Methodology provided by Lodgewood Solar Farm Limited)

Hazard Type	Emergency Incident
Release of hazardous substance - Fuel or oil spill;	Accidental spill / leak leading to significant environmental contamination
Concrete spill or release of concrete	Accidental spill / leak leading to significant environmental contamination
Flood event- extreme rainfall even	Accident leading to injury / damage to site infrastructure
Environmental buffers and exclusion zones breach	Accidental significant environmental damage
Housekeeping of materials and waste storage areas breach	Accident leading to injury / damage to site infrastructure
Stop Works order due to environmental issue or concern.	Accident leading to injury / damage to site infrastructure

5.2 ROLES AND RESPONSIBILITIES

Typical roles and associated responsibilities for the construction of the proposed project is provided in Section 3.4 of this CEMP. This will be subject to specific contractual agreements upon appointment of a main Contractor and any additional/further appointments required in compliance with a grant of permission.

The Construction/ Site Manager will have overall responsibility for environmental management and compliance during the construction works. He/she will be supported in this role by an Environmental Manager / SHEQ Officer, or Environmental Officer as appropriate, who will liaise directly with the relevant regulatory bodies and stakeholders throughout the construction phase. Additional specialist input will be included from the Ecological Clerk of Works, ACoW or other disciplines as required.

5.3 EMERGENCY RESPONSE PROCEDURES

Every effort will be made to prevent health and safety emergencies and environmental incidents during the construction and operational phase of the project.

The appointed main Contractor will be responsible for developing a detailed Emergency Response Plan (ERP) for the proposed construction works, to cover health and safety emergencies as well as environmental emergencies, as part of the H&S Plan.

This ERP shall be activated in the event of an emergency such as an accident, fire, spillage, collapse etc. and will provide details on who is required to be notified, first aid facilities and closest hospitals. The ERP will also include details of all personnel inducted and authorised to work on the site as well as next of kin contact details and relevant medical information.

In the event of an emergency, the Environmental Manager / SHEQ Officer and Construction/ Site Manager will be notified immediately and will determine the scale of the emergency and the requirement for the assistance of emergency services. Works will cease in the area of the incident and contact will be maintained with the emergency services to direct them to the scene of the incident as required.

As part of the ERP, an evacuation drill will be carried out on a regular basis to make all personnel aware of the procedure to be followed in the event of an emergency where a full site evacuation is required. Emergency muster point(s) will be identified at suitable locations in the construction compound and the ERP will outline the persons responsible for checking names at the safety muster points. Records will be maintained of such drills.

The ERP must include contact names and telephone numbers for the relevant local authorities (all sections/departments) including ambulance, fire brigade, An Garda Siochána and the HSA. Reporting of environmental emergencies to the local authority will be required as well as other relevant stakeholders such as IFI, NPWS or the EPA.

5.3.1 Site Evacuation and Fire Drills

A site evacuation/fire drill procedure will be developed to provide a basis for carrying out the immediate evacuation of all site personnel in the event of an emergency. At induction, all personnel will be made aware of the evacuation procedure. The Fire Services Acts of 1981 and 2003 require the holding of fire safety evacuation drills at specific intervals and maintaining records of such drills. The details of this procedure will be finalised in the appointed main Contractor's CEMP at construction stage and will include:

- Details regarding the notification of emergency situations to all those on site including use of a siren/horn to notify all personnel;
- Details of assembly point(s) and signage;
- Details of the roll call procedure to account for all personnel on site;
- Communication process between the Site Security Officer and the Site Manager during the procedure (i.e. notification of roll count etc.);
- Course of action to be undertaken by the Site Manager.

5.3.2 Spill Response and Control

A detailed spill response and control procedure will be developed and finalised in the appointed main Contractor's CEMP at construction stage, outlining the steps that will be followed in the event of an oil / fuel spill occurring, including:

- Identification and blocking of the source of the spill;
- Alerting personnel in the vicinity of the spill and any possible dangers;
- Elimination of any potential ignition sources in the vicinity of the spill;
- Spill containment approach and spill control materials;
- Covering or bunding off of any vulnerable areas where appropriate (i.e. drains, streams, sensitive habitats);
- Clean up using the spill control materials;
- Containment and disposal of used spill control materials;
- Communication with the Environmental Manager – providing relevant information on the location, type and extent of the spill so that they can take appropriate action;
- Environmental Manager actions including inspection of the site, making certain necessary measures are in place to manage the spill and prevent further spillage;
- Environmental Manager notification to the appropriate regulatory body if necessary.

5.3.3 Other Environmental Incidents

Environmental incidents are not only limited to spills. Any environmental incident must be investigated and the Environmental Manager notified immediately. If necessary, the Environmental Manager will inform the appropriate regulatory authority depending on the nature of the incident. Details of the incident will be recorded (e.g. cause, extent, actions and remedial measures). Recommendations made to avoid reoccurrence will be recorded also. The Environmental Manager will liaise with the Project Ecologist or Project Archaeologist regarding any incidents as required. A record of all environmental incidents will be kept on file by the Environmental Manager and the main Contractor. These records will be made available to the relevant authorities if required. Furthermore, the Environmental Manager will be responsible for any outlining corrective actions required and will advise the main Contractor as appropriate.

5.4 Incidents and Complaints

All safety or environmental incidents associated with the project will be reported and investigated in line with the ERP. Typically, the following procedures will be followed in the event of an incident:

- Works will stop immediately where safe to do so;
- The Environmental Manager / SHEQ Officer will be contacted;
- The size of the incident will be assessed and determined if it can be controlled by site staff or if emergency services are required to attend;



- The appropriate enforcing authority will be contacted;
- The Environmental Manager / SHEQ Officer will investigate after the incident;
- The findings will be sent to the appropriate authority; and
- An action plan will be prepared to set out any modifications to working practices required to prevent a recurrence.

This section sets out a procedure to manage and resolve any complaints received from members of the public during the construction phase of the proposed project. The following measures will be adopted and refined, as necessary, taking account of any relevant planning conditions.

The following measures will be implemented to deal with complaints and the appointed main Contractor's CEMP will contain more specific details with regard to phone numbers to contact:

- Clearly display a notice board at the site entrance so that the public know whom to contact if they have a complaint or comment;
- Personnel on site, including sub-contractors are required to perform their duties in accordance with this CEMP, and in such a way as to minimise the risk of complaints from third parties;
- All complaints received regarding the construction works will be recorded and categorised (e.g. noise, property damage, traffic, dust etc.) within a central Site Complaints Log. This complaints log will include the following key details:
    - Name, address and contact details of the complainant (with the complainant's permission);
    - Brief outline of the complaint;
    - Date of Complaint;
    - Name of person receiving complaint details; and
    - Agreed timeline for response to complaint.
- All complaints will be communicated to the Project Manager and the Applicant immediately;
- All complaints will be followed up and resolved in so far as is practicable; and,
- The complainant, Applicant and other stakeholders will be kept informed of the progress in resolving the complaint.

5.4.1 Emergency Contact Details

A list of emergency contacts is presented in Table 4-2 below. A copy of these contacts will be included in the Site Safety Manual and in the site offices and the various site welfare facilities.

Table 5.2: Emergency Contact Details

Contact	Telephone
Emergency Services – Ambulance, Fire, Gardaí	112 / 999

Local Garda Station – Ferns Garda Station	(053) 936 6104
Local Doctor / GP Service – Ferns Health Centre	(053) 936 7571
Local Doctor / GP Service – Mill Park Medical Centre	(053) 923 2018
Local Doctor / GP Service - Enniscorthy Medical Centre	(053) 923 9512
Local Doctor / GP Service – Pottersway Medical Centre	(053) 937 7124
St. John's Community Hospital	(053) 923 3228
ESB Faults / Emergencies	1850 372 999
Gas Networks Ireland 24hr Emergency Line	1850 20 50 50
Site Manager / Construction Manager / Site Supervisor	TBC
Client: Ørsted	TBC
Ecological Clerk of Works (ECoW)	TBC
Environmental Manager / SHEQ Officer	TBC
Project Supervisor Design Stage (PSDS)	TBC
Project Supervisor Construction Stage (PSCS)	TBC
Health and Safety Authority Ireland (HSA)	TBC
Inland Fisheries Ireland (IFI)	TBC
Project Engineer	TBC
Project Ecologist	TBC
Project Hydrologist	TBC
Project Archaeologist	TBC

5.4.2 Emergency Communication Procedure

The appointed main Contractor's CEMP will be updated with an agreed Emergency Communication Response Procedure following appointment of the Contractor.

5.4.3 Personnel Tracking Procedure

All personnel on site will be required to undergo a site induction where they will be required to provide personal contact details (including contact information for next of kin). In the event that a member of personnel is involved in an emergency situation where serious injury has occurred and hospitalisation has followed, the Site Manager, or next in command if unavailable, will be responsible for contacting and informing the next of kin.

5.4.4 Induction Checklist

Table 5-3 below provides a list of items highlighted in the Emergency Response Procedure (ERP) which must be included in the induction or gathered from all personnel that will work on the Proposed project during the mandatory site induction. This will be revised throughout the various stages of the project. This list will be updated and expanded on within the appointed main Contractor's CEMP.

Table 5.3: Induction Checklist

Emergency Response Plan – Site Induction Items TBC	Status
Site Induction (all personnel must undergo the site induction prior to commencing work on-site)	
All personnel must be made aware of site evacuation and fire drill procedures	
All personnel must be made aware of the spill response and control procedure	
All personnel must be made aware of environmental incident procedures	
All personnel must be made aware of incident and complaints procedures	
All personnel must be made aware of the emergency communication procedure and Emergency Contact Details for the project	
All personnel must be made aware and have access to the Site Safety Manual	
All personnel must be made aware of the personnel tracking procedure and provide their contact details at induction	

6. MITGATION PROPOSALS

All mitigation measures relating to the pre-construction and construction phases of the proposed project were set out in the various sections of the PECR, and NIS prepared as part of the planning application.

This section of the CEMP groups together all of the mitigation measures presented in the PECR and NIS.

By presenting the mitigation proposals in this format, it is intended to provide a review list that can be easily checked and reported on during the future phases of the project. The use of a table to present the information be further expanded upon over the course of the Proposed project to provide a template for use during site compliance audit.

6.1 MITIGATION EFFECTIVENESS

The appointed Contractor will be responsible for ensuring all mitigation measures listed below, including any additional planning conditions, are fully implemented prior to the proposed project commencing and undertaken throughout the duration of the works.

The below outlined mitigation measures are best practice and are proven technologies/ methods. The mitigation measures, once correctly applied, will avoid or reduce the magnitude of potential impacts on the receiving environment.

Table 6.1: Mitigation Summary Table

Ref no.	Related to	Location	Mitigation Measure
Construction Phase			
Biodiversity			
MM1	Creation and management of alternative habitat	Section 3.0, PECR	▪ As compensation for the loss of the P4 habitat, an alternative area with a minimum of 1,600m^2 will be planted with native shrub and tree species, i.e. Blackthorn, Ash, Goat Willow, Hawthorn, Holly; ▪ The rooted saplings to be used will have a minimum stem diameter of 1-3cm (4.5cm above ground); ▪ The appointed minimal area (1,600m^2) will be planted in an irregular distribution (i.e. not in rows, or regular spaced trees), in clumps separated by 7m to 20m, and will include gaps (minimum of 10m wide), following a flexible and irregular approach, in line with Little et al. (2009); ▪ No fertilisers will be used.
MM2	Minimising significant dust creation, and containment of its spread	Section 3.0, PECR	▪ Site induction to site personnel and contractors will be mandatorily provided regarding dust control measures; ▪ Where the cable trench/works area is running adjacent and parallel to river water bodies, a minimum 10m buffer will be maintained between the proposed works area and the watercourse edge; • Dust suppressant (water) may be used on the substation access road where appropriate i.e. not near the Lodgewood stream; • Material handling systems and stockpiling of materials will be designed and laid out to minimise exposure to wind; ▪ Vehicle speed within the proposed working areas will be restricted to 10km/h, and signs illustrating this restriction will be erected at the entrances to these areas; ▪ No trenches will be left open overnight, unless absolutely necessary. Once the proposed works cabling for the GCR are completed on a trench stretch, the trench will be reinstated with the excavated material, and compacted.

MM3	Prevention; Secluding works and stock piling areas from rivers.	Section 3.0, PECR	• Weather forecasting resources will be used (e.g. Met Éireann). Excavation work will not be undertaken during periods of heavy rainfall. This will minimise the risk of entrainment of suspended sediment in surface water runoff and transport via this pathway to nearby rivers; ▪ A minimum of 10m distance will be kept between the trenches/stockpiled material and any rivers or aquatic features – the stockpiled material will be laid parallel to the trench, along the trench side opposite to the river; ▪ Double silt fencing will be placed at the outer edge of the 10m protective buffer mentioned above, between the trenches and any river or aquatic features. The silt fencing will be extended at least 10m upstream and downstream of the two proposed watercourse crossings; ▪ Silt fencing will be embedded into the soil to ensure all site water is captured and filtered.
MM4	Exclusion of Badger setts for the duration of the Construction Phase	Section 3.0, PECR	▪ The ECoW will conduct a pre-construction survey to determine the status (active/inactive) of the identified Badger setts (Section **Error! Reference source not found.** of the PECR), and t o determine if any new setts have been established. The pre-construction survey can be undertaken at any time of the year, but ideally during the spring, summer and autumn months, as Badger are less active during colder weather (NRA, 2006b); ▪ For setts identified by the ECoW during the pre-construction survey, their reoccupation during the Construction Phase of the proposed project will be prevented by (NRA, 2006b): – Soft-blocking the sett(s) entrance(s): the entrances will be lightly blocked with vegetation (e.g. small twigs) and a light application of soil; – The sett(s) will be re-visited upon five days of being 'soft-blocked', upon which: → If the 'soft-blocked' entrances remain undisturbed, 'hard-blocking' of those sett entrances will be applied (buried fencing material, firmly fixed. At the end of the Construction Phase of the proposed project, the ECoW will remove all the 'hard-blocking' used to exclude Badger setts; → If the 'soft-blocked' entrances suggest Badger activity, one-way gates will be installed (plus, proofing/fencing around sides of gates to prevent access other than the gate) to allow individuals to exit, but not to return. The gates should be tied open for three days, and be left installed, with regular inspections, over a minimum period of 21 days (including period with gates tied open) before the sett is deemed inactive. Any activity at all will require the procedure to be repeated from the start; Only upon confirmation by the ECoW that the Badger setts are inactive, the proposed works within 150m of the identified setts may proceed.

MM5	Identification of bat roost potential pre-construction and during the Construction Phase	Section 3.0, PECR	▪ At least three weeks ahead of the beginning of the Construction Phase of the works for the grid connection cable, a pre-construction survey of the trees within the proposed project will be conducted to identify PRFs and, most importantly, confirm the presence of bats. ▪ The survey will be conducted by a minimum of two experienced bat specialists, suitably trained in the use of tree-climbing equipment (e.g. ladders, cherry pickers). All PRFs will be inspected using torches, mirrors and endoscopes, and information will be collected on (Marnell et al., 2022; Collins, 2023): → the diameter of the stem or limb where the PRF is; → whether there are multiple entrances to the PRF; → the PRF entrance width; → the internal height, width and depth of the PRF; → the substrate within the PRF; → the PRF apex shape; → whether the PRF is dry, damp or wet; → whether any competitors are present; → whether bats are absent or present; → whether droppings are absent or present; → if evidence of bats is lacking; → if present – bat species, number of bats, whether bats are awake or torpid, location of bats, distance of bats from entrance; → any odour; and → photographic evidence of any bats encountered. ▪ Where trees with PRFs are to be removed, an emergence survey will be conducted the night immediately preceding felling to determine if bats are present. ▪ If bats are absent, trees will be section-felled or soft felled within 24 hours of the emergence survey, under supervision of an ECoW. ▪ In the event of a bat roost being discovered the following measure will be implemented: → Tree removal works will not commence. The ECoW (or a bat specialist) will complete the surveys necessary to characterise the roost, and solutions will be developed. A derogation licence will be sought from the NPWS to allow works to proceed. → Where trees with PRFs are being lost, alternative roosting sites will be provided in the form of replacement bat boxes. The location of these bat boxes will be within the consented project site, and the type, location and height of the bat boxes will be determined by a bat specialist/EcOW.

Archaeology and Cultural Heritage			
MM6	Archaeology and cultural heritage	Section 8.0, PECR	▪ Archaeological monitoring will be undertaken of all groundworks related to the development of the site by a suitably qualified archaeologist under licence from the National Monuments Service of the Department of Housing, Local Government and Heritage. ▪ The townland boundaries will be fully recorded with written and photographic records by the monitoring archaeologist. A wade survey and metal detection will be undertaken to determine if there are any features or artefacts associated with the Lodgewood Stream. This will be undertaken as part of the archaeological monitoring of all ground disturbance associated with the construction of clear span bridges. The licence application to the National Monuments Service for the monitoring of works will include a consent application for the wade survey (termed a 'Dive Licence') and the metal detection (Detection Device Consent) for this purpose. ▪ The upstanding granite gatepost between F2 and F3 should be avoided if possible with traffic management measures put in place to protect it from inadvertent damage by passing construction traffic. Should it be impossible to avoid, this cultural heritage feature should be removed for safekeeping to the farmyard for use elsewhere on the farm.
Traffic Management			
MM7	Traffic Management		The traffic mitigation included with the originally permitted development (Planning Ref: ABP-318528-23) will be implemented. This includes: ▪ Use of a stop/go system ▪ Use of all appropriate road signage ▪ Use of a booking system to spread out the construction traffic movements as much as possible ▪ Ensuring no water drains from the proposed project onto the public road ▪ Implementing all required measures associated with the movement of abnormal loads



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Appendix D DECOMMISSIONING & RESTORATION PLAN

TOBIN

Tincurry 110kV Substation Decommissioning and Restoration Plan

Ørsted

BUILT ON KNOWLEDGE

Document Control Sheet	
Document Reference	Decommissioning and Restoration Plan
Client:	Ørsted
Project Reference	12123 Tincurry 110kV Substation

Rev	Description	Author	Date	Reviewer	Date	Approval	Date
A	Final Issue	COD	09/02/2026	DH	12/02/2026	OF	18/02/2026

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1.0 INTRODUCTION

1.1 BACKGROUND

This Decommissioning and Restoration Plan (DRP) has been prepared by TOBIN on behalf of Lodgewood Solar Farm Ltd. ('the Applicant') for the proposed amendment to the Tincurry 110kV Substation and associated Grid Connection in the townlands of Tincurry, Ballylough, Lodgewood and Crory in Co. Wexford (herein referred to as the 'proposed project').

1.2 SCOPE OF THE DRP

This DRP provides a framework to follow during the decommissioning and post-decommissioning phases of the proposed project. The objectives of this document are to detail the procedures and mitigations to manage the decommissioning phase of the proposed Tincurry 110kV substation, and to provide proposals for managing the restoration of the site after the project's conclusion.

The operational lifetime of the proposed project is 40 years. Due to the expected developments and updates to technologies and methodologies in that length of time, this plan is expected to be revised and updated closer to the decommissioning phase of the project.

This DRP is being prepared alongside a Planning and Environmental Considerations Report (PECR) and Natura Impact Statement (NIS), and should be read in conjunction with these reports.

1.3 PROPOSED PROJECT OVERVIEW

The proposed project comprises amendments to the consented Tincurry 110kV Substation and Grid Connection (ABP ref: No. 318528) which facilitates the transfer of electrical power generated by the Tincurry and Ballylough Solar Farms ((Respective Planning ref: 20221309 and 20231025), and collectively referred to as Lodgewood Solar Farm)) via an Under-the-Fence (UTF) Grid Connection to the existing ESB Lodgewood 220kV Substation. The Grid Connection will also serve a Battery Energy Storage System (BESS), located adjacent to the Tincurry 110kV Substation which was subject to a separate planning application, (Wexford County Council Planning Ref: 20241593), and which was permitted in May 2025.

The site includes the associated Grid Connection Route (GCR) and enabling works in the ESB Lodgewood 220kV substation, with an approximate total area of 4.86 ha.

The operational lifetime of the proposed project is 40 years.

1.4 Proposed project Details

The proposed project comprises a modification of the permitted Tincurry 110kV Substation and associated Grid Connection to the existing ESB Lodgewood 220kV Substation. The proposed project site layout is outlined in Figure 1-1.

The amended proposal differs from the previously permitted Tincurry 110kV Substation in its updated substation configuration (Under-the-Fence as opposed to Tail-Fed), electrical infrastructure layout and configuration, as well as the connection route to the ESB Lodgewood

220kV Substation. Access roads, drainage details and other associated civil aspects have also been altered. This has required an amendment to the original red line boundary.

The extension of the Grid Connection Route (GCR) from the Tincurry 110kV substation compound to the new bay within the ESB Lodgewood 220kV substation was referenced in the original SID application but was not fully assessed as part of the application. The proposed grid connection cable will cross the Lodgewood Stream into the ESB Networks owned lands and will be ducted through the proposed clear span bridge crossing the stream. The GCR continues west passing through a combination of forest and greenfield lands before entering the existing ESB Lodgewood 220kV substation. A corridor, free of trees and roots, will be created for the installation of the cable. A total of 39 individual trees will need to be removed for the GCR including two mature Oaks and one mature beach. The remaining trees comprise early-mature mixed woodland species some of which are windthrown and collapsed. No portion of the underground grid connection cable is located within the public road network. Compensatory planting will be carried out to the north of the proposed substation compound, and this will have a net gain in woodland area.

An amendment to the permitted substation compound site entrance is required as a result of the reconfiguration of the substation layout. The compound entrance will be moved to the eastern side of the proposed amended substation compound to maintain a 10m buffer from the Lodgewood stream. Amendments to the access tracks within the site compound are also proposed in addition to the inclusion of 6No. parking bays and 2No. dedicated disabled parking bays. The proposed site access route has been subject to detailed auto track analysis and has been designed to accommodate the abnormal load (transformer) delivery. Minor adjustments are proposed to the consented site access track to facilitate vehicle overrun during deliveries. Road sightlines remain unchanged from the permitted project at the public road site entrance so do not require amendments. A total of 9.2 m of hedgerow will be removed to the south of the substation where the proposed access track crosses a field boundary at a new location. An additional approximate 4 m of hedgerow/ ditch will be lost due to the altered access track alignment elsewhere. There will be a reduction of approximately 6.8 m of hedgerow loss to the south of the proposed substation, due to the alteration of the access track alignment. This will result in a 6.4 m net loss of hedgerow as a result of this planning amendment application.

The temporary construction compound location has changed from the original permitted development as a result of the amendments to the substation, however key components remain the same.

Surface and Foul Water details remain however the locations within the compound differ from that of the permitted development. So too does the potable water detail which will still be provided by means of an on-site bored well.

In summary the amended proposed project now comprises:

- A 110kV substation compound consisting of an Independent Power Producer (IPP) Control Room and operations building (of concrete block structure with slate roof),
- High Voltage (HV) electrical equipment,

- A 110kV grid connection to the ESB Lodgewood 220kV substation, ESB interface kiosk, Busbar extension and new bay in the ESB Lodgewood 220kV Substation and all associated and ancillary infrastructure including access tracks,
- 1 No. temporary construction compound,
- 2 No. Storage Containers,
- 2 No. clear span bridge crossings (one where the access track crosses the Lodgewood Stream, the second to facilitate the GCR crossing of the Lodgewood Stream) and 1No. Dry Drain Culvert Crossing at the substation compound entrance,
- Widening of the access tracks in parts to accommodate the delivery of the transformer (abnormal load),
- Surface water drainage system, foul and potable water systems, and palisade fences.

The proposed project also includes the installation of HV electrical equipment including a 110/33kV Transformer (TRAFO) with associated and ancillary equipment along with:

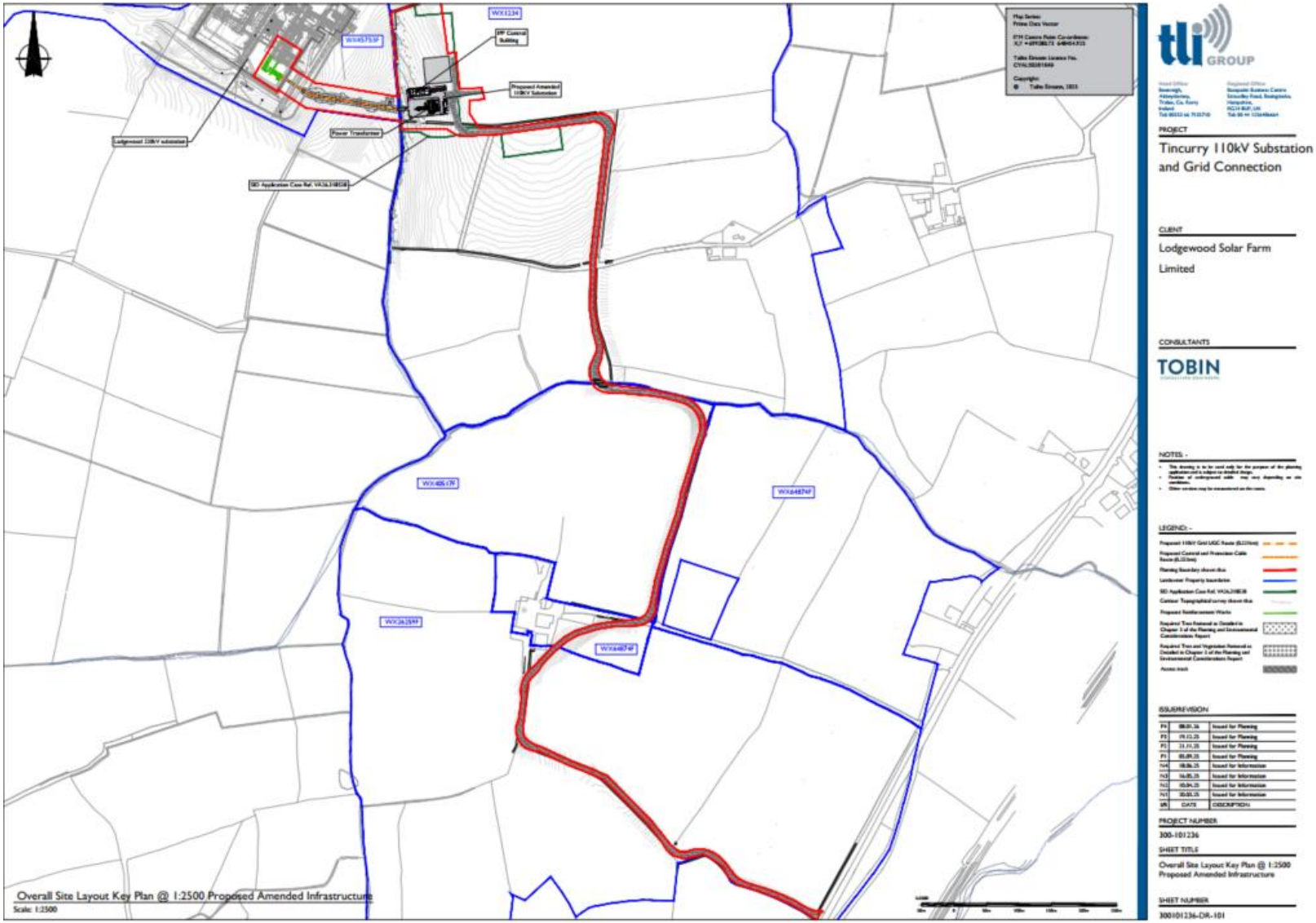
- Cable Sealing End (CSE);
- Surge Arrestor (SA);
- Earth Disconnect (DA, DB, DL, DT/DEM);
- Voltage Transformer (VT);
- Current Transformer (CT);
- House Transformer (HoT);
- Circuit Breaker (CB);
- Lightning Masts (LM);
- Diesel Generator;
- Harmonic filters if required by EirGrid;
- Capacitor Bank if required by EirGrid;
- Fire/Blast Wall;
- Telecoms Pole; and
- 110kV underground cable.

The proposed project also comprises permanent works at the ESB Lodgewood 220kV Substation including:

- New single bay connection point,
- Busbar extension,
- HV Switchgear,
- Circuit Breaker (CB),
- Isolators,
- Cable Sealing End (CSE),

- Surge Arrestor (SA),
- Earth Disconnect (DT/DEM),
- Current /Voltage Transformer (CT/VT),
- LCC and Control & Protection cabinet, and
- All associated and ancillary civil and electrical infrastructure.

Figure 0.1: Project site layout



2.0 EXISTING ENVIRONMENTAL CONSIDERATIONS

The proposed project is located in County Wexford in the townlands of Tincurry, Ballylough, Crory and Lodgewood. The land use of the site and the surrounding landscape can be defined as agricultural pasture and arable land, with trees and hedgerows situated along the proposed project site boundaries and access tracks. There are a small number of residential dwellings located in the surrounding areas.

Further detail on the proposed project site can be found in the accompanying PECR and NIS to this planning application.

2.1 Ecology

European Sites

The proposed project is located approximately 1.4km from the Slaney River Valley Special Area of Conservation (SAC), while the Wexford Harbour and Slobs Special Protection Area (SPA) is located further downstream, approximately 9.8km away. These are the European sites hydrologically connected with the proposed project (i.e. are located within the hydrological pathway of the proposed project), and a complete assessment of likely significant and/or adverse effects on these European sites from the proposed project has been undertaken and reported in the NIS.

No other sites of international importance (e.g. Ramsar sites) are located within the Zone of Influence (ZoI) of the proposed project (see Chapter 3 of the PECR).

Sites of National Importance

Three nationally important sites for biodiversity are within, or in near proximity to the ZoI/hydrological pathway (detailed in Section **Error! Reference source not found.** of the PECR) o f the proposed project: the Clone Fox Covert pNHA (Proposed Natural Heritage Area); the Slaney River Valley pNHA; and the Ballynabarney Wood pNHA. Connectivity between these nationally important sites and the proposed project has been assessed, and concluded that only the Slaney River Valley pNHA, separated from the proposed project by approximately 2.3km, is connected with the proposed project (through hydrological pathways).

None of the National Parks, or Nature Reserves in Ireland are located within the ZoI of the proposed project.

Desk Studies

As per the National Parks and Wildlife Service (NPWS) and National Biodiversity Data Centre (NBDC) databases, there is documented evidence of otter and Irish hare.

A review of the NBDC publicly available information shows a single record of the invasive plant species Himalayan Balsam (*Impatiens glandulifera*), recorded in 2020 within the relevant 2km grid square.

Field Studies

During the habitat survey, no Annex I habitats were identified within the proposed project site. The proposed project is located within a predominantly agricultural area and overall, the proposed project site predominantly comprises of arable crops and (mixed) broadleaved

woodland. The arable crop habitat has low ecological diversity and limited ecological value. The (Mixed) Broadleaved woodland is a mature woodland, highly diverse in species, and is of good condition, representing a rare habitat in the local area. It provides suitable foraging habitat for local terrestrial mammals.

During the multidisciplinary walkover survey, secondary evidence of Badger (*Meles meles*) activity was identified at six locations; four Badger setts and, although no latrines were recorded fresh Badger dung/scat was identified at two locations, indicative of recent presence. See Section 3.4.2.2 of the PECR for further information. Furthermore, several trees have been identified as holding relevant bat roost potential within the woodland habitat, which are indicative for the potential local presence of bat roosts. Finally, birds species identified within woodland habitat included; Eurasian Wren (*Troglodytes troglodytes*), Common Blackbird (*Turdus merula*), Eurasian Chaffinch (*Fringilla coelebs*), Goldcrest (*Regulus regulus*), Song Thrush (*Turdus philomelos*), Coal Tit (*Periparus ater*), Common Woodpigeon (*Columba palumbus*), and Eurasian Blackcap (*Sylvia atricapilla*).

2.2 Hydrological Environment

The proposed project is located within the River Slaney and Wexford Harbour Catchment. The site is located within the Bann[Wexford]_SC_010 subcatchment, and Bann_070 Subbasin. Further detail can be found in Section 5.0 of the PECR.

The proposed project site is generally well-drained with the Lodgewood stream located along the western boundary. The Lodgewood stream flows south along the substation boundary and eventually to the Bann River. The Bann River is located approximately 1.8 km downstream of the proposed project site. The Bann River is a tributary of the River Slaney, which is located to the west, approximately 12 km downstream of the proposed project site.

The EPA assesses the water quality of rivers and streams using a biological assessment method and assigns biological river quality (biotic index) ratings from Q5-Q1 to watercourse sections. Q5 denotes a watercourse with high water quality WFD status and high community diversity within unpolluted water and of satisfactory condition, whereas Q1 denotes bad water quality WFD status and very low community diversity within seriously polluted water and of an unsatisfactory condition. The EPA also assesses the risk of each waterbody failing to meet the WFD objectives by 2027 i.e. to achieve at least 'good' water quality status and to maintain that status. The Bann River is designated as 'good' with Q4 rating (at risk). The River Slaney is designated as 'moderate' with Q4 rating (not at risk).

2.3 Hydrogeological Environment

The proposed substation compound is located at an elevation of approximately 39 to 43 m Ordnance Datum (OD). The topography of the site and surrounding area is generally flat and gently sloping towards the southwest. The access point entrance is at approximately 31 mOD, while the access track varies along its length with some gentle slopes. Further detail can be found in Chapter 4 of the PECR.

The underlying soil types at the proposed project site consist of acidic mineral soils with varying drainage characteristics. The proposed project site is predominantly underlain by the Oaklands Formation, with a small section of the proposed access road underlain by the Campile

Formation. The Oaklands formation is described as dark bluish-grey slate and phyllite, finely foliated and fine-grained metasedimentary rock of Ordovician age. The Campile formation is described as green to grey slate and brown rhyolitic volcanic rock, with thin siltstone interbeds – fine-grained metasedimentary and felsic volcanic sequence of Ordovician age. There are no karst features mapped in the surrounding area of the proposed project. Bedrock outcrop is not mapped on the proposed project site.

2.4 Noise Environment

Background noise surveys were undertaken to assess the background noise levels of the area. These assessments are discussed in the Section 6.0 of the PECR. These surveys, both attended and unattended surveys, were undertaken during both daytime and nighttime hours.

The background noise levels recorded are used to assess if the noise sensitive locations meet the Environment Protection Agency (EPA) Noise Guidance Note 4[1] criteria for "areas of low background noise", in order to set the project criteria. From the measurements, it can be determined that this is not an area of low background noise.

[1] Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4) | Environmental Protection Agency

3.0 DECOMMISSIONING PLAN

3.1 OVERVIEW

After the operational phase is complete, the Tincurry 110kV substation and associated ancillary infrastructure will be decommissioned and removed. The impacts of the decommissioning phase are expected to be of the same significance as the construction phase of the proposed project. The decommissioning phase is expected to take between 8-12 months. Before works commence, the Local Authority will be notified and consulted. All works will be done to the best practice guidelines and will follow the relevant legislation at the time of the works.

A suitably qualified and experienced contractor will be appointed to undertake the decommissioning works. The contractor will adhere to the Decommissioning and Restoration Plan. As mentioned in Section 1, it should be noted that due to the expected developments and updates to technologies and methodologies in the decades of the operational phase, this plan is expected to be revised and updated closer to the decommissioning phase of the project. This will ensure that the plan is up to date with the latest methodologies and standards of the field.

The operation of electrical substations, when operated correctly, manages electricity in a clean and safe way. As a result, there will be no hazardous waste produced during the course of the decommissioning phase, However, a Waste Management Plan will be prepared under consultation with the Local Authority before decommissioning works commence.

There are several aspects involved with the decommissioning phase and the main activities will comprise of the following:

- The substation facility will be disconnected from the power grid;
- Electrical equipment on site shall be disconnected and shipped to recycling facilities for recycling and material re-use;
- Concrete bases shall be broken up and removed off site. The ground will then be re-levelled to original contours using imported soil where necessary and reseeded with grass;
- Wastewater system will be dismantled. Pipes will be flushed with water and the waste water tank will be emptied. The pipe network will be carefully removed for treatment and disposal off site, and the tank will be removed in one piece for treatment and disposal off site.
- Security systems, CCTV, associated supports and wiring shall be dismantled and removed off-site for recycling by an approved recycling facility; and,
- Fencing shall be dismantled and removed off site for recycling by an approved metals recycler.

The above activities will be carried out in accordance with timescales conditioned within the planning permission.

It is expected that a temporary site compound will be required for the decommissioning phase that is of the same scale as the construction phase.

All decommissioning works will be in principle bound by the same Health and Safety considerations that were in place during the construction phase, with the exception of updates to best practice Health and Safety practices at the time of decommissioning.

As the operational phase of the project is expected to last decades, an updated site walkover will be required before the decommissioning phase of the project begins. As a result, a suitably qualified ecologist will be appointed to undertake a site walkover in order to do the following;

- To determine if there are any changes to sensitive receptors over the operational phase of the project;
- Identify any invasive species found in the area that may be disturbed or spread by decommissioning works.
- Identifying suitable native plant species that would be suitable for planting as a part of the restoration works.

During the decommissioning works an Ecological Clerk of Works (ECoW) will be appointed to ensure that the works adhere to the relevant legislation. The ECoW will undertake regular inspection of the nearby Lodgewood stream for increased sediment discharge.

3.2 Roles and Responsibilities

The decommissioning phase of the proposed project will be under the management of the appointed Site Manager. An Ecological Clerk of Works (ECoW) will be appointed to monitor the decommissioning works from an environmental perspective. The Site Manager will work under consultation with the ECoW to ensure that all works comply with environmental best practice throughout the decommissioning phase of the project.

3.3 110kV Substation

All electrical infrastructure will be disconnected from the grid under consultation with ESB Networks and the Local Authority.

The 110kV Substation will be demolished. This will include the control room, switch room and the removal of all internal equipment. The above ground infrastructure will be dismantled by a suitably qualified contractor, and structures will be removed and recycled by a suitably licenced facility. It is assumed that concrete foundations will be removed to a depth of 1m.

The removal of the transformers will require a fixed crane and Heavy Goods Vehicles (HGVs). The concrete plinths will be broken up and removed from site.

3.4 Electrical Cabling

Underground cables, including the grid connection cable will be disconnected from the grid and from the onsite infrastructure.

The cabling will be extracted from the cable ducts. The cable ducting will not be dug up and will be left covered in place, as it is considered the ducting is environmentally inert and the excavation of the ducting will result in unnecessary environmental disturbance.

3.5 Ancillary Infrastructure

All above ground infrastructure not covered by the above sections such as security fencing, poles, and CCTV will be dismantled and removed. All onsite holes will be infilled.

Site access tracks will potentially be left in place for use by the associated landowners or stakeholders if requested or required. However, if this is not the case, internal access tracks will be removed and the site will be reinstated to its pre-construction use.

3.6 Environmental Management Procedures

The following sections outline environmental considerations to be undertaken by the appointed contractor during the decommissioning phase of the proposed project. These items should be further reviewed and detailed once the proposed project reaches a point closer to the decommissioning phase, on agreement with the Local Authority.

3.7 Site Drainage

Considerations to drainage on site during the decommissioning works are to be given, with particular regard to nearby streams and rivers. Drainage proposals will be outlined further where necessary and should be adhered to by the appointed contractor.

3.8 Storage of fuel and hazardous materials

All fuel and associated hazardous materials that are anticipated to be stored on site for the decommissioning works are to follow appropriate management procedures to ensure spills are avoided. Measures should consider the following:

- Refuelling on site should be kept to a minimum. Refuelling of plant machinery on site should be done so at a designated fuel depot and is to be operated by designated and trained personnel.
- Appropriate bunding and spill prevention measures should be in place. Considerations should be given to potential fuel spills in an Emergency Plan prepared for the decommissioning phase of the project.

3.9 Waste Management

In accordance with the Waste Management Act 1996, measures to conduct waste disposal and management should consider best practice in relation to recycling and recovery. The decommissioning of infrastructure on site and the generation of waste material should be dealt with in the following hierarchy, with disposal of waste to landfill to be considered as a last resort:

- Prevention minimisation
- Reuse of waste
- Recycling of waste

3.10 Dust Control

All works to contribute to the generation and dispersion of dust are to follow appropriate management procedures to ensure dispersion is kept to a minimum. Measures should consider the following:

- The nature of the dust, the weather during decommissioning works (particularly dry weather), wind speeds and wind direction should be considered in dust mitigation measures.
- Roads and access tracks considered to have the potential to generate dust should be watered/misted regularly during dust inducing weather conditions. Tarpaulins/covers should be utilised during the transportation of dust materials where deemed necessary.
- Vehicle speeds should be reduced where high levels of dust dispersion are considered likely.
- The above should be assessed daily given the forecasted conditions and the appropriate measures should be implemented on an evolving basis.

3.11 Noise Control

All works anticipated to contribute to the generation of increased noise and vibration are to follow appropriate management procedures to minimise the potential for disturbance. Measures should consider the following:

- Plant and machinery with low noise and vibration potential are to be used where possible, with regular maintenance and inspections to take place by trained personnel. Consideration is to be given to the selection of plant and machinery, opting for modern technologies where possible.
- Sound proofing measures are to be implemented where applicable, for example with diesel generators.

3.12 Management of Invasive Species

Prior to the commencement of decommissioning and restoration works, a suitably qualified ecologist is to complete an invasive species survey of the works area to determine if invasive species are present. Detailed measures of invasive species management should be prepared where necessary.

Delivery of soils on site for the purpose of infill are to be carefully considered and free from invasive species. It is the duty of the site manager to ensure that appropriate soils are selected.

3.13 Traffic Management

Requirement for a Traffic Management Plan (TMP) will be agreed with the Local Authority prior to any works.

3.14 Expected Impact on Natural Resources

The NIS and Section 3.0 (Biodiversity) of the PECR, prepared as part of the planning application have determined that the construction phase of the proposed project will have no significant

effects on the natural resources of the surrounding environment provided suitable mitigation measures are enacted. It is considered that, in principle, the decommissioning phase will have no greater significant effects than construction, provided suitable mitigation measures are enacted.

3.15 Emergency Response Plan

An Emergency Response Plan (ERP) will be prepared, in support of this DRP, prior to the commencement of works. The ERP should outline potential hazards and associated response procedures. Such measures should consider the following:

- Release of hazardous substances
- Concrete spills
- Flood events
- Breaches of environmental buffers involving significant environmental damage
- Breaches of materials and waste storage
- Evacuation drills

The appointed main Contractor will be responsible for developing a detailed ERP for the proposed construction works, to cover health and safety emergencies as well as environmental emergencies, as part of the Health & Safety Plan.

3.15 Other Mitigation

All works will comply with the best practise measures laid out in this DRP. Decommissioning mitigations have been derived from the best practise methods presented in Section 4.0 of the CEMP prepared for the project construction phase. Those mitigations themselves being sourced from the PECR and NIS prepared as part of this planning application.

In addition, measures to be implemented as part of the decommissioning phase are presented in Table 3-1.

Table 3-1 Mitigation Summary Table

Ref no.	Related to	Location	Mitigation Measure
Decommissioning Phase			
MM1	General Site Management		▪ Materials, plant and equipment shall be stored in the proposed site compound. ▪ All hazardous liquid materials shall be stored in a bunded area and spill containment measures will be in place. ▪ Re-fuelling of machinery, plant or equipment will be carried out in the site compounds. ▪ Fuel pipes on plant, outlets at fuel tanks etc. will be regularly checked and maintained to ensure that no drips or leaks to ground occur. The following will also be installed on fuel delivery pipes: o Any flexible pipe, tap or valve must be fitted with a lock where it leaves the container and be locked when not in use. o Flexible delivery pipes must be fitted with manually operated pumps or a valve at the delivery end that closes automatically when not in use. o Warning notices including "No smoking" and "Close valves when not in use" shall also be displayed. ▪ Spill kits will be available within each plant/vehicle on site and located close to identified pollution sources or sensitive receptors (fuel storage areas, etc.). ▪ Any servicing operations shall take place over drip trays. ▪ Areas used to store fuel and oil on the site will be appropriately lined and bunded to prevent the downward percolation of contaminants to natural soils and groundwater. ▪ Fuel for construction vehicles will be stored on an impervious base within a bund able to contain at least 110% of the volume stored. Rainwater will not be allowed to accumulate within the bund and in any way compromise the required 110% volume capacity. No tanks

		or containers may be perforated or dismantled on site. A competent operator shall empty all contents and residues for safe disposal elsewhere. ▪ If very wet ground must be accessed during the decommissioning phase bog mats will be used to enable access to these areas by machinery. ▪ Regular environmental toolbox talks/ briefing sessions will be conducted for all persons working to outline the relevant environmental control measures and to identify any environment risk areas/works.
MM2	Minimising significant dust creation, and containment of its spread	▪ Site induction to site personnel and contractors will be mandatorily provided regarding dust control measures; ▪ Where any decommissioning works are adjacent and parallel to river water bodies, a minimum 10m buffer will be maintained between the proposed works area and the watercourse edge; ▪ Considering the proximity of the proposed project to river water bodies, no dust suppressants will be used; • Material handling systems and stockpiling of materials will be designed and laid out to minimise exposure to wind. ▪ Vehicle speed within the proposed working areas will be restricted to 10km/h, and signs illustrating this restriction will be erected at the entrances to these areas; ▪ No trenches will be left open overnight, unless absolutely necessary.
MM3	Prevention; Secluding works and stock piling areas from rivers.	• Weather forecasting resources will be used (e.g. Met Éireann). Decommissioning work will not be undertaken during periods of high rainfall. This will minimise the risk of entrainment of suspended sediment in surface water runoff and transport via this pathway to nearby rivers; ▪ A minimum of 10m distance will be kept between the works/stockpiled material and any rivers or aquatic features; ▪ Double silt fencing will be placed at the outer edge of the 10m protective buffer mentioned above, between the trenches and any river or aquatic features. The silt fencing will be extended at least 10m upstream and downstream of the two proposed watercourse crossings; ▪ Silt fencing will be embedded into the soil to ensure all site water is captured and filtered.

MM4	Exclusion of Badger setts for the duration of the Construction Phase	▪ The ECoW will conduct walkover and multi-disciplinary surveys of the proposed project site and any works areas, including location of construction compound, at least 9 months before any decommissioning works are planned. The survey can be undertaken at any time of the year, but ideally during the spring, summer and autumn months; ▪ Further surveys and/or mitigation will be agreed with the Site Manager after this initial survey.
MM5	Traffic Management	Traffic Management Plan will be agreed with the Local Authority.
MM6	Inspections onsite	Routine inspections of decommissioning activities will be carried out on a daily and weekly basis by the ECoW and/or the Site Manager to ensure all controls to prevent environmental impacts, relevant to the decommissioning activities taking place at the time, are in place. Environmental inspections will ensure that the works are undertaken in compliance with this Decommissioning Plan and all other planning application documents. Only suitably trained staff will undertake environmental site inspections.
MM7	Environmental Audit	An Environmental audit will first be carried out prior to the decommissioning phase of the proposed project to ensure the construction and/or operational phase mitigation measures that are still in place as required are adequate. Further environmental audits will be carried out on a monthly basis during the decommissioning phase of the project and on completion of the decommissioning works. Corrective actions will be implemented by the Site Manager, as advised by the ECoW

4.0 RESTORATION PLAN

The proposed project is expected to have an operational lifetime of 40 years. Once the decommissioning phase of the project is complete, the restoration phase of the project will begin. The site will be restored to the environmental conditions prior to the start of the construction phase.

Where any infrastructure is removed, the area will be restored back to a state prior the construction. The previous use of the majority of the land prior to works was agriculture, primarily arable crops. This portion will be brought back to a condition of agricultural use, under consultation with the Local Authority and the landowner.

4.1 LANDSCAPING

The preconstruction use of the land was primarily agricultural use, particularly for the production of arable crops and the naturally mixed broadleaved woodland. The site will be returned to a state that will be visually compatible with the surrounding landscape. Visual elements of landscape structure, colour and species composition will be brought in line with the pre-construction landscape.

During the restoration phase, ground disturbance will be minimized to a practical extent. All remaining stockpiled soils from the previous project phases will be reused in the landscaping of the project. Where soil compaction has taken place, the soil will be tilled and aerated to an appropriate depth, but in general will be shallow.

All excavated areas will be filled in and reseeded by native seed mix. The particular seed mix will be chosen in consultation with the landowner. Areas in which replanting is deemed inappropriate will be left to vegetate naturally. The site will be monitored to ensure the successful establishment of planted vegetation.

4.2 Landowner Engagement

The preconstruction use of the land was primarily agricultural use, particularly for arable crops. It is expected that the land surrounding the site boundary will continue to be used for agricultural purposes. The Applicant will endeavour to restore the site to preconstruction conditions in consultation with the landowner.



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Appendix E FLOOD RISK ASSESSMENT

TOBIN

Tincurry 110kV Substation Amendment
Stage 2 - Flood Risk Assessment

BUILT ON KNOWLEDGE

Document Control Sheet	
Document Reference	Flood Risk Assessment
Client:	Orsted (Lodgewood Solar Farm Ltd.)
Project Reference	12123

Rev	Description	Author	Date	Reviewer	Date	Approval	Date
A01	FINAL	SM	16/02/2026	DH/JS	22/02/2026	JS	26/02/2026

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STAGE 2 - FLOOD RISK ASSESSMENT

1.1 INTRODUCTION

TOBIN have been appointed by Lodgewood Solar Farm Ltd. to undertake a Flood Risk Assessment for the proposed amendments to the consented Tincurry 110kV substation and associated grid connection cable (ABP ref: No. 318528) to the existing 220kV substation in Lodgewood, County Wexford. The Tincurry 110kV substation and Grid Connection will serve the granted Tincurry and Ballylough Solar Farms (Wexford County Council Planning ref: 20221309 and 20231025). It will also serve a Battery Energy Storage System (BESS), located adjacent to the Tincurry 110kV Substation, which was subject to a separate planning application (Wexford County Council Planning Ref: 20241593), and which was permitted in May 2025.

The proposed project has an area of 4.86 ha. comprising of 1no. land parcel. The site is located in a rural area approximately 2.4 km west of Ferns, County Wexford. The proposed project is located in the townlands of Tincurry, Crory, Ballylough and Lodgewood, with access off the R772. The surrounding landscape is predominantly characterised by agricultural, open fields, hedgerows, and scattered farmsteads (see Figure 1-1). The full project description is provided in Chapter 1.

Existing ground levels within the overall proposed project site range from approximately 30.7mOD to 55.7mOD, with both the highest and lowest values being located along the access track. The levels at the proposed substation compound range from approximately 39.1mOD to 42.1mOD.

The nearest hydraulic feature is the Lodgewood stream, which flows directly through the site before continuing southward. Further downstream, a smaller watercourse, Tincurry_12, joins the Lodgewood stream, and the combined flow then continues southeast to its confluence with the River Bann (Wexford).

The purpose of this Stage 2 Flood Risk Assessment (FRA) is to identify, quantify, and communicate any potential flood risks associated with the proposed project. Given the site's location along the Lodgewood stream, which forms part of the River Bann catchment, it may be exposed to fluvial flood risk, particularly during periods of intense rainfall when local drainage capacity is exceeded. The rural nature of the surrounding landscape, combined with the site's gentle topography and direct proximity to the watercourse, increases its sensitivity to surface water accumulation and river overflow.

It is noted that the EPA watercourse dataset misaligns the Lodgewood and Tincurry_12 streams in the vicinity of the subject site. The EPA flow direction layer (blue arrows) is broadly correct for the Tincurry_12 stream but does not accurately represent the Lodgewood stream along its upstream reach (Figure 1-2). Survey data, verified against aerial imagery and site inspection, confirm the actual stream alignments (Figure 1-2). On average, the Lodgewood stream lies approximately 92.8 m west of the EPA-mapped position and 29.3 m west of the EPA flow direction layer, while the Tincurry_12 Stream lies approximately 40 m north of the EPA-mapped position. These offsets are not uniform along the full stream length but represent typical displacements between the mapped and surveyed alignments.

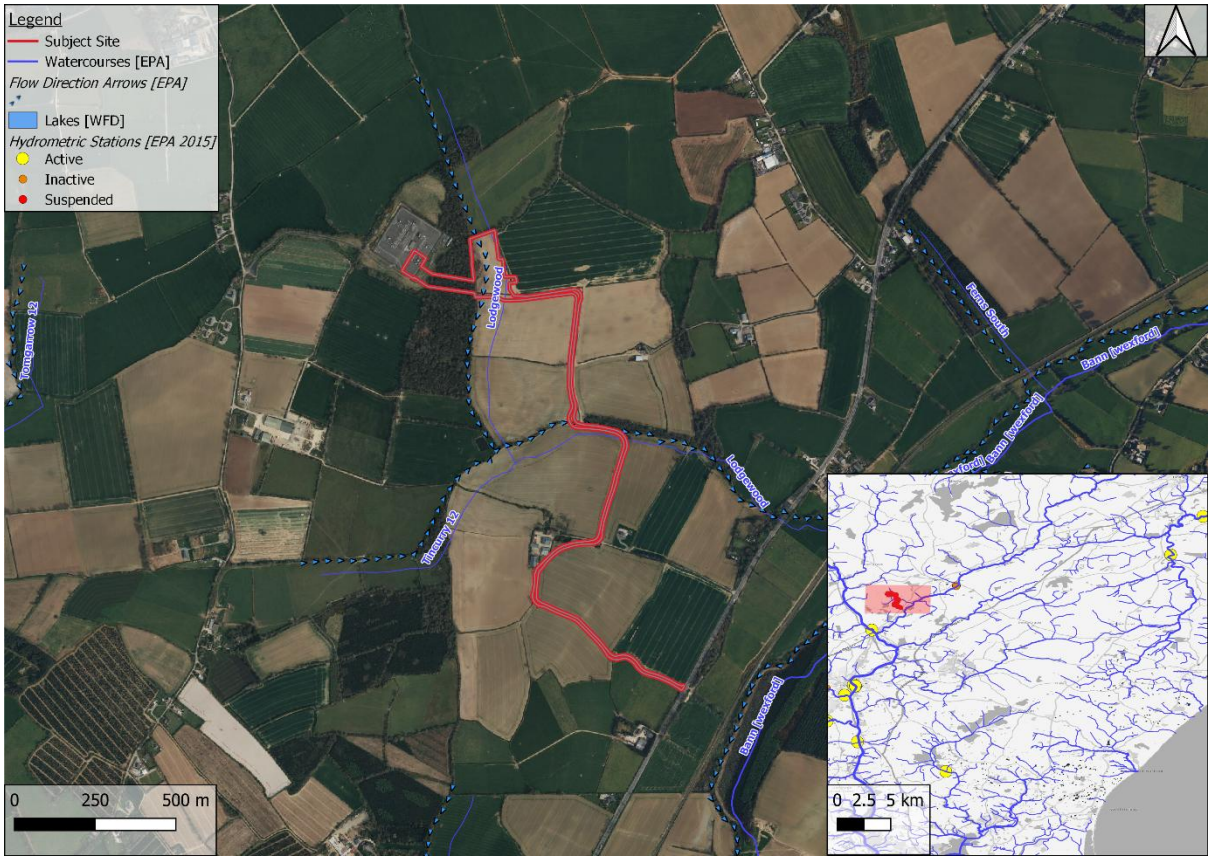


Figure 1-1: Site Location

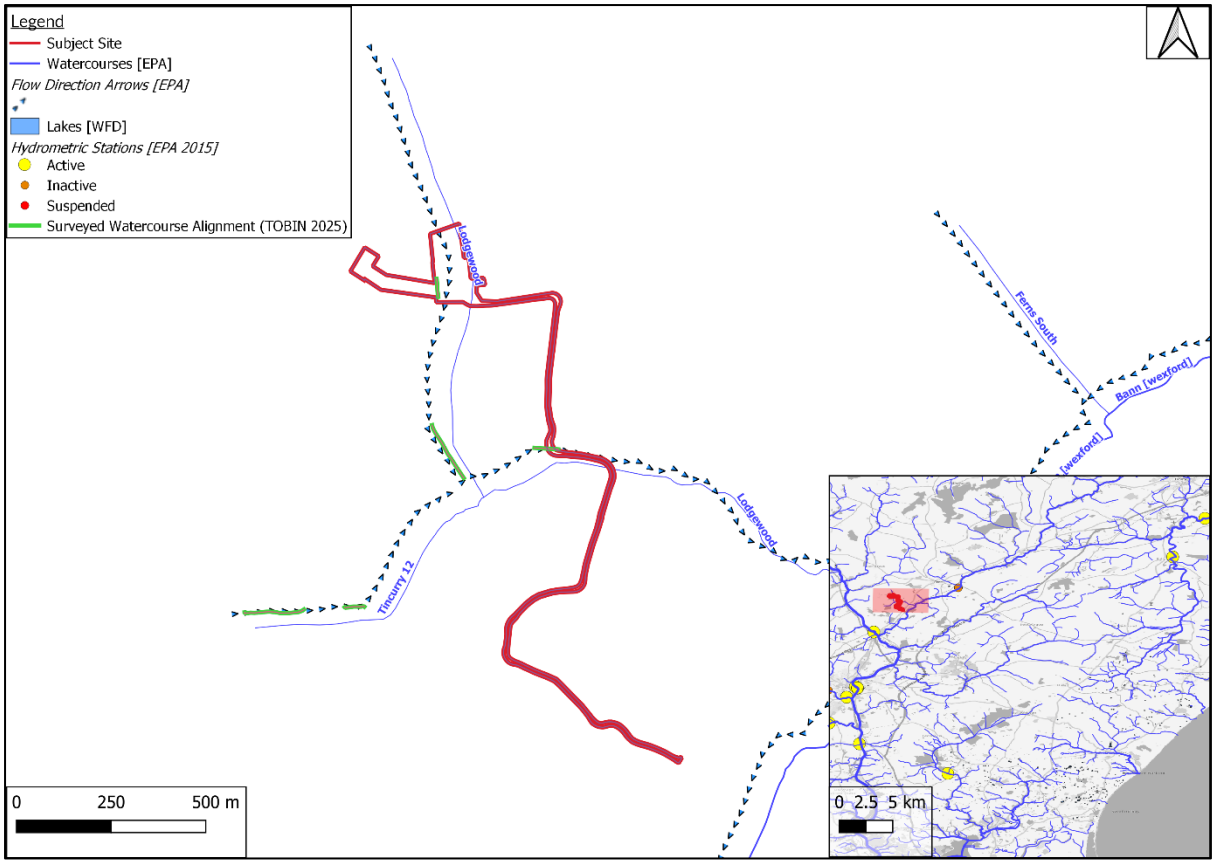


Figure 1-2: Site Location - Watercourse Alignment

1.2 SUMMARY OF ORIGINAL FRA RESIDUAL EFFECTS AND CONCLUSIONS

The original Site-Specific Flood Risk Assessment (SSFRA) prepared by IE Consulting in 2023 for the Tincurry 110kV Substation and Grid Connection identified fluvial flooding from the Lodgewood stream as the primary potential risk to the site. The assessment, undertaken in line with The Planning System and Flood Risk Management Guidelines for Planning Authorities (2009), included a screening and scoping exercise using the following datasets and information sources:

- OPW PFRA mapping: indicated that a small portion of the proposed access track fell within an indicative fluvial flood zone.
- OPW NIFM mapping: no flooding within the site boundary, though upstream reaches of the Lodgewood stream (including the section adjacent to the site) were not included in the mapping extent.
- Wexford County Development Plan (2022–2028) SFRA mapping: confirmed minor flood zone overlap along the access track.
- OPW Flood Info database: no recorded flood events on site.
- Historic Ordnance Survey mapping (6-inch and 25-inch): no indication of past flooding within or adjacent to the site.
- GSI subsoil mapping: no alluvial deposits mapped within the site boundary; underlying shale till with isolated bedrock at surface.

- GSI groundwater flooding maps: no groundwater flood extents within or adjacent to the site.
- Culvert/bridge blockage risk: noted two existing farm access bridges on the Lodgewood stream, with overtopping in extreme events considered possible but blockage risk considered unlikely to increase flood hazard at the site.

The development which was proposed in the FRA report (IE, 2023) located all highly vulnerable infrastructure outside mapped flood zones and adopted permeable surfacing and SuDS principles. The residual effects identified were:

I. Low fluvial flood risk (limited to overtopping of the access track in extreme events).
II. No risk from pluvial, coastal, or groundwater flooding.
III. No predicted increase in off-site flood risk.
IV. No significant residual effects following implementation of design measures.

1.3 FLOOD RISK MANAGEMENT GUIDANCE

This Stage 2 Flood Risk Assessment was carried out in accordance with the following flood risk management guidance documents:

- The Planning System and Flood Risk Management Guidelines for Planning Authorities
- Flood Risk Management Climate Change Sectoral Adaptation Plan
- Wexford County Development Plan (2022-2028)
    - Strategic Flood Risk Assessment

1.3.1 THE PLANNING SYSTEM AND FLOOD RISK MANAGEMENT GUIDELINES

The Planning System and Flood Risk Management Guidelines for Planning Authorities (PSFRM Guidelines) were published in 2009 by the Office of Public Works (OPW) and Department of the Environment, Heritage, and Local Government (DoEHLG). Their aim is to ensure that flood risk is considered in development proposals and the assessment of planning applications.

1.3.1.1 Flood Zones and Vulnerability Classes

The PSFRM Guidelines discuss flood risk in terms of three flood zones (A, B, and C), which correspond to areas of high, medium, or low probability of flooding, respectively. The extents of each flood zone are based on the Annual Exceedance Probability (AEP) of various flood events.

The PSFRM Guidelines also categorise different types of development into three vulnerability classes based on their sensitivity to flooding[1]. The guidelines classify essential infrastructure including electricity generating power stations and sub-stations as "Highly vulnerable development (including essential infrastructure)".

Table 1-1 shows a decision matrix that indicates which types of development are appropriate in each flood zone and when the Justification Test (see Section B.3.1.2 of Guidelines) must be satisfied. The annual exceedance probabilities used to define each flood zone are also provided.

[1] https://www.opr.ie/wp-content/uploads/2019/08/2009-Planning-System-Flood-Risk-Mgmt-1.pdf

Table 1-1: Decision Matrix for Determining the Appropriateness of a Development

Flood Zone: (Probability)	Annual Exceedance Probability (AEP)	Highly Vulnerable	Less Vulnerable	Water Compatible
A (High)	Coastal Flooding: More frequent than 0.5% AEP Fluvial & Pluvial Flooding: More frequent than 1% AEP	Justification Test Required	Justification Test Required	Appropriate
B (Medium)	Coastal Flooding: 0.1% to 0.5% AEP Fluvial & Pluvial Flooding: 0.1% to 1% AEP	Justification Test Required	Appropriate	Appropriate
C (Low)	Fluvial, Pluvial & Coastal Flooding: Less frequent than 0.1% AEP	Appropriate	Appropriate	Appropriate

1.3.1.2 Justification Test

Any proposed project being considered in an inappropriate flood zone (as determined by Table 1-1) must satisfy the criteria of the Justification Test outlined in Figure 1-3 (taken from the PSFRM Guidelines).

Box 5.1 Justification Test for development management (to be submitted by the applicant)

When considering proposals for development, which may be vulnerable to flooding, and that would generally be inappropriate as set out in Table 3.2, the following criteria must be satisfied:

1. The subject lands have been zoned or otherwise designated for the particular use or form of development in an operative development plan, which has been adopted or varied taking account of these Guidelines.
2. The proposal has been subject to an appropriate flood risk assessment that demonstrates:
   - (i) The development proposed will not increase flood risk elsewhere and, if practicable, will reduce overall flood risk;
   - (ii) The development proposal includes measures to minimise flood risk to people, property, the economy and the environment as far as reasonably possible;
   - (iii) The development proposed includes measures to ensure that residual risks to the area and/or development can be managed to an acceptable level as regards the adequacy of existing flood protection measures or the design, implementation and funding of any future flood risk management measures and provisions for emergency services access; and
   - (iv) The development proposed addresses the above in a manner that is also compatible with the achievement of wider planning objectives in relation to development of good urban design and vibrant and active streetscapes.

The acceptability or otherwise of levels of residual risk should be made with consideration of the type and foreseen use of the development and the local development context.

Note: See section 5.27 in relation to major development on zoned lands where sequential approach has not been applied in the operative development plan.

Refer to section 5.28 in relation to minor and infill developments.

Figure 1-3: Criteria of the Justification Test

1.3.2 THE FLOOD RISK MANAGEMENT CLIMATE ADAPTION PLAN

The Flood Risk Management Climate Change Sectoral Adaptation Plan was published in 2019 under the National Adaptation Framework and Climate Action Plan. This plan outlines the OPW's approach to climate change adaptation in terms of flood risk management.

This approach is based on a current understanding of the potential impacts of climate change on flooding and flood risk. Research has shown that climate change is likely to worsen flooding through more extreme rainfall patterns, more severe river flows, and rising mean sea levels.

To account for these changes, the Adaptation Plan presents two future flood risk scenarios to consider when assessing flood risk:

- Mid-Range Future Scenario (MRFS)
- High-End Future Scenario (HEFS)

Table 1-2 indicates the allowances that should be added to estimates of extreme rainfall depths, peak flood flows, and mean sea levels for the future scenarios.

Table 1-2: Climate Change Adaptation Allowances for Future Flood Risk Scenarios

Parameter	Mid-Range Future Scenario (MRFS)	High-End Future Scenario (HEFS)
Extreme Rainfall Depths	+ 20%	+ 30%
Peak River Flood Flows	+ 20%	+ 30%
Mean Sea Level Rise	+ 0.5 m	+ 1 m

For the purpose of this flood risk assessment, the proposed project has been assessed against the Mid-Range Future Scenario as it represents a likely future scenario.

1.3.3 WEXFORD COUNTY DEVELOPMENT PLAN (2022-2028)

The Wexford County Development Plan 2022-2028[2] sets out the overall strategy for the proper planning and sustainable development of County Wexford for the plan period and beyond. Chapter 9 of the Wexford County Development Plan 2022-2028 outlines the county plan for Infrastructure Strategy. Flood Risk Management Objectives of the Council are given in Chapter 9, Flood Risk Management Objectives are as follows:

Objective FRM01

To carry out flood risk assessments when implementing the forward planning and development management functions of the Council for the purposes of regulating, restricting and controlling development in areas at risk of flooding, and to minimise the level of risk to people, business, infrastructure and the environment through the identification and management of existing and potential future flood risk.

Objective FRM02

To implement and comply fully with the recommendations of the Strategic Flood Risk Assessment prepared as part of the Wexford County Development Plan 2022-2028.

Objective FRM03

To ensure that flood risk management is incorporated into the preparation of future statutory local area plans through the preparation of Strategic Flood Risk Assessments for the respective plan areas in accordance with the requirements of the Planning System and Flood Risk Management-Guidelines for Planning Authorities (DEHLG and OPW, 2009) and Circular PL2/2014, and any future update of these guidelines.

Objective FRM04

To ensure that climate change is fully embedded in future flood risk management in land use planning and flood risk management activities in the county, providing for effective climate change adaptation as set out in the County Wexford Climate Action Plan 2019-2025 and the OPW Climate Change Adaptation Plan for Flood Risk Management applicable at the time and in accordance with the County Strategic Flood Risk Assessment in Volume 11.

[2] Wexford County Development Plan (2022-2028) | Wexford County Council Online Consultation Portal

Objective FRM05

To have regard to the flood risk assessments carried out for the settlements in Section 5 of the County Strategic Flood Risk Assessment and to have regard to the advice set out therein when preparing local area plans and assessing planning applications in those settlements.

Objective FRM06

To consider applications for minor developments such as change of use, extensions and infill development in accordance with the requirements of the Planning System and Flood Risk Management-Guidelines for Planning Authorities (DEHLG and OPW, 2009) and Circular PL2/2014, and any future update of these guidelines and the County Strategic Flood Risk Assessment in Volume 11.

Objective FRM07

To ensure that all future development proposals comply with the requirements of the Planning System and Flood Risk Management –Guidelines for Planning Authorities (DEHLG and OPW, 2009) and Circular PL2/2014, in particular through the application of the sequential approach and the Development Management Justification Test. In this regard, the Planning Authority will apply the precautionary principle and will screen all proposals for flood risk and will pay particular attention to lands within, along the edge or adjacent to Flood Zone A or B.

Objective FRM08

When potential flood risk is identified in either Flood Zone A, B or C, the Planning Authority will require the applicant to submit an appropriately detailed site-specific flood risk assessment. The assessment, which shall be carried out by a suitably qualified and indemnified professional, shall be appropriate to the scale and nature of the risk to the proposed project, and shall consider all sources of potential flood risk including, where relevant, fluvial, coastal, surface water/pluvial and groundwater sources. The assessment shall be fully in accordance with the requirements of the Planning System and Flood Risk Management Guidelines for Planning Authorities (DEHLG, OPW 2009) and the Strategic Flood Risk Assessment in Volume 11 of the County Development Plan and the requirements set out therein, and shall address climate change, residual flood risks, avoidance of contamination of water sources and any proposed site specific flood management measures.

Objective FRM09

To ensure that compensatory storage is provided to balance floodplain loss as a result of raising ground levels within Flood Zone A or B. The storage should be provided within the flood cell and on a level for level basis up to the 1% level.

Objective FRM10

To continue to assist the Office of Public Works in developing catchment-based flood risk management for rivers, coastlines and estuaries in County Wexford as part of the South-Eastern Catchment Flood Risk Assessment and Management Study (CFRAMS), and to have regard to any future flood risk maps and flood risk management plans for areas within the county prepared as part of the South-East CFRAMS study.

Objective FRM11

To facilitate the provision of new, or the reinforcement of existing flood defences and protection measures where necessary, and in particular to support the implementation of proposed flood

schemes being progressed through the planning process during the lifetime of the Wexford County Development Plan 2022-2028 subject to compliance with the requirements of the EU Habitats Directive and the protection of natural and built heritage and visual amenities.

Objective FRM12

To protect the integrity of any formal (OPW or Wexford County Council) flood risk management infrastructure thereby ensuring that any development does not negatively impact any existing defence infrastructure or compromise any proposed new infrastructure.

Objective FRM13

To consult with the Office of Public Works in relation to proposed projects in the vicinity of drainage channels and rivers for which the OPW are responsible.

Objective FRM14

To require the use of sustainable drainage systems (SuDS) and nature-based solutions to minimise and limit the extent of hard surfacing and paving and require the use of sustainable drainage and nature-based techniques where appropriate, for new development or for extensions to existing developments, in order to reduce the potential impact of existing and predicted flooding risks, to improve water quality, enhance biodiversity and green infrastructure and contribute to climate mitigation and adaptation.

Objective FRM15

To ensure that where flood risk management works take place that the natural and cultural heritage and rivers, streams and watercourses are protected and improved where possible.

Objective FRM16

To protect and enhance and restore the county's floodplains, wetlands and coastal areas as 'green infrastructure' which provides space for the storage and conveyance of floodwater, enabling flood risk to be more effectively managed and reducing the need to provide flood defences in the future, subject to normal planning and environmental criteria and the objectives contained in Chapter 11 Landscape and Green Infrastructure.

Objective FRM17

To adopt a presumption in favour of leaving floodplains, wetlands and other natural flood management measures unaltered except in central locations.

Objective FRM18

To ensure riparian buffer zones, a minimum of 10 metres in width (in some cases buffer zones of up to 50 metres may be appropriate), are created between all watercourses and any future development. In considering the appropriate width, the Council will have regard to 'Planning for Watercourses in the Urban Environment (Inland Fisheries Ireland 2020).

Objective FRM19

To only consider proposals for the culverting/piping of streams and watercourses where these works are absolutely necessary and appropriate. Inland Fisheries Ireland (IFI), National Parks and Wildlife (NPWS) and the Office of Public Works (OPW) will be consulted, where appropriate.

1.3.3.1 Strategic Flood Risk Assessment

JBA Consulting was commissioned by Wexford County Council (WCC) to provide assistance in the preparation of the Strategic Flood Risk Assessment (SFRA)[3] to incorporate the provisions of the Wexford County Development Plan 2022-2028 (CDP).

In terms of Fluvial Flooding SEFRA stated:

> "Fluvial flooding is associated with the exceedance of river channel capacity during higher flows. The process of flooding on watercourses depends on a number of characteristics associated with the catchment including geographical location and variation in rainfall, steepness of the channel and surrounding floodplain and infiltration and runoff rates associated with urban and rural catchments. Additional flood risk may present itself at bridges and culverts where blockage can lead to a local increase in water levels and exacerbate the impacts of flooding."

In terms of surface water/Pluvial SEFRA stated:

> "Flooding of land from surface water runoff is usually caused by intense rainfall that may only last a few hours. The resulting water follows natural valley lines, creating flow paths along roads and through and around developments and ponding in low spots, which often coincide with fluvial floodplains. Any areas at risk from fluvial flooding will almost certainly be at risk from surface water flooding. "

The SFRA indicates the residual risk as "*Residual risk can arise from overtopping of flood defences and / or from the breach from structural failure of the defences.*"

In terms of recommended minimum finished floor levels and freeboard SFRA showed the key points for FRAs for all types of development stated that:

> "Finished floor levels (FFL) to be set above the 1% AEP fluvial (0.5% AEP tide) level, with an allowance for climate change plus a freeboard of at least 300mm. The freeboard allowance should be assessed, and the choice justified. For less vulnerable development, it may be that a finished floor level as low as the 1% AEP level could be adopted, provided the risks of climate change are included in the development through adaptable designs or resilience measures."

An assessment of settlements within County Wexford was conducted as part of the county-level Strategic Flood Risk Assessment (SFRA). Although the subject site is not located within the defined boundaries of any mapped settlement, it lies just outside the southwestern edge of the Ferns settlement map. Nonetheless, the findings from the SFRA are broadly applicable to the subject site. The assessment reported no record of historical flood events in the area. In terms of climate change, the Ferns settlement was classified as having low sensitivity.

Flood Zone mapping produced as part of the Wexford County Development Plan 2022-2028 is shown in Figure 1-4

[3]https://consult.wexfordcoco.ie/en/system/files/materials/1281/Volume%2011%20Strategic%20Flood%20Risk%20Assessment_0.pdf

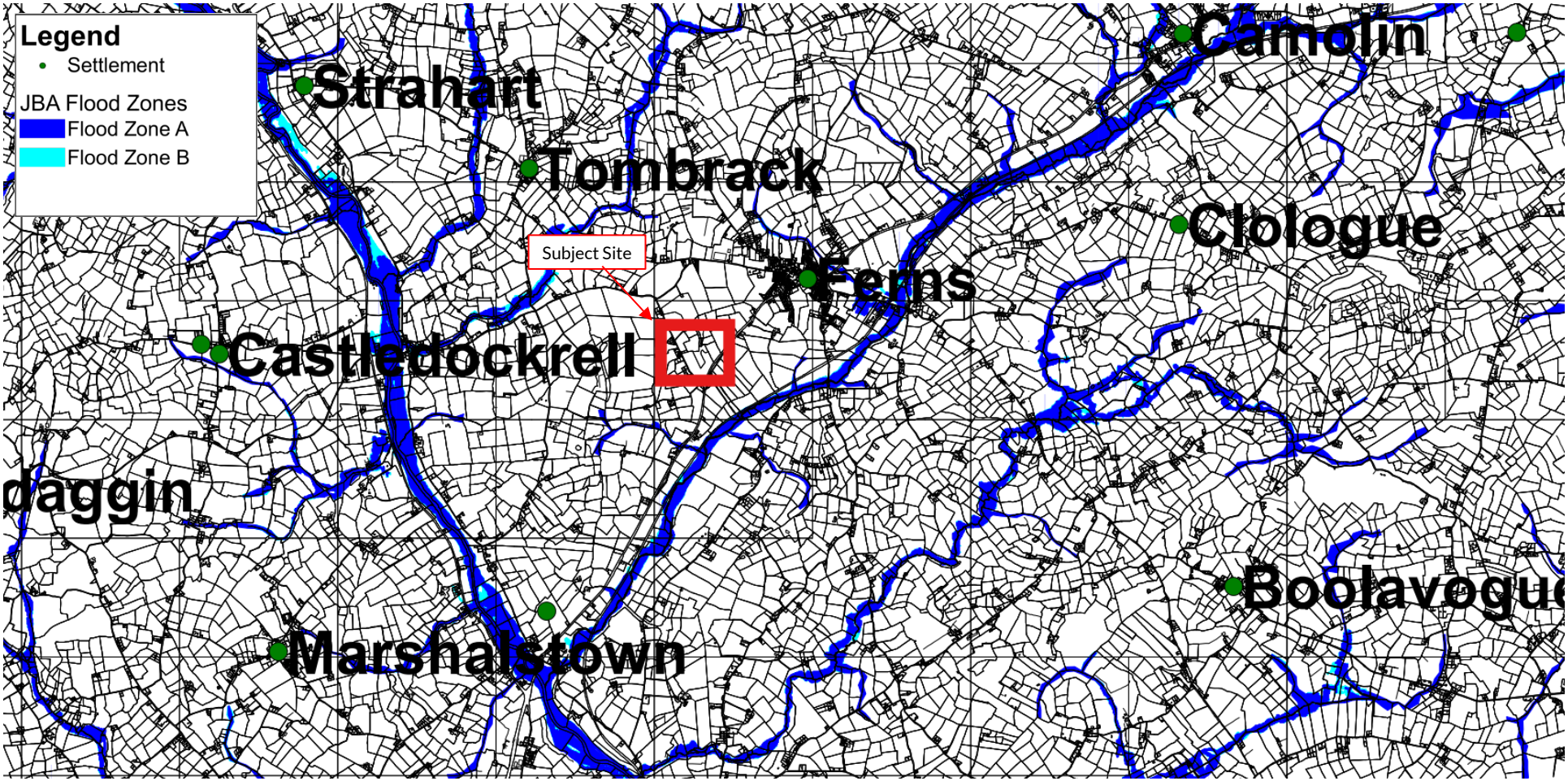


Figure 1-4: Wexford County Development Plan (2022-2028) - Strategic Flood Risk Assessment (SFRA)[4]

[4] https://consult.wexfordcoco.ie/en/system/files/materials/1281/Volume%2011%20Strategic%20Flood%20Risk%20Assessment_0.pdf

1.4 INITIAL FLOOD RISK ASSESSMENT

1.4.1 PAST FLOOD EVENTS

The OPW's National Flood Information Portal[5] provides past flood event mapping with records of flooding reports, meeting minutes, photos, and/or hydrometric data. Based on the flood map shown in Figure 1-5, there are no flood events in the immediate vicinity of the subject site. The closest flood event (ID 4522) is located 2.6 km east from the proposed substation compound at Bann Doran's Bridge. The flood Source was the River Bann. The recorded past flood event is not hydraulically linked to the subject site.

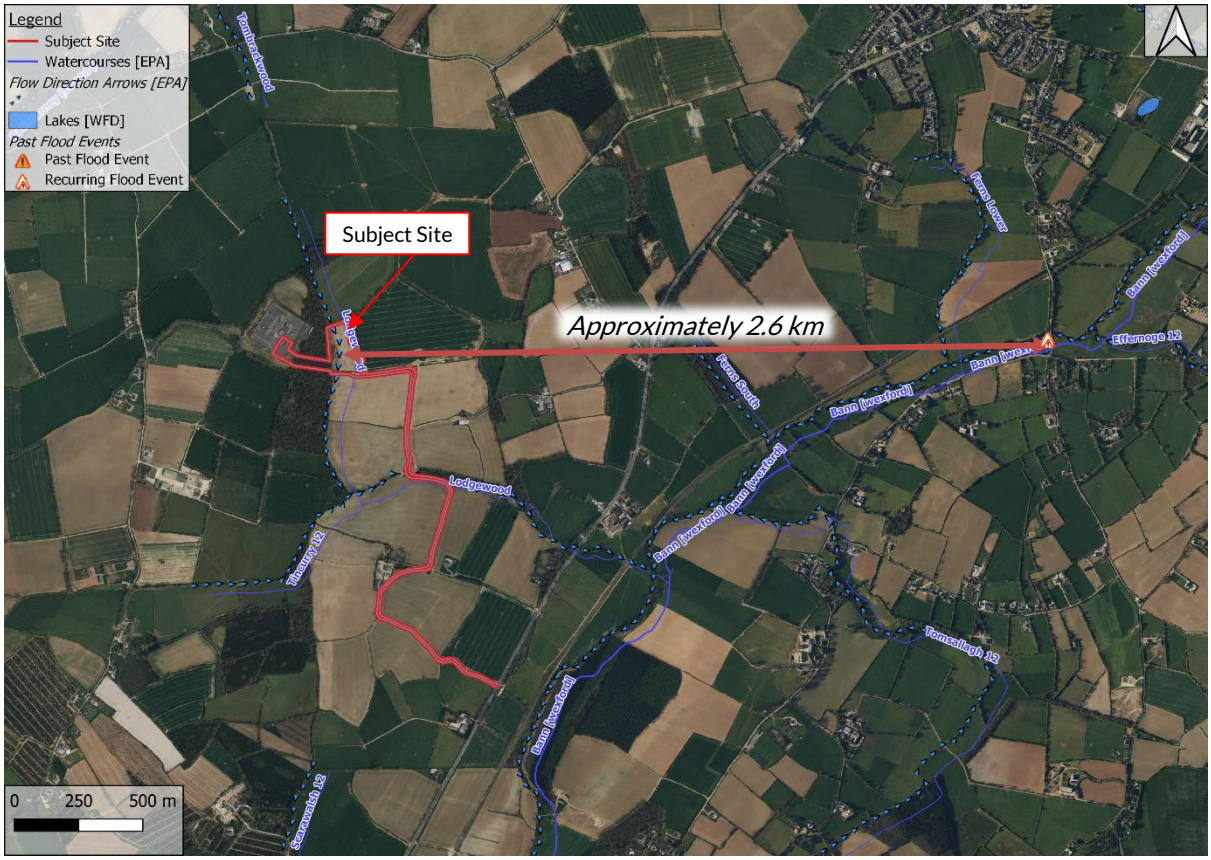


Figure 1-5: OPW Recorded Past Flood Events

1.4.2 OPW PRELIMINARY FLOOD RISK ASSESSMENT (PFRA) STUDY

In 2009, the OPW produced a series of maps to assist in the development of a broad-scale FRA throughout Ireland. These maps were produced from several sources.

The OPW's National Preliminary Flood Risk Assessment (PFRA) Overview Report from March 2012 noted that *"the flood extents shown on these maps are based on broad-scale simple analysis and may not be accurate for a specific location".*

[5] floodinfo.ie

Figure 1-6 provides an overview of the fluvial, coastal, pluvial, and groundwater indicative flood extents in the vicinity of the subject site. Figure 1-7 shows the PFRA fluvial flooding extents in a 1 in 100-year (1% AEP) event and 1 in 1000-year (0.1%AEP) event.

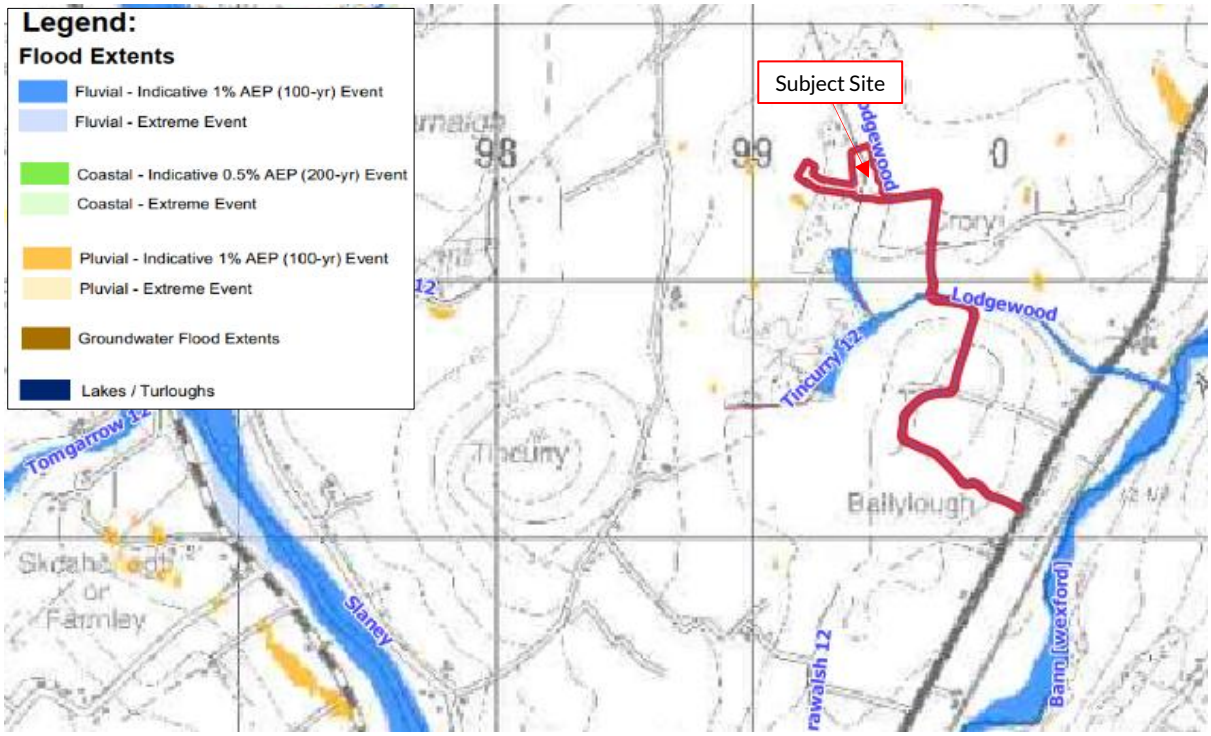


Figure 1-6: Indicative Flood Mapping [extract from PFRA Map 140]

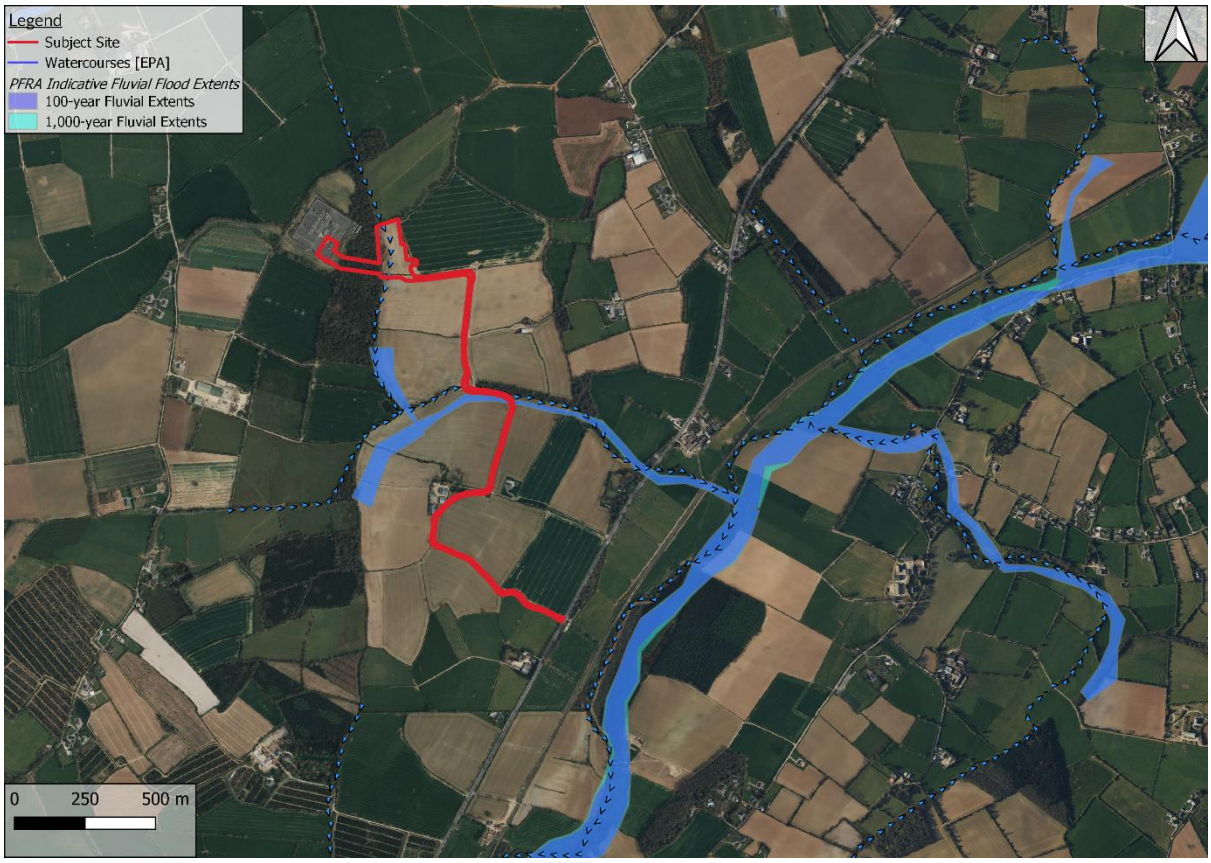


Figure 1-7: PFRA Flood Extents

Findings based on the PFRA mapping indicate that the proposed substation compound does not appear to be at risk of fluvial, coastal, pluvial, or groundwater flooding since these flood extents fall outside the proposed substation compound. The proposed access track is the only part of the proposed project that intersects a 1 in 100 year fluvial flooding area under this data source.

Limitations on potential sources of error associated with the PFRA maps include:

- Assumed channel capacity (due to absence of channel survey information)
- Absence of flood defences and other drainage improvements and channel structures (bridges, weirs, culverts)
- Local errors in the national Digital Terrain Model (DTM).

Improved hydraulic modelling was carried out through the Catchment Flood Risk Assessment and Management Study (CFRAM) in 2015 (discussed in Section 1.4.4) and is considered more accurate than the PFRA study as it utilised surveyed river geometry and was subject to greater model calibration.

1.4.3 NATIONAL INDICATIVE FLUVIAL MAPPING (NIFM)

In 2020, the OPW produced the second-generation indicative fluvial flood mapping, improving upon the first generation PFRA and producing higher quality flood maps[6] . The NIFM Flood Mapping Technical Data notes that "Cross sectional surveys have not been used to define the dimensions of river channels and structures within the 2D model. Channels have been represented in the 2D model by assuming their channel capacity is equivalent to the estimation of [the index flood flow]"[7]. The 2D model uses a Digital Terrain Model with a grid scale of 5m.

As shown in Figure 1-8, a smaller watercourse labelled Tincurry_12 joins the Lodgewood stream further downstream, and the combined flow continues southeast before discharging into the River Bann (Wexford). While the lower section of the Lodgewood stream and the River Bann are included in the NIFM fluvial flood modelling, the upstream segment of the Lodgewood stream, particularly the portion flowing through the subject site, was not modelled.

NIFM flood maps for the 1 in 100-year (1% AEP) and 1 in 1000-year (0.1% AEP) events show no predicted fluvial inundation within the site boundary from either the River Bann (Wexford) or the Lodgewood stream under both the current day and the Mid-Range Future Scenario (MRFS), as shown in Figure 1-8 and Figure 1-9 respectively. Although the upstream reach of the Lodgewood stream is not included in the detailed mapping, the site's elevated topography further reduces the potential for fluvial flooding from this local watercourse.

[6] National Indicative Fluvial Mapping; Applying and Updating FSU Data to Support Revised Flood Risk Mapping for Ireland, Brown et al., Irish National Hydrology Conference 2019
[7] https://www.floodinfo.ie/map/nifm_user_guidance_notes/

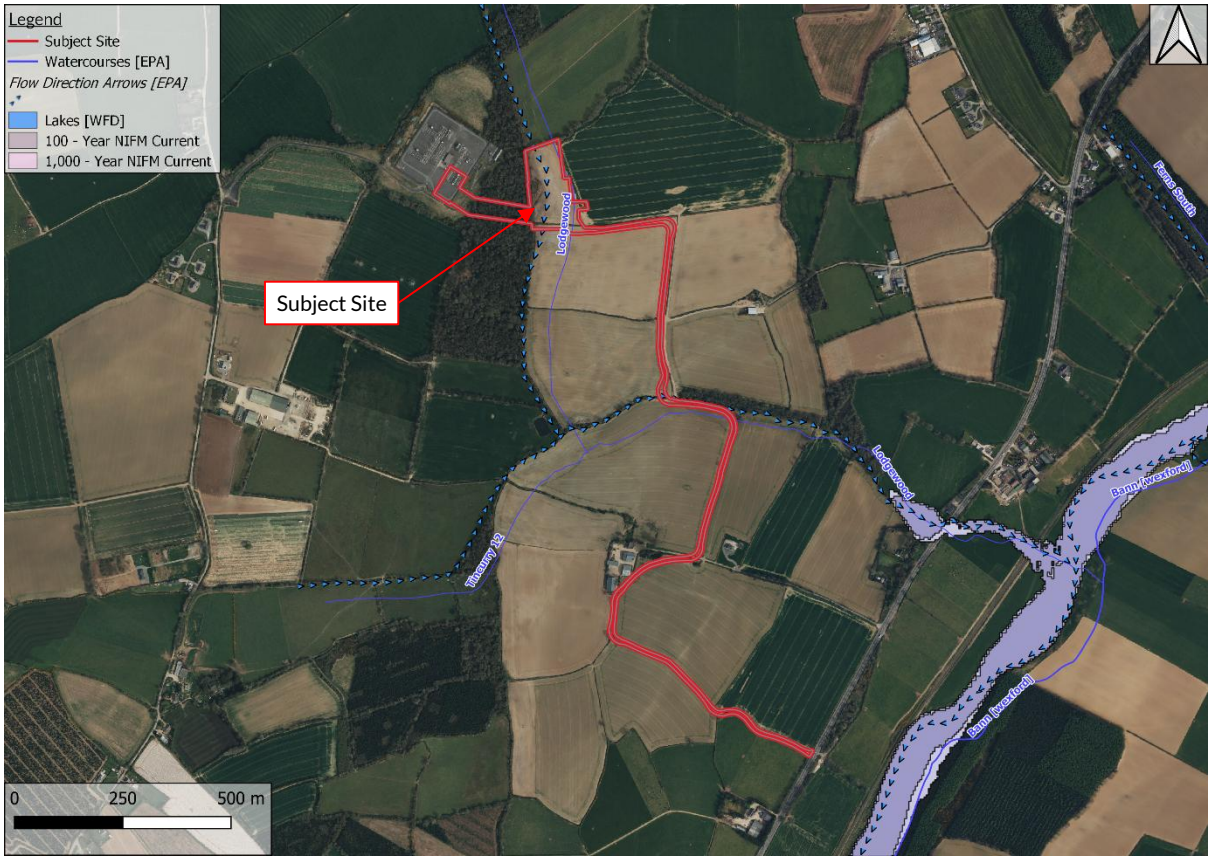


Figure 1-8: National Indicative Fluvial Mapping - Current Scenario

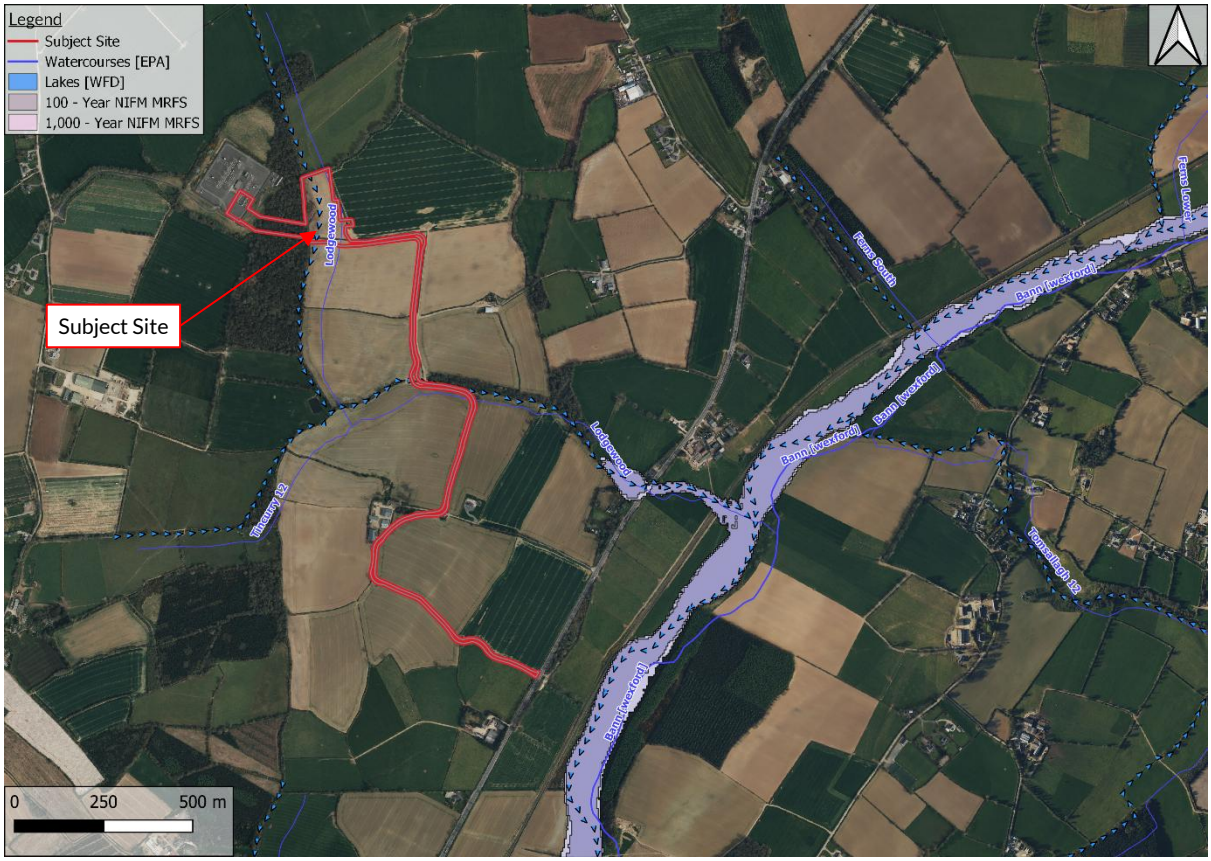


Figure 1-9: National Indicative Fluvial Mapping - MRFS Scenario

1.4.4 CATCHMENT FLOOD RISK ASSESSMENT AND MANAGEMENT STUDY

In 2015, the OPW produced flood maps as part of the Catchment Flood Risk Assessment and Management (CFRAM) Study. The flood extents in these maps are based on detailed modelling of Areas for Further Assessment identified by the National Preliminary Flood Risk Assessment[8].

1.4.4.1 Fluvial Flood Risk (CFRAM)

The Lodgewood stream was not modelled as part of the CFRAM Study, nor was the River Bann (Wexford); only the River Slaney was included in the national fluvial flood modelling. CFRAM mapping of the 1 in 100-year (1% AEP) and 1 in 1000-year (0.1% AEP) predicted fluvial flood extents, shown in Figure 1-10, indicates that the subject site is not liable to fluvial flooding during a 1 in 100-year (1% AEP) and 1 in 1000-year (0.1% AEP) events. Although there are no detailed flood maps for the Lodgewood stream, the site's elevated topography further reduces the risk of fluvial flooding from nearby watercourses.



Figure 1-10: CFRAM Current Fluvial Flood Extents

The CFRAM Study also completed mapping which included an allowance for climate change for the mid-range future scenario (MRFS). Figure 1-11 shows the MRFS fluvial flood extents produced as part of the CFRAM Study during the 1 in 100-year (1% AEP) and 1 in 1000-year (0.1% AEP) MRFS flood events. The subject site is again not shown to be at risk of fluvial flooding from the Slaney River.

[8] https://www.floodinfo.ie/about_frm/



Figure 1-11: CFRAM MRFS Fluvial Flood Extents

1.4.5 OPW DRAINAGE DISTRICTS AND ARTERIAL DRAINAGE SCHEMES

The OPW Drainage Districts were carried out by the commissioners of Public Works under several drainage and navigation acts from 1842 to the 1930s to improve land for agriculture and to mitigate flooding.[9] The local authorities are charged with the responsibility to maintain Drainage Districts.

Benefited lands are areas that were previously subject to poor drainage and/or flooding but that have benefited from the implementation of Arterial Drainage Schemes carried out under the Arterial Drainage Act 1945.

Although the Lodgewood stream is a land commissioned watercourse the subject site has not benefited from any arterial drainage scheme and is not located in a Drainage District (see Figure 1-12).

[9] www.floodinfo.ie

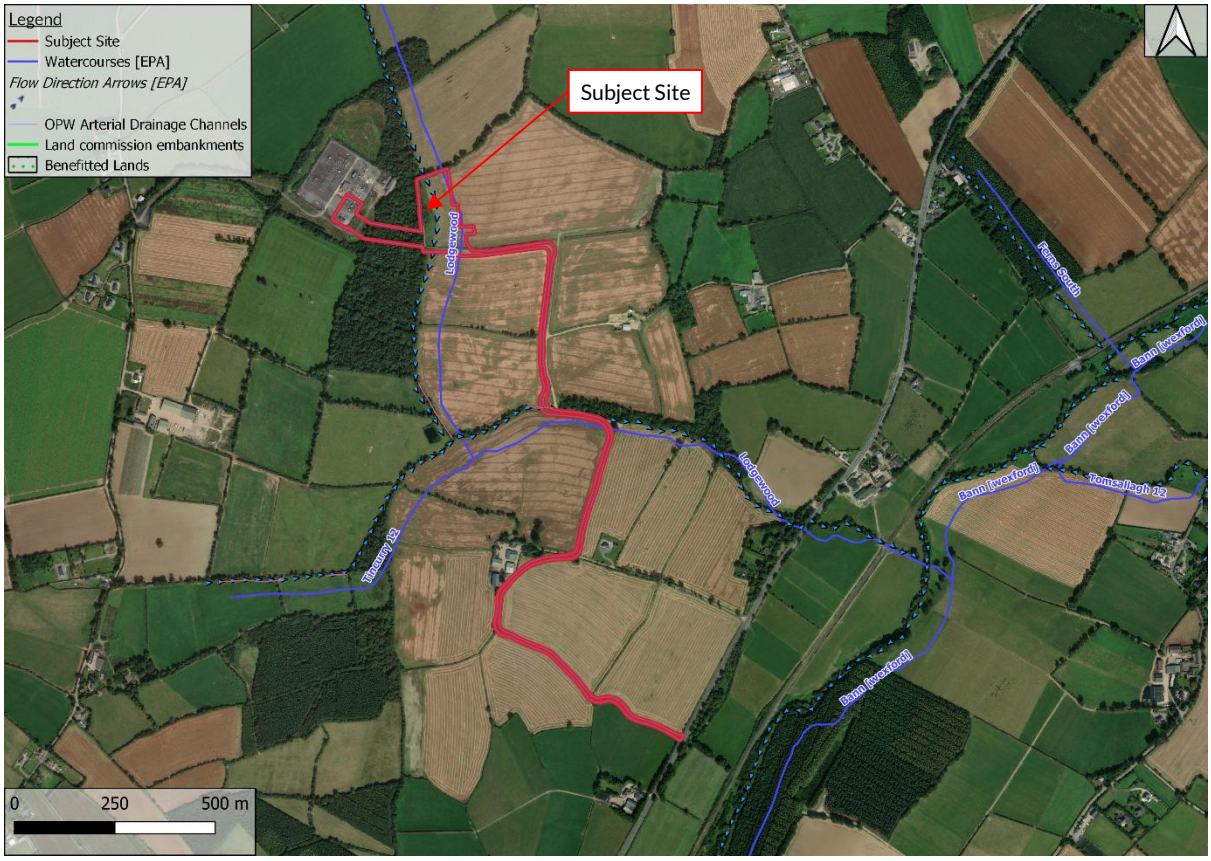


Figure 1-12: OPW drainage districts and arterial drainage schemes

1.4.6 GEOLOGICAL SURVEY IRELAND MAPPING.

Based on a review of the OPW's Preliminary Flood Risk Assessment (PFRA) mapping (see Figure 1-6) there is no noted risk of groundwater flooding to the subject site.

GSI Groundwater Flooding Probability Maps[10] for the subject site were reviewed (as shown in Figure E-13). There are no recorded surface water or groundwater flood extents within the immediate vicinity of the site. The nearest mapped surface water flood extents have been recorded approximately 1.3 km to the southeast along the Bann (Wexford) watercourse. Surface water flood extents are also recorded along sections of the River Slaney, located approximately 2.3 km east and 2.8 km southwest of the subject site. These areas coincide with the confluence of multiple tributaries, including the Tomgarrow and Marshalstown 12 watercourses. No groundwater flood extents have been recorded in the surrounding area.

[10]FloodInfo.ie | National Flood Information Portal, Available at: https://www.floodinfo.ie/map/floodmaps/



Figure 1-13: GSI Mapping of Groundwater and Surface Water Flooding

Geological Survey Ireland (GSI) subsurface mapping of karst features[11] in the area shows that there is no karst features located in the vicinity of the subject site (see Figure 1-14). The nearest identified karst feature is an enclosed depression, located approximately 30 km to the northwest of the site, near the Barrow River. The absence of mapped karst features within the surrounding area suggests that the site is not influenced by karst-related groundwater pathways or subsurface instability.

[11] GSI Groundwater Data Viewer, Available at: https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7e8a202301594687ab14629a10b748ef

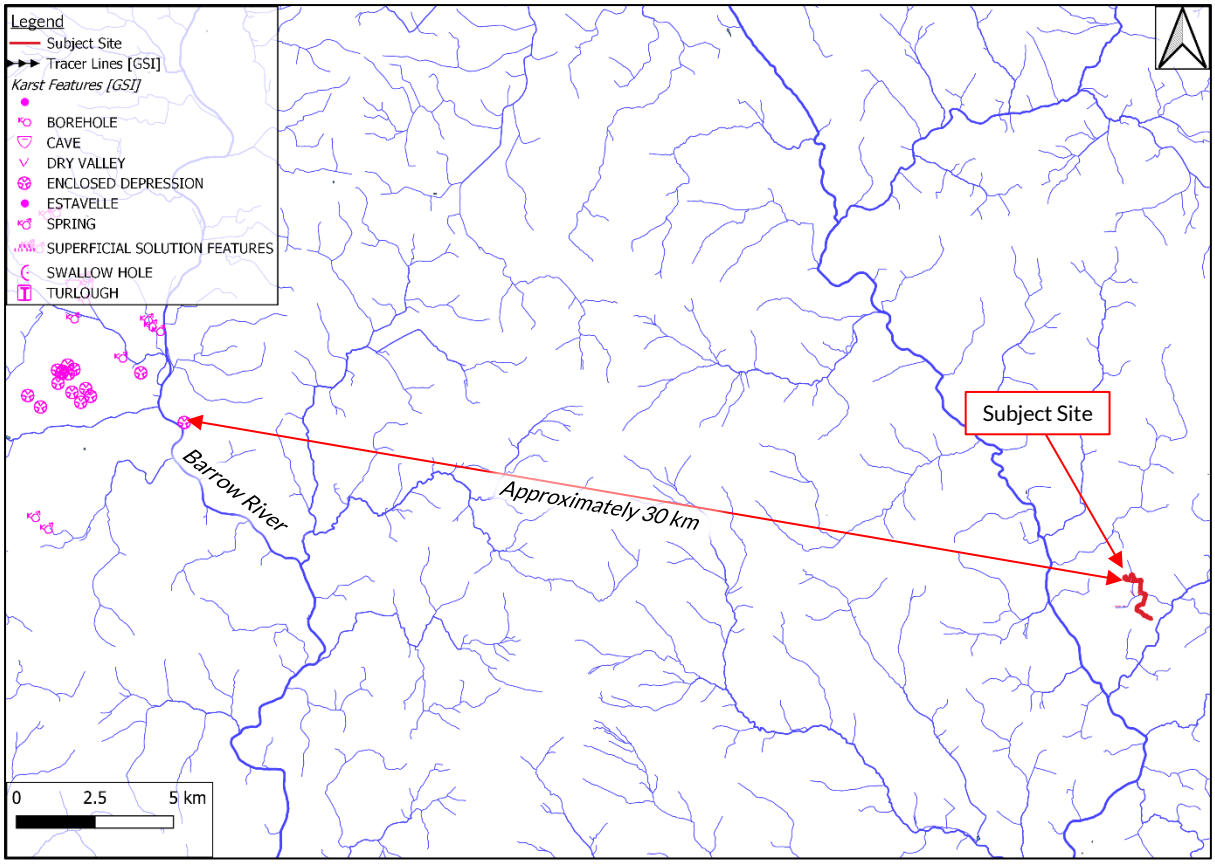


Figure 1-14: GSI Mapping of Karst Features

1.5 RESIDUAL EFFECTS FOLLOWING PROPOSED AMENDMENT

With reference to the PSFRM guidelines, the proposed project of Tincurry 110kV substation (and associated grid connection) in the townlands of Crory, Ballylough, Tincurry and Lodgewood, County Wexford which will serve the granted Tincurry and Ballylough Solar Farms is classified as "highly vulnerable development (including essential infrastructure)". As such electricity generating power stations and sub-stations that are "highly vulnerable" are considered appropriate for location within Flood Zone C, which corresponds to areas with less frequent than 0.1% AEP for coastal, fluvial and pluvial flooding. The proposed access track is considered to be "water compatible" infrastructure as per Table 1-1, and is considered to be appropriate for any flood zone (A-C).

1.5.1 FLUVIAL FLOODING

The hydraulic feature of consideration for the subject site is the Lodgewood stream, a branch of the River Bann (Wexford). According to both CFRAM NIFM flood mapping, the 1 in 100-year (1% AEP) and 1 in 1000-year (0.1% AEP) Mid-Range Future Scenario (MRFS) flood extents do not indicate any fluvial flood risk to the site from the River Bann or the modelled downstream section of the Lodgewood stream. However, the upstream section of the Lodgewood stream that crosses the site is not included in either mapping dataset. Therefore, further site-specific analysis is required to assess potential flooding from this unmapped reach. This analysis has been carried out and is presented in the following (Section 1.5.1.1).

1.5.1.1 RIVER HYDROLOGY/ HYDRAULIC ASSESSMENT

To further validate the fluvial flood risk status of the site and to develop a comprehensive understanding of the fluvial flood regime associated with the Lodgewood stream, which traverses the proposed project site, a hydrological and hydraulic assessment was carried out. The objective of this assessment was to evaluate the hydraulic capacity of the watercourse to safely convey flood flows, including allowances for future climate change, and ensure that the proposed project is not at risk of fluvial flooding.

1.5.1.1.1 Estimation of Design Flows

The stream draining the site has an estimated catchment area of approximately 1.167 km², based on the OPW Flood Studies Update (FSU) dataset and site topography.

To determine the peak design flow for a worst-case scenario, a 1 in 1000-year flood (0.1% AEP) was considered, incorporating a 20% increase in flow to account for the Mid-Range Future Scenario (MRFS). Three hydrological estimation methods appropriate for the catchment size[12] were applied:

- The Flood Studies Update (FSU 7-variable equation)
- Flood Estimation Handbook (FEH) Statistical Method
- Institute of Hydrology Report No. 124 (IH124) Method[13]

The application of the FSU 7-variable equation, FEH Statistical, and IH124 required the derivation of several catchment descriptors and hydrological parameters. These were obtained from a combination of the OPW Flood Studies Update (FSU) Web Portal, digital elevation models, and site-specific data. A summary of the key parameters used in the flow estimation methods is provided in Table 1-3.

Table 1-3: Catchment Descriptors and Parameters Used in Flow Estimation

Descriptor/Parameter	Units	Description	Value	Source
AREA	km²	Catchment Area	1.167	FSU
S1085	m/km	Mainstream Slope	2.828	FSU/DEM
BFIsoil		Base flow index derived from soils	0.666	FSU
SAAR	mm	Standard average annual rainfall,	983	FSU/MET
FARL	-	Flood attenuation by reservoirs and lakes	1	FSU
S1	-		0	WRAP

12 https://www.researchgate.net/publication/268520826_FLOOD_ESTIMATION_IN_SMALL_AND_URBANISED_CATCHMENTS_IN_IRELAND

13 https://www.researchgate.net/publication/255621672_Comment_on_estimation_of_Greenfield_Runoff_Rates

S2	-	The catchment fractions covered by the five-winter rainfall acceptance potential	1	WRAP
S3	-		0	WRAP
S4	-		0	WRAP
S5	-		0	WRAP
i_{10}	mm/hr	Rainfall intensity for a 10-year return period	22.80	Met Éireann
i_{100}	mm/hr	Rainfall intensity for a 100-year return period	41.40	Met Éireann
i_{1000}	mm/hr	Rainfall intensity for a 1000-year return period	50.57	Met Éireann

The derived catchment descriptors and hydrological parameters were input into the respective flow estimation methodologies to calculate design flows for a range of return periods. Emphasis was placed on the 1 in 1000-year (Q1000) event, adjusted for MRFS scenario. The results obtained from each method are summarised in Table 1-4.

Table 1-4: Summary of Design Flows Estimated from Different Methods (Including Climate Change Allowance)

Method	Q100 (m^3/sec)	Q100 MRFS (m^3/sec)	Q1000 (m^3/sec)	Q1000 MRFS (m^3/sec)
FSU	0.36	0.43	0.46	0.55
FEH	0.68	0.82	0.87	**1.05**
IH124	0.53	0.63	0.67	0.8

The most conservative flow, i.e., the highest Q1000 MRFS (1.05 m3/sec), resulted from the FEH method and was adopted for comparison with the stream's hydraulic capacity.

1.5.1.1.2 Hydraulic Capacity Assessment

A hydraulic capacity assessment of the Lodgewood Stream was carried out at the proposed project site using surveyed cross-sectional data provided by TOBIN. The analysis aimed to evaluate whether the existing channel(s) can safely convey extreme design flows under current and as well future climate change scenarios.

From the site walkover and topographic survey, it was observed that the stream bifurcates into two parallel channels as it passes through the wooded area adjacent to the ESB Lodgewood 220kV Substation. This bifurcation is illustrated in Figure 1-15, which shows the two separate channels (coloured light and dark blue) and their approximate alignment within the site.

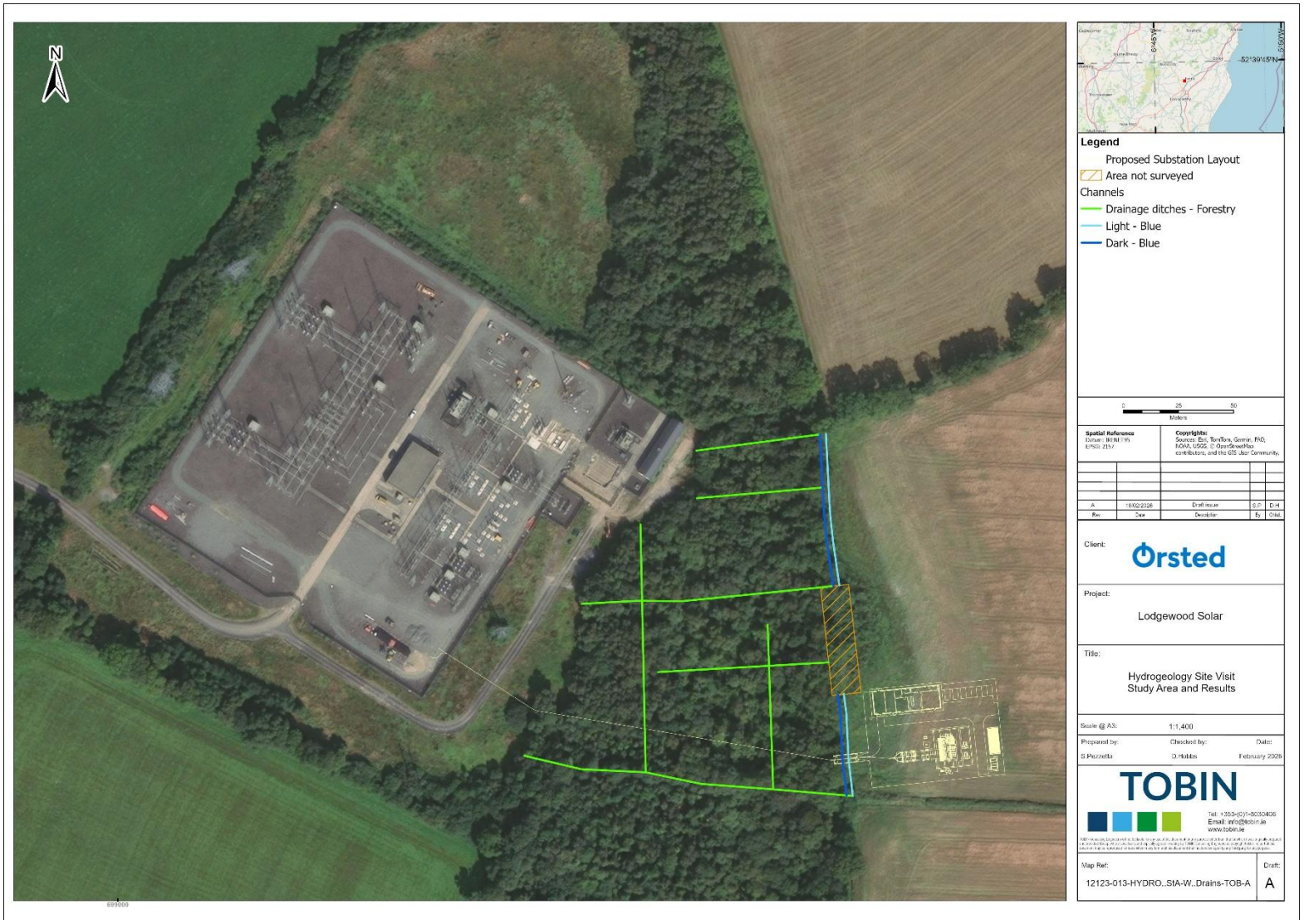


Figure 1-15: Annotated aerial image showing the survey area of the site

The hydraulic capacity of each individual channel was calculated using Manning's equation, applying a conservative Manning's roughness coefficient (n = 0.03) to reflect natural stream conditions with moderate vegetation and irregularities. The bed slope at each section was assumed to be approximately flat based on available data. The results are summarised in Table 1-5.

Table 1-5: Summary of Hydraulic Capacity Based on Manning's Equation

Cross-Section ID	Width (m)	Depth (m)	Side Slope	Bed Slope (m/m)	Cross Sectional Area (m^2)	Wetted Perimeter (m)	Hydraulic Radius (m)	Q_max (m^3/s)
CS1-East	0.8	0.89	0.9	0.003	1.42	3.19	0.45	1.52
CS2-West	0.92	0.56	0.98	0.003	0.82	2.49	0.33	0.72

The capacity of main channel (CS1-East marked with light blue in Figure 1-15) is approximately **1.52 m^3/s**, which represents the maximum allowable discharge in the channel, before the water breaks the banks.

The estimated Q1000 MRFS flow (1.05 m^3/s) is below the hydraulic capacity of the stream channels (1.52 m^3/s), indicating that the watercourse can safely convey the design flood without overtopping and breaking the banks. One of the abutments of the clear span bridge will be constructed within the CS2-West channel however given the capacity of CS1-East, the risk of fluvial flooding at the site under the 1-in-1000-year (0.1% AEP) MRFS event is highly unlikely.

1.5.2 COASTAL FLOODING

The subject site is approximately located 21.2 km inland, with minimum site elevations of approximately 30.7mOD (or 39.1mOD at the proposed substation compound itself). The nearest predicted 0.5% (AEP) extreme coastal water level at Wexford coast is estimated by the East Coast ICWWS Study[14] to be approximately 1.72mOD and the MRFS tidal level (2.22 mOD). Therefore, it is estimated that risk of coastal flooding associated with the proposed project is highly unlikely.

1.5.3 PLUVIAL FLOODING

The PFRA indicative mapping indicates no pluvial flooding located within the proposed substation compound.

Surface water arising on the proposed project will be managed by a dedicated stormwater drainage system in accordance with Sustainable Drainage Systems (SuDS) principles, limiting discharge from the site to greenfield runoff rates.

The landscaping and topography of the developed subject site will provide safe exceedance flow paths and prevent surface water ponding to minimise residual risks associated with an extreme flood event or a scenario where the stormwater drainage system becomes blocked. Therefore, it is estimated that risk of pluvial flooding associated with the proposed project is highly unlikely.

[14] Irish Coastal Wave and Water Level Modelling Study(ICWWS)
Microsoft Word - IBE1505_ICWWS_Ph1_Rp01_F02.docx

1.5.4 GROUNDWATER FLOODING

Based on a review of Geological Survey Ireland (GSI) subsurface mapping of karst features (Figure 1-14), predicted no groundwater flooding in the area (Figure 1-13), and the PFRA study (Figure 1-6), there is no evidence to suggest liability to groundwater flooding at the subject site.

1.6 DETERMINATION IF A MATERIAL CHANGE WOULD OCCUR AS A RESULT OF THE PROPOSED AMENDMENT

The (TOBIN, 2025) FRA confirms the original conclusion that the site is suitable for the proposed project from a flood risk perspective. No material change in flood risk is identified compared to the FRA report (IE, 2023). The proposed project remains appropriately located within Flood Zone C and is designed in accordance with national and local flood risk management guidance. The main change is an increase in certainty due to quantitative analysis of the unmapped upstream Lodgewood reach.

1.7 CONCLUSIONS

The (IE, 2023) FRA report concluded a low fluvial flood risk to the previously permitted development, based on indicative mapping. The updated FRA undertaken by TOBIN (2025) confirms this conclusion and strengthens it through a detailed hydrological and hydraulic assessment of the unmapped upstream reach of the Lodgewood stream, incorporating climate change allowances.

The assessment demonstrates that the channel has sufficient hydraulic capacity to safely convey the design Q1000 MRFS flow without overtopping, confirming that the risk of fluvial flooding is highly unlikely. The risk of coastal, pluvial, and groundwater flooding is also considered negligible given the site's elevation, distance from the coast, and proposed surface water management system designed in line with SuDS principles.

Accordingly, the proposed project is appropriately located within Flood Zone C, and the TOBIN (2025) FRA provides a higher level of technical assurance that the development will not increase flood risk on-site or elsewhere. The findings remain consistent with the Planning System and Flood Risk Management Guidelines (2009) and the Wexford County Development Plan 2022–2028, with no material change in residual effects identified.



Appendix F ARBORICULTURAL IMPACT ASSESSMENT

GREEN TREE ARBORIST
ARBORICULTURAL CONSULTANCY

ARBORICULTURAL IMPACT ASSESSMENT

Lodgewood Solar Farm

Woodland Survey

On behalf of

Orsted

gtarborist@gmail.com
086 – 1995904
November 2025

ARBORICULTURAL REPORT

Removal of a Section of Early Mature Mixed-Species Woodland associated with the Installation of an Underground 110kV Cable Route connecting the proposed Tincurry 110kV substation to the existing ESB Lodgewood 220kV substation.

1. Introduction

This report has been prepared to document the arboricultural implications of installing an underground 110kV cable that will connect the proposed Tincurry 110kV substation to the existing ESB Lodgewood 220kV substation. A section of early mature mixed-species woodland is located directly along the proposed cable route and cannot be feasibly retained while meeting engineering, safety, and statutory operational requirements of the ESB transmission network.

The purpose of this report is to:

- Identify and describe the affected trees;
- Outline the methodology used to assess the woodland;
- Justify the required tree removals; and
- Provide guidance for replanting and biodiversity net gain (BNG) compliance.

2. Survey Methodology

A tree survey was undertaken in accordance with industry-standard arboricultural practices. All trees within the footprint of the proposed cable excavation area, including the necessary working corridor and access zones, were recorded.

The following parameters were assessed:

- Species identification;
- Diameter at Breast Height (DBH) measured at 1.5 m above ground;
- Root Protection Area (RPA)

Species present include:

- Willow (Salix spp.)
- Birch (Betula spp.)
- Ash (Fraxinus excelsior)
- Beech (Fagus sylvatica)
- Oak (Quercus robur / Q. petraea)

All trees in the affected zone were counted by species, and individual DBH values were recorded to allow precise BNG calculations and replacement planting design.

3. Arboricultural Findings

3.1 Woodland Composition

The surveyed woodland is a mixed-species, early-mature stand with areas of natural regeneration and uneven spacing typical of semi-natural woodland development. The canopy includes scattered mature specimens, while the understory contains dense regeneration of willow, birch, and ash.

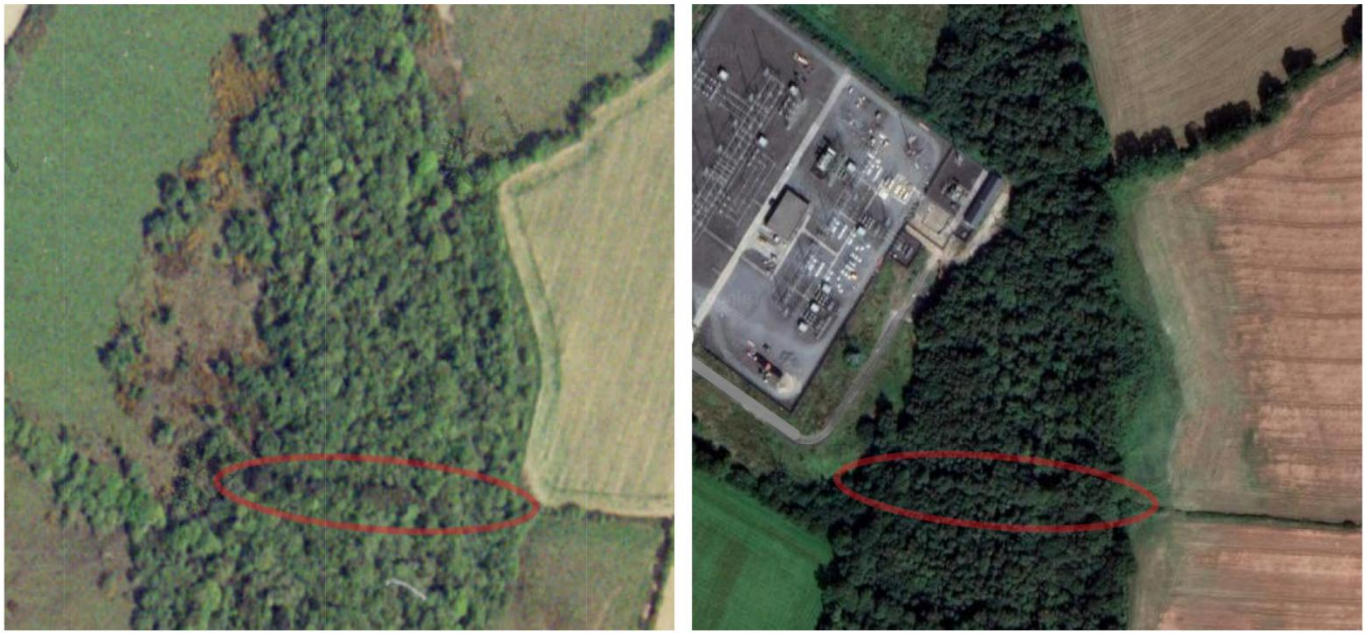


Fig 1 – Mature Pine trees clearly visible in image to left dated 1996 with immature woodland – woodland developing highlighted from image to the right (GeoHive Maps) (Google Maps)

3.2 Windthrow and Structural Failures

A number of windthrown and collapsed trees were identified within the woodland. These failures are consistent with local exposure, soil moisture levels, and shallow rooting typically associated with early-successional woodland on compacted or variable soils. While these fallen and partially collapsed trees provide ecological value, particularly as deadwood habitat, they do not influence the engineering requirement for clearance in the working corridor.

3.3 High-Value Trees Requiring Removal

Although the majority of the trees affected are early-mature and of moderate retention value, the following high-category tree is also positioned directly within the required excavation zone and cannot be retained without compromising construction safety and the long-term stability of the cable infrastructure: One Category A mature Oak tree highlighted as T01 on the drawings provided is of:

- High arboricultural, landscape, and ecological value
- Significant canopy spread and extensive rooting incompatible with trench excavation

Despite efforts to consider minor route adjustments, retention of this tree is not feasible due to root conflicts, trench depth requirements, and mandatory ESB safety clearances.

4. Justification for Tree Removal

The ESB underground cable requires a fixed, continuous trench alignment with sufficient working width for excavation, ducting installation, and maintenance access. The woodland, including the single high-value mature tree noted above, lies directly within this required corridor.

Key constraints preventing alternative routes include:

- Existing ESB infrastructure and statutory exclusion zones;
- Local topography and obstacle avoidance;
- Land ownership boundaries and easement constraints;
- Engineering necessity for a direct sub-station connection.

Retention of the Category A tree would result in unacceptable root damage, post-construction instability, and a long-term risk to ESB operational safety standards. Therefore, removal is deemed necessary and unavoidable.

The drawing in Fig 2 below highlights the trees to be removed due to direct conflict with the proposed cable route. The list of trees, their diameter at breast height (DBH) and root protection area's (RPA's) are highlighted in Table 1.

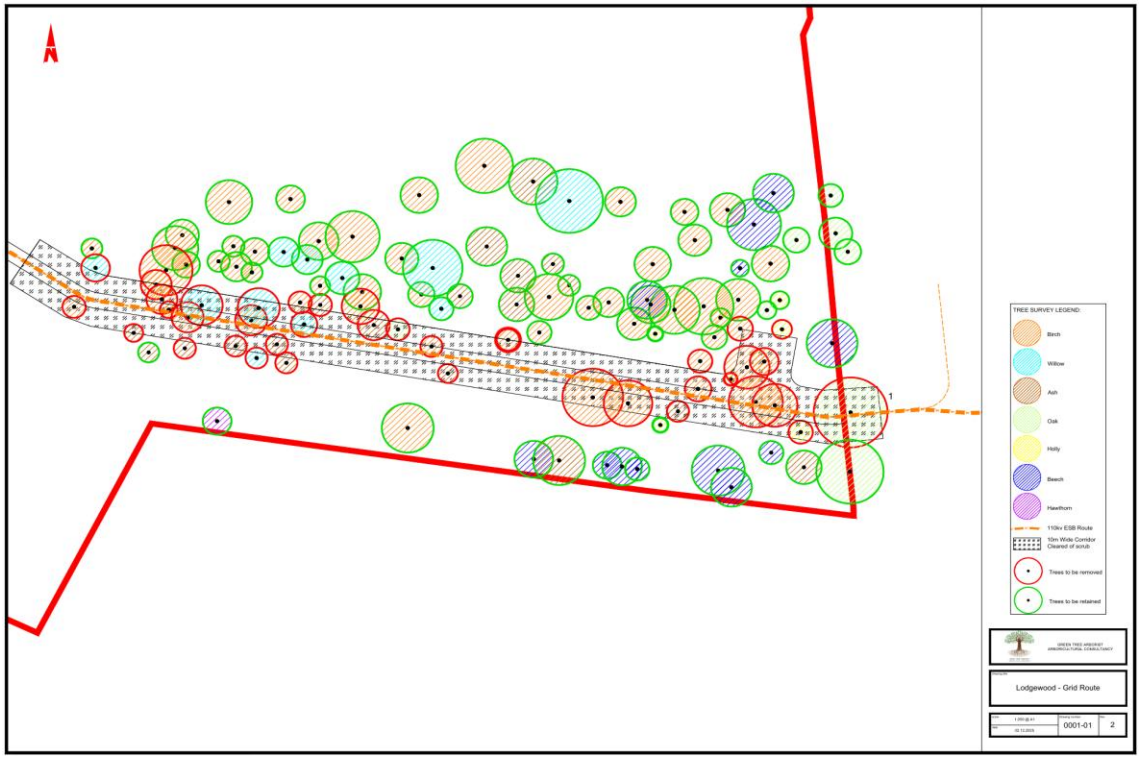


Fig 2 – trees to be removed highlighted in red

TREE TO BE REMOVED DUE TO DIRECT CONFLICT WITH THE PROPOSED CABLE									
BIRCH		ASH		WILLOW		HOLLY		OAK	
DBH	RPA	DBH	RPA	DBH	RPA	DBH	RPA	DBH	RPA
41	4.9	17	2.0	20	2.4	18	2.2	17	2.1
34	4.1	15	1.8	17	2.0	15	1.8	56	6.7
34	4.1	24	2.9	33	4.0	10	1.2		
22	2.6	17	2.1	32	3.8				
18	2.2	17	2.0	22	2.6				
20	2.4	17	2.0						
37	4.4	17	2.0						
46	5.5	17	2.0						
18	2.2	14	1.7						
17	2.0								
28	3.4								
17	2.1								
20	2.4								
24	2.9								
13	1.6								
23	2.8								
23	2.8								
40	4.8								
17	2.1								

Table 1 – tree species to be removed and their respective DBH & RPA

5. New Planting

Where established trees exist within any proposed construction site, the presumption should always be that as many trees as possible will be retained. However, where there is conflict between the trees and the design layout of the new cable route and there is no option but to remove the trees, compensation for their loss must be considered.

In the UK under the statutory framework for biodiversity net gain, planning permission is granted subject to the condition that the biodiversity gain objective is met. This objective is for development to deliver at least a 10% increase in biodiversity value relative to the pre-development biodiversity value of the onsite habitat.

Although not part of legislation within Ireland the requirement to meet these biodiversity gain objectives is becoming a common occurrence.

The Bristol Tree Forum (BTF) in the UK is a community-based organization dedicated to the protection, planting and promotion of trees in Bristol City. The Forum reviews and responds to planning applications in Bristol, that might impact trees, ensuring that the value of trees is considered in the development process.

The BTF have proposed a "Bristol Tree Replacement Strategy" in response to the new Biodiversity Net Gain legislation brought into law in February 2024 in the UK.

Table 3 below is taken from the Statutory Biodiversity Metric User Guide and is used to calculate the 'area equivalent' of individual trees:

> "*The biodiversity metric uses set values to represent the area of trees depending on their diameter at breast height. This value is a representation of canopy biomass, and is based on the root protection area formula, derived from BS 5837:2012*."

Size class	Diameter at breast height (cm)	Biodiversity metric area equivalent (ha)
Small	greater than 7.5cm and less than or equal to 30cm	0.0041
Medium	greater than 30cm and less than or equal to 60cm	0.0163
Large	greater than 60cm and less than or equal to 90cm	0.0366
Very large	greater than 90cm	0.0765

Table 3 – Tree size classes & their area equivilants

In order to create a viable replacement strategy for individual trees the BTF took the information from the table above and calculated their own strategy for replacing individual trees. The spreadsheet setting out the basis of their calculations can be downloaded here – RPA Table Statutory BNG 13 table Comparison.

The table below is the result of their calculations and sets out their tree replacement strategy for replacing individual trees.

Statutory BNG			BTRS Obligation
Category	**DBH (cm)**	**Area (ha)**	**Replacement Trees Required**
Small	greater than 7.5cm and less than or equal to 30cm	0.0041	2
Medium	greater than 30cm and less than or equal to 60cm	0.0163	5
Large	greater than 60cm and less than or equal to 90cm	0.0366	10
V. Large	greater than 90cm	0.0765	21

Table 4 – tree replacement strategy for different size class trees

To offset the potential loss of existing trees associated with the construction of the cable route a 10% biodiversity net gain through new planting is considered an appropriate and effective mitigation measure.

Based on the biodiversity net gain metric developed by the Bristol Tree Forum (refer to Table 4), a total of 103 replacement trees are required to compensate for the removal of 39 individual trees

LIST OF SPECIES TO BE REMOVED				
BIRCH	ASH	WILLOW	HOLLY	OAK
19	9	6	3	2

Number of Individual Trees to be Removed	Number of Replacement Trees Required based on Table 4 metric
39	103

7. Conclusions

A section of early-mature mixed woodland must be removed to enable safe and compliant installation of an underground 110kV cable linking the proposed Tincurry 110kV substation to the existing ESB Lodgewood 220kV substation. The survey identified several windthrown and collapsed trees within the woodland, as well as one Category A mature Oak tree that must also be removed due to unavoidable conflict with the trenching works.

All trees in the affected zone have been counted by species and DBH measurements recorded, enabling a robust biodiversity net gain assessment. Although the removal includes several high-value trees, the proposed mitigation and replanting strategy ensures that woodland habitat will be replaced, enhanced, and secured for long-term ecological benefit

Appendix G PHOTOMONTAGE

(SEE SEPARATE PRINTED BOOKLET)

Appendix H ARCHAEOLOGY APPENDIX

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Tincurry 110kV Substation Amendment

Archaeology Appendix

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BUILT ON KNOWLEDGE

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1. STANDARDS AND GUIDELINES

The following legislation, standards and guidelines were consulted for this constraints study:

- Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023;
- National Monuments Acts 1930 to 2014 (as amended);
- The Planning and Development Act 2024;
- The Planning and Development Act 2000 (as amended);
- Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act, 1999 and the Planning and Development Act (as amended);
- The Heritage Act, 1995;
- National Monuments Service (2016) 'Solar Farm Developments; Internal Guidance Documents'.
- CAAS Environmental Ltd on behalf of the Environmental Protection Agency (EPA) (2002), Guidelines on the information to be contained in Environmental Impact Statements;
- CAAS Environmental Ltd on behalf of the Environmental Protection Agency (EPA) (2003), Advice Notes on Current Practice (in preparation of Environmental Impact Statements);
- Department of Arts, Heritage, Gaeltacht and Islands, (1999a), Framework and Principles for the Protection of the Archaeological Heritage;
- Environmental Protection Agency (2022). Guidelines on the Information to be Contained in Environmental Impact Assessment Reports;
- Transport Infrastructure Ireland (2024), Guidelines for Cultural Heritage Impact Assessment of TII National Road and Greenway Projects;
- National Roads Authority (2005), Guidelines for the Assessment of Archaeological Heritage Impacts of National Road Schemes;
- National Roads Authority (2005), Guidelines for the Assessment of Architectural Heritage Impacts of National Road Schemes;
- National Roads Authority (2017) Project Management Guidelines;
- Code of Practice between the National Roads Authority (NRA) and the Minister for Arts, Heritage and the Gaeltacht, June 2000;
- Code of Practice between Transport Infrastructure Ireland (TII) and the Minister for Arts, Heritage, Regional, Rural and Gaeltacht Affairs, 2017;
- Cork County Council Heritage Unit (2007) Guidance Notes for the Appraisal of Historic Gardens, Demesnes, Estate and their Settings

2. SUMMARY OF RELEVANT LEGISLATION

Historic and Archaeological Heritage and Miscellaneous Provisions Act (2023)

The Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023 was enacted in October 2023 and this Act is now law. The Minister for DHLGH commenced certain provisions in May 2024 (S.I. No. 252/2024) and December 2024 (S.I. No. 663/2024). However, until the Act is fully commenced, the National Monuments Acts and the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act have not yet been repealed and therefore remain in force.

The Act also contains transitional provisions which will, if necessary, enable certain aspects of the existing National Monuments Acts 1930 to 2014 to continue in operation while successor provisions are being brought fully into operation.

A person performing a function under this Act shall recognise and take due account of the following principles in performing that function:

a) that historic heritage is a non-renewable resource of great cultural and scientific importance which, in addition to its intrinsic value, provides evidence for the development of society and promotes public understanding and appreciation of all periods of the past;
b) that the first option to be considered should be the protection in situ of historic heritage and that there ought to be a presumption in favour of this option;
c) that any removal or alteration of historic heritage should be accompanied by all necessary and appropriate recording of such heritage;
d) that the Valletta Convention should be adhered to as well as any other international treaty, to which the State is a party, the provisions of which are aimed at promoting or securing the protection of the archaeological, architectural or other historic heritage;
e) that responsibility for the protection of historic heritage is, as a resource of benefit to all, shared by all and, accordingly, that those permitted to remove or interfere with such heritage should, in the normal course, bear the costs of any recording or protective work necessitated by, or associated with, such removal or interference.

For the avoidance of doubt, it is hereby declared that the destruction, whether in whole or in part and by whatever means, of a monument to which general protection or special protection applies shall not prejudice the continuation of such protection to the remainder (if any) of the monument, including the site, surrounding area and immediate surroundings of the monument.

The Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023 will establish a Register of Monuments which will replace and supersede the existing Record of Monuments and Places and the Register of Historic Monuments. The Register shall include

a) prescribed monuments known to the Minister which are deemed appropriate to be entered in the Register;

b) relevant things of a relevant interest deemed appropriate to be entered in the Register.

A prescribed monument will be a relevant thing of archaeological interest or of other relevant interest. It may be prescribed by reference to any one or more than one of the following criteria:

a) age, date or period (including by reference to any terminology relating to periods) that, in the opinion of the Minister, is or has been in use in archaeology or other relevant disciplines;
b) morphology;
c) condition;
d) typology (including by reference to typologies which, in the opinion of the Minister, are or have been in use in archaeology or other relevant disciplines);
e) the environment in which the relevant thing is situated (including whether or not the relevant thing is situated under water);
f) the circumstances in which the relevant thing is found (including the manner of finding);
g) whether the relevant thing is or is not marked or shown on any—
    i. edition of any ordnance map, or
    ii. map prescribed for the purposes of this paragraph.

"Relevant thing" means any of the following things, whether situated on, in or under land and whether or not attached to the surface of the land or forming part of land and whether or not intentionally or originally in the sites where they respectively are:

a) any artificial structure, construction, deposit, feature or layer (including any building and any burial or interment);
b) any artificially altered structure, construction, deposit, feature or layer, whether or not natural in origin;
c) any wreck;
d) any ritual or ceremonial site;
e) any site where an historic event took place, including any other site directly associated with that event;
f) any battlefield;
g) any site with legendary or mythological associations;
h) any feature, deposit or layer, whether or not natural in origin and whether or not artificially altered, containing or providing information or evidence relating to the past environment;

Where a person finds, or believes that he or she has found a prescribed monument other than a registered monument, the person shall make a preliminary report Minister or a member of An Garda Síochána within 72 hours, or in the case of discovery in the course of licensable activity, that it be reported to the Minister in such a manner as specified in the licence.

Special protection may be applied to a registered monument taking into account whether the monument is, in terms of such heritage, of special or particular interest, character, integrity, community or amenity value, whether at a local, regional, national or international level. This includes

a) a national monument,
b) a wreck of 100 or more years old, or
c) a guardianship monument.

General protection applies to

a) a registered monument to which special protection does not apply, and
b) a prescribed monument (not being a registered monument).

A person shall not, except under and in accordance with a licence, do any of the following at, on, in, over, under or in the vicinity of a wreck 100 or more years old, a registered monument or prescribed monument which is under water, or an archaeological object which is underwater:

a) dive or direct or authorise diving;
b) use or possess, or direct or authorise the use or possession of, diving, survey or salvage equipment;
c) dump or deposit, or direct or authorise the dumping or deposition of, any thing whether or not it interferes with or causes damage to the thing;
d) interfere, remove or tamper in any way (whether with or without causing damage) with the thing.

The Minister may prescribe a licence, consent, approval, permission or other authorisation where

a) a licence, consent, approval, permission or other authorisation is required to be granted, issued or given under an enactment (not being the Act of 2000) for works to be carried out which may require an EIA, and
b) the Minister is satisfied that such works are capable of being at, on, in, under, to, or within the immediate surroundings of a monument, and it is reasonable and proportionate to do so and compatible with the protection of monuments,
c) The Minister shall consider whether or not the relevant works in respect of which they should be made subject to conditions and may require all or any of the following:
d) the carrying out of an assessment of heritage interest or potential including an assessment by way of archaeological excavation, use of detection devices or any form of photographic or geophysical survey equipment or any other appropriate form of survey or inspection;
e) the recording of the monument as a whole or any part or aspect of it (including its immediate surroundings) or any objects on, in, under or within it or its immediate

surroundings including recording by way of archaeological excavation, use of detection devices or any form of photographic or geophysical survey equipment or any other appropriate form of survey or inspection;

f) the carrying out of any form of monitoring (including archaeological monitoring), supervision or inspection;
g) the salvaging, collection or protection of any part of the monument (including its immediate surroundings) or any object on, in, under or within it or its immediate surroundings and, where appropriate, the preparation of such part or object for deposition in an appropriate museum or other site for such deposition;
h) the specification of the time period when the relevant works are to be carried out;
i) that the relevant works be done in a specified manner or be funded or carried out by a specified person or a person falling within a specified category of persons.

A person shall not, other than under and in accordance with a licence—

a) undertake or carry out, or direct or authorise the undertaking or carrying out of, archaeological excavation,
b) … archaeological monitoring,
c) search for or collect… archaeological objects lying exposed on the surface of land, whether or not any such object is known to be on, in or under that land,
d) search for… wrecks one hundred or more years old or archaeological objects or prescribed monuments, or other relevant things of archaeological interest, situated on, in or under the sea bed or land covered by water…
e) be in possession of a detection device in, at, on, over or above, or within the immediate surroundings of, a registered monument or a wreck one hundred or more years old, or
f) use… a detection device for the purpose of identifying, locating (including searching for), investigating, surveying or recording any archaeological object or monument or relevant thing of archaeological interest…

National Monuments Legislation (1930-2014)

The National Monument Act, 1930 (as amended) provides the formal legal mechanism to protect monuments in Ireland. Protection of a monument is provided via:

a) Record of Monuments and Places (RMP);
b) National Monument in the ownership or guardianship of the Minister for Arts, Heritage, Regional, Rural & Gaeltacht Affairs or a Local Authority;
c) National Monument subject to a Preservation Order (or temporary Preservation Order);
d) Register of Historic Monuments (RHM).

The definition of a monument is specified as:

a) any artificial or partly artificial building, structure or erection or group of such buildings, structures or erections;
b) any artificial cave, stone or natural product, whether forming part of the ground, that has been artificially carved, sculptured or worked upon or which (where it does not form part of the place where it is) appears to have been purposely put or arranged in position;
c) any, or any part of any, prehistoric or ancient tomb, grave or burial deposit, or (ii) ritual, industrial or habitation site; and
d) any place comprising the remains or traces of any such building, structure or erection, any cave, stone or natural product or any such tomb, grave, burial deposit or ritual, industrial or habitation site.

Under Section 14 of the Principal Act (1930):

It shall be unlawful...

to demolish or remove wholly or in part or to disfigure, deface, alter, or in any manner injure or interfere with any such national monument without or otherwise than in accordance with the consent hereinafter mentioned (a licence issued by the Office of Public Works National Monuments Branch),

or

to excavate, dig, plough or otherwise disturb the ground within, around, or in the proximity to any such national monument without or otherwise than in accordance...

Under Amendment to Section 23 of the Principal Act (1930):

A person who finds an archaeological object shall, within four days after the finding, make a report of it to a member of the Garda Síochána...or the Director of the National Museum...

The latter is of relevance to any finds made during a watching brief.

In the 1994 Amendment of Section 12 of the Principal Act (1930), all the sites and 'places' recorded by the Sites and Monuments Record of the Office of Public Works are provided with a new status in law. This new status provides a level of protection to the listed sites that is equivalent to that accorded to 'registered' sites [Section 8(1), National Monuments Amendment Act 1954] as follows:

The Commissioners shall establish and maintain a record of monuments and places where they believe there are monuments and the record shall be comprised of a list of monuments and such places and a map or maps showing each monument and such place in respect of each county in the State.

The Commissioners shall cause to be exhibited in a prescribed manner in each county the list and map or maps of the county drawn up and publish in a prescribed manner information about when and where the lists and maps may be consulted.

In addition, when the owner or occupier (not being the Commissioners) of a monument or place which has been recorded, or any person proposes to carry out, or to cause or permit the carrying out of, any work at or in relation to such monument or place, he shall give notice in writing of his

proposal to carry out the work to the Commissioners and shall not, except in the case of urgent necessity and with the consent of the Commissioners, commence the work for a period of two months after having given the notice.

The National Monuments Amendment Act enacted in 2004 provides clarification in relation to the division of responsibilities between the Minister of Environment, Heritage and Local Government, Finance and Arts, Sports and Tourism together with the Commissioners of Public Works. The Minister of Environment, Heritage and Local Government will issue directions relating to archaeological works and will be advised by the National Monuments Section and the National Museum of Ireland. The Act gives discretion to the Minister of Environment, Heritage and Local Government to grant consent or issue directions in relation to road developments (Section 49 and 51) approved by An Bord Pleanála and/or in relation to the discovery of National Monuments.

14A. (1) The consent of the Minister under section 14 of this Act and any further consent or licence under any other provision of the National Monuments Acts 1930 to 2004 shall not be required where the works involved are connected with an approved road development.

14A. (2) Any works of an archaeological nature that are carried out in respect of an approved road development shall be carried out in accordance with the directions of the Minister, which directions shall be issued following consultation by the minister with the Director of the National Museum of Ireland.

Subsection 14A (4) Where a national monument has been discovered to which subsection (3) of this section relates, then the road authority carrying out the road development shall report the discovery to the Minister subject to subsection (7) of this section, and pending any directions by the Minister under paragraph (d) of this subsection, no works which would interfere with the monument shall be carried out, except works urgently required to secure its preservation carried out in accordance with such measures as may be specified by the Minister.

The Minister will consult with the Director of the National Museum of Ireland for a period not longer than 14 days before issuing further directions in relation to the national monument.

The Minister will not be restricted to archaeological considerations alone, but will also consider the wider public interest.

3. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Prehistory

There are no recorded sites from the Mesolithic period or the Neolithic period within the study area. This is not always an indication of an absence of activity in these periods, but can sometimes be a reflection of a lack of archaeological investigations which may identify subsurface or ephemeral archaeological sites.

It is evident however that there was activity in this area in the Bronze Age, with numerous burial sites in the wider area as well as fulachta fiadh or burnt mounds. It was in this period (c. 2500-800 BC) that metal working was introduced to Ireland, and with it came significant changes in material culture including weapons, ornaments, ceramics etc. Social organisation also seems to have changed, with a shift towards smaller kin groups and greater differentiation in types of burial and burial monuments.

The Bronze Age is represented in the vicinity of the proposed development by nine burnt mounds / spreads within 2km. The closest are in Coolbaun (WX015-056001/002) where two adjacent burnt mounds are located 1.1km from the substation location. Fulachta fiadh, as they are known, are one of the most common Bronze Age sites in Ireland. They comprise of pits or troughs which were typically lined with timber, wattling or stone, and which were filled with water. Stones would be heated in an adjacent fire and immersed in the water to heat it. Spent or shattered stones were subsequently discarded around the trough in a characteristic horseshoe shape. These features are typically interpreted as cooking places, possibly open-air feasting areas for small family groups (Hawkes 2015). Other interpretations also include their use for bathing, dying, or brewing. They typically date to the Bronze Age and are usually found in wet areas adjacent to watercourses.

Different types of Bronze Age burial monuments are clustered in areas in the wider landscape. This is likely indicative of different kin groups favouring different burial traditions. For instance, five pit-burials and a cist are recorded in a flat cemetery in Scarawalsh (RMP WX020-001; SMR WX020-001001/002/003/004/005/006). It is located on a ridge on the west side of a bend in the Bann River. The burials were found there in 1963, but the area was vandalised before it could be properly excavated. Among the grave goods were encrusted urns, two collared urns, an enlarged Food Vessel urn and another possible food vessel. All of the remains were cremated.

On the opposite side of the River Bann in Killabeg, two standing stones (RMP WX020-002001; SMR WX020-145), a barrow (RMP WX020-002002), four ring-ditches (SMR WX020-012001/002, WX020-123, WX020-146) and four burnt mounds (RMP WX020-059, WX020-060001; SMR WX020-057, WX020-058) suggest another Bronze Age community. Ring-ditches are the ploughed out remains of barrows, burial monuments which typically date to the Bronze Age, and they are usually identified through aerial photography or archaeological investigations. The ring-ditches in this area were identified through aerial photography. It appears as though the community on this side of the river favoured barrows as a burial tradition.

The clustering of monuments either side of the River Bann in this location suggests that this was an important part of the river, possibly a fording point. This is supported by the fact that standing stones are frequently located along important points on routeways (O' Brien 2017).

There is also a flat cemetery in Ferns (SMR WX015-003024; Licence 04E0535). It contained at least six cremation pits, two of which had fragments of undecorated pottery. Numerous post-

holes were dispersed among the pits, but no structure could be identified. A hut site approximately 15m to the west may have been related, although it was noted that pits in the vicinity contained medieval pottery (SMR WX015-003025).

Early Medieval Period

The Early Medieval period is characterised by the introduction of Christianity to Ireland. This brought with it the first proto-urban centres in the form of monastic settlements. The subject site was part of the Gaelic kingdom of Uí Chennselaig, who were a sept of the Laigin. Their seat of power was at Ferns, which was also the site of the royal monastery from the 8th century.

The new monastic foundations were important places in the social, political and economic spheres of the period, with many of the abbots being themselves members of ruling dynasties. They comprised roughly circular enclosures which contained a number of features such as churches, round towers, graveyards and other structures.

Ferns was an important ecclesiastical site associated with St. Aedan of Maodhóg (RMP WX015-003031). It was raided by the Vikings on a number of occasions, beginning in AD 835. It was selected as one of the five diocesan centres in Leinster at the Synod of Rathbreasail in AD 1111. The original ecclesiastical enclosure was identified through geophysical survey. It comprised two parallel ditches, 45m-60m apart, with the inner ditch overlain by the later remains of St. Mary's Augustinian abbey (RMP WX015-003004). Almost the entire course of the inner enclosure can be identified, measuring approximately 340m N-S by 175m E-W. The only upstanding evidence of the early monastery is the four high crosses in the graveyard (RMP WX015-003009/010/011/012/013).

An ecclesiastical enclosure is recorded in Killabeg (RMP WX020-004004) which contained a church (RMP WX020-004001) and graveyard (RMP WX020-004002). The placename of this townland is derived from Cill Beag or 'Small Church', indicating that there was early ecclesiastical activity in this area.

Another ecclesiastical enclosure at Clone (RMP WX015-023013), also close to River Bann, was the site of an early monastery. The enclosure has been found to measure c. 180m NW-SE externally. The D-shaped graveyard (RMP WX015-023002) is located inside this enclosure along with what appears to have been an early single-celled church with a lintelled west doorway and Romanesque elements such as an elaborate architrave decorated with chevrons (RMP WX015-023001). Two cross-slabs, a sundial and two bullaun stones were in the graveyard (RMP WX015-023003/004/005/006/007) although some have been moved, with a third cross slab formerly located in the enclosure which has not been sighted for some time (RMP WX015-024).

The early medieval period saw the development of a mixed-farming economy managed by kings, nobles, and free farmers. The principal settlement type during this period was the ringfort or rath, the most common monument type in Ireland, with at least 30,000 examples recorded. They consist of a circular or sub-circular area (although irregular shapes have been noted recently through the excavation of such features) defined by an earthen bank or by a stone wall with an external ditch. These enclosures were essentially habitation sites or farmsteads, which vary in both size and morphology; from simple univallate enclosures measuring 30m diameter to larger monuments or bivallate or trivallate sites in strategic locations. They were not simple isolated homesteads, however, and should be considered within their contemporary settlement

landscape, which would have consisted of unenclosed settlements, farms, and fields, routeways and natural resources (Stout 2000).

Typically, ringforts are sited on good, well-drained soils, usually over the 100m contour, close to a water source, and often located in proximity to routeways (ridges, eskers, morraines). As well as settlement and farming related activities, ringforts are also known to act as centres for industry such as weaving, metal working and glass working. McCormick (1995) has suggested that, given the value placed on cattle and the occurrence of cattle raiding during the early medieval period, one of the primary functions of the ringfort may have been to keep cattle within the same boundary as the dwelling, thus allowing a close watch to be kept on the livestock. There are references in early Irish legal texts to watchdogs guarding the byres and the sheepfold as well as the home, and this may imply that these buildings were contained within the same enclosure.

There are fifteen recorded ringforts within 2km of the proposed development, and although none are located within the development, several are adjacent to the development boundaries and one (SMR WX015-079) has a Zone of Notification which extends into the Tincurry Solar Farm. There are no upstanding remains at this location.

Medieval Period

The arrival of the Anglo-Normans in 1169 brought about a number of changes including new political systems, settlement patterns and religious orders. The initial years following the Anglo-Norman invasion involved the expedient construction of earth and timber castles known as mottes. These were replaced in later years with more permanent masonry castles, while lesser lords would reside in moated sites.

The Siege of Wexford in 1169 was the first major conflict of the Anglo-Norman conquest and involved Norman forces under Robert Fitz-Stephen and the Uí Chennselaig under Diarmaid mac Murchadha. An Anglo-Norman castle in Ferns (RMP WX015-003001; a national monument) was built on the site of a possible ring-work castle (RMP WX015-003007) which is thought to have been the residence of Diarmuid Mac Murchadha. The Anglo-Norman castle was probably constructed in 1224-26 by William Marshall the younger who served as Justicar, the principal government officer, at the time. The castle was captured by Irish forces multiple times in the 14th century and was subsequently held by the Kavanaghs for two centuries. They surrendered it to the royal authority in 1543 and it was then granted to Sir Thomas Masterson.

St. Mary's Abbey for Augustinian cannons was established in Ferns at the site of the earlier monastic site associated with Dermot Mc Murrough in c. 1158-62. It was burnt and plundered a number of times in the 12th century and again during the Bruce Wars of the 14th century. The cathedral was constructed by John St. John, the first Anglo-Norman bishop of the diocese, in the 13th century. It was burnt by Fiach Mac Hugh O'Byrne in 1575 and restored by him two years later. William Doyle was the last abbot at its suppression in 1538 when it was described as a church and belfry, dormitory, chapter-house, hall and other buildings with c. 600 acres and other interests. In 1583 it was granted to Thomas Masterson.

Post-Medieval and Early Modern Period

Following the Tudor Conquest of Ireland, a Catholic-led rebellion took place in 1641 which led to the Confederate Wars of 1641-1653. This included both the Gaelic Irish and the Old English populations, and among those implicated in Wexford were Morrish M'Daniel Owre [O'Brien' of Tomgarrow (Whelan 1990). His lands were subsequently granted to John Sheehy, Godfrey

Keyler, Constantine Neale, Olier Wheeler, Thos Wood, Margaret Thickness, Thos Evans and William Lambe. Lands in Crory and Tombracky were also confiscated from Edward Masterson and Bartholomew Bryan and granted to Thomas Geoghan and James Carroll (de Vál 2004). Bartholomew Byran was married to Amy Carroll, a Protestant and daughter of James Carroll, and the lands had therefore been passed to his father-in-law. The lands of Ballycarney (1000 acres) were also passed to James Carroll who was Remembrancer of the Exchequer and four time Mayor of Dublin.

Griffith's Valuation records that Crory's Wood was held in the mid-19th century by Richard Donovan. The access route travelled through land occupied by Martin Dunbar in Crory and James Murphy in Ballylough. James Murphy lived in the farmstead in Ballylough. Notable houses in the area which remain extant are Tincurry Cottage (RPS WCC1096), which is located between the Tincurry and Ballylough Solar Farms, and was constructed by Charles Lett in c. 1832-3. Ballyduff House (RPS WCC 1097), on the R745 / Tincurry Road crossroads and dating to c. 1840, was connected with the Rudd family and William Rudd.

Cartographic Sources

The earliest map of the area is the Down Survey map which was completed from 1656-8 and was at the time the most complete mapping project undertaken anywhere in the world. The map of the Barony of Scarawalsh shows some of the townland names which are now in use, but they appear to refer to different parcels of land (Figure 3.1). Tincurry is shown in a large parcel called 'Tincurry and Ballilughy', presumably Ballylough, although it appears to encompass Tincurry and Scarawalsh. The name of Crory is also shown (Crory and Tombracky), but it refers to what is now known as Corah. Instead, what we now know as Ballylough and Crory are included in a parcel labelled 'Upper Fearnes and Ainemoe'. This map also shows that the townlands of Ballycarney and Tincurry were in the Parish of Ferns in the 17th century.

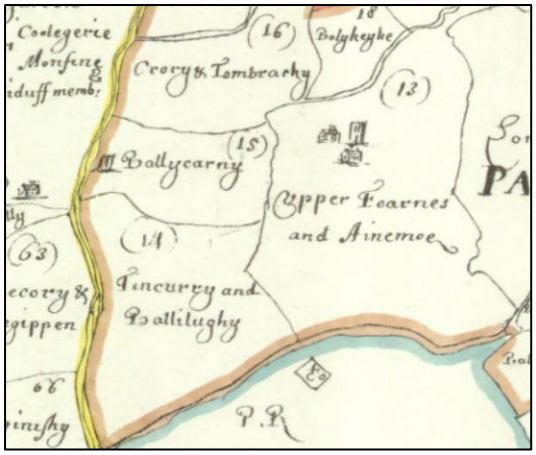


Figure 3.1: Down Survey map of the barony of Scarawalsh

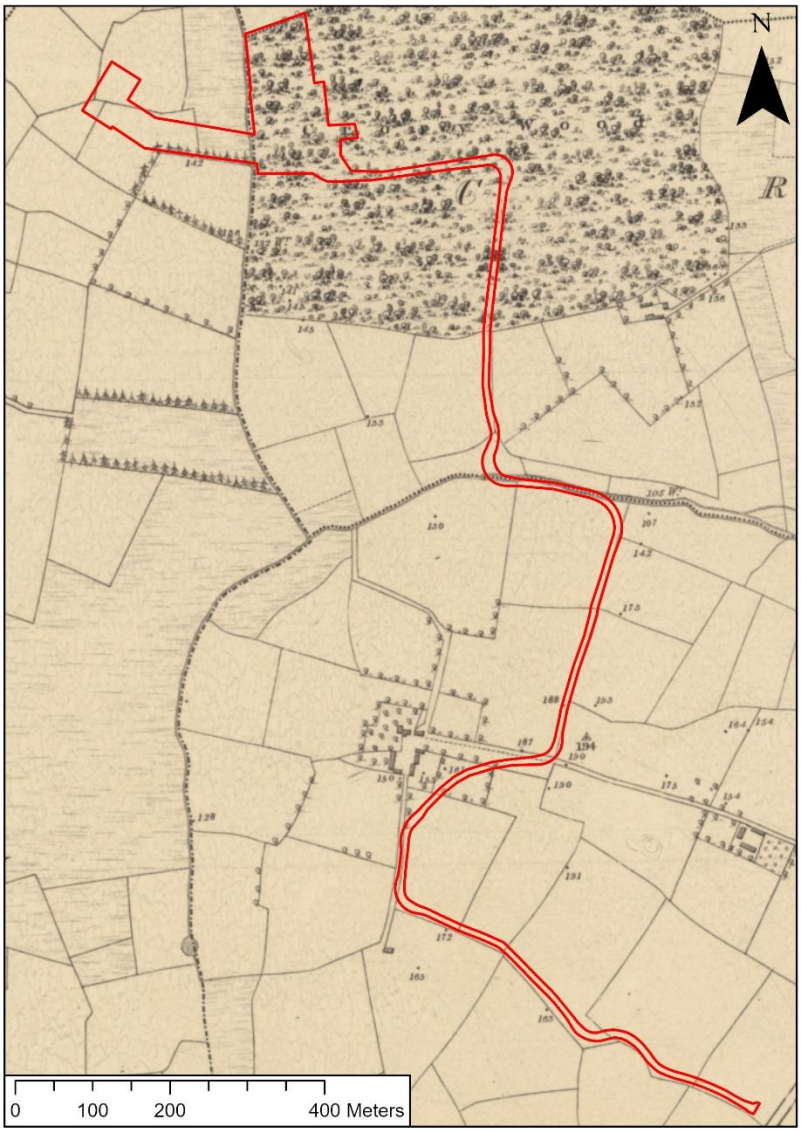


Figure 3.2 First Edition 6-inch OS map showing substation location and access road (1841)

The First Edition 6-inch Ordnance Survey (OS) map was published for this area in 1841 (Figure 3.2). These maps depicts the parish and townland boundaries, field boundaries, natural features and historic structures and they were at the time the most detailed survey undertaken anywhere in the world.

The map shows the area of the proposed substation within a woodland called 'Crory Wood'. The Tincurry / Crory townland boundary along the Lodgewood Stream delimits the western edge of this former woodland. West of the watercourse, where there is now woodland, is shown as a marshy area, while the site of the Lodgewood 110kV/220kV Substation is shown as featureless fields.

The access road travels along the field boundaries to the Lodgewood Stream which functions as the Crory / Ballylough townland boundary. The large fields which are located in this area now are shown as several smaller fields at that time. A farmstead is shown in Ballylough at the end of a long lane which leads to the R772. This farmstead is still extant and now includes Ballylough House. The access route crosses the lane and circles around the farmstead to reach another lane. The map shows a small structure, possibly a house, was located on the south end of that lane. The access route continues along field boundaries towards the R772.

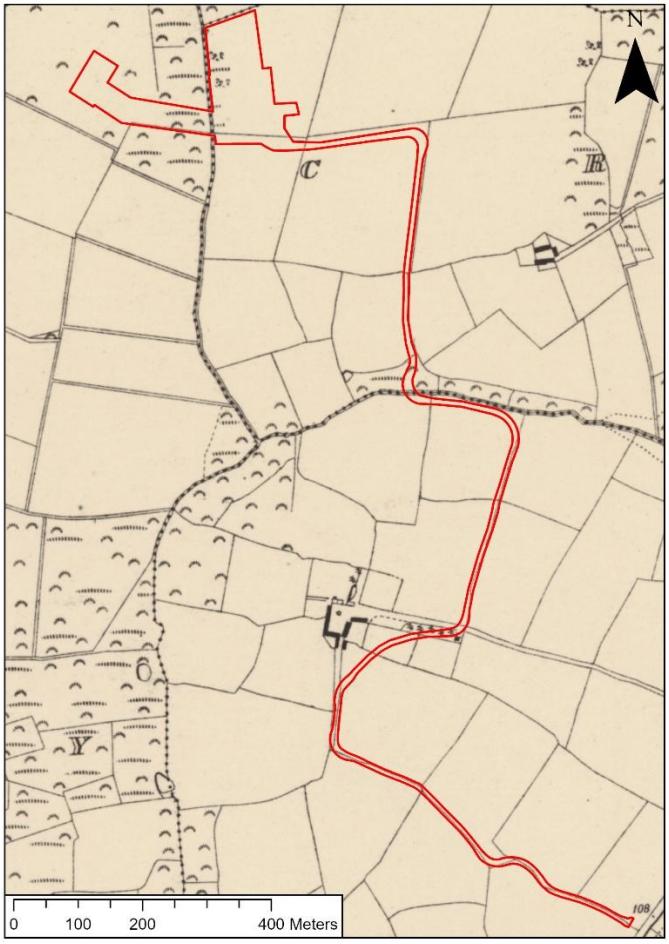


Figure 3.3 Second edition 6-inch OS map showing substation location and access road (1902-5)

The Second Edition 6-inch map was published in 1902-5 (Figure 3.3). By this time, 'Crory Wood' had been cleared, but the west side of the substation location was shown as scrubby ground. Marshy ground is indicated at the site of the Lodgewood 110kV/220kV Substation and where the grid connection will be located. Further soft ground is shown along the Lodgewood Stream, and a small plantation of coniferous wood is depicted on the south side of the laneway. There are some changes to the layout of the farmstead and a small gatelodge is depicted (though not labelled) along the lane accessing it from the main road.

The Final Edition 6-inch map was surveyed in 1921 and it shows one notable change comprising the addition of the existing Ballylough House.

No potential monuments are indicated on any of the OS maps. The former presence of woodland may reduce the potential for subsurface archaeological features, particularly if any of them were rooted up. The marsh depicted along the Lodgewood Stream has inherent archaeological potential related to the exploitation of the stream and the potential for the survival of organic features and artefacts in such locations.

4. AERIAL PHOTOGRAPHY

Aerial photography indicates that the west side of the substation location was woodland for a time until c. 2012, at which point the area was cleared (Figure 4.1, Figure 4.2). The remaining portion of the woodland on the west side of the Lodgewood Stream (the Tincurry / Crory townland boundary) remains extant. Further along the Lodgewood Stream where it forms the Crory / Ballylough townland boundary, a line of mature trees which lined the watercourse was felled around the same time in the vicinity of the crossing point. The laneway which was shown on historic mapping leading south from the farmstead is still extant.



Figure 4.1 Aerial imagery of access road and formerly wooded area of substation, c. 2011 (Tailte Éireann 2011-2013)

There is no indication of any subsurface features within the substation area or along the access route from the available aerial photography. The presence of tree cover prevents a clear view of ground conditions where the grid connection will be located.



Figure 4.2 Google Earth imagery showing cleared woodland (Google Earth, August 2024)

Placename Evidence

Townland names are a rich source of information, not only on the topography, land ownership and land use within the landscape, but also on its history, archaeological monuments and folklore. Where a monument has been forgotten or destroyed, a place name may still refer to it and may indicate the possibility that the remains of certain sites survive below the ground surface. The OS surveyors wrote down townland names in the 1830s and 1840s, when the entire country was mapped in detail for the first time.

The mapmakers, soldiers and antiquarians who collected the placenames and local history varied in their interests and abilities. While most placenames were anglicised or translated relatively accurately, some were corrupted virtually beyond recognition. Nonetheless, a variety of placenames – whether of Irish, Viking, Anglo-Norman, English, or, in rare cases, Anglo-Saxon origin – appears throughout Ireland, and the appearance of the different languages is often a good indicator of the cultural heritage, and therefore the archaeological record of the area.

The substation and access route are in the townlands of Ballylough and Crory, with the connection to the Lodgewood 110kV/220kV Substation crossing into Tincurry. All of the townlands within the Tincurry and Ballylough solar farms are set out with their meanings in Table 1. All but one townland name (Lodgewood) are Gaelic Irish in origin. This is often an indication of the survival of the Irish language in the area after the Anglo-Norman invasion.

Table 4.1: Placenames within Lodgewood Solar Farm (www.logainm.ie)

Townland name	Civil Parish	Barony	Meaning / Description
Ballycarney	Ballycarney	Scarawalsh	*Baile Uí Chearnaigh* – 'Carney's homestead / town'
Scarawalsh	Ballycarney	Scarawalsh	*Scairbh Bhailis* – 'Walsh's scarriff or low ford'

Townland name	Civil Parish	Barony	Meaning / Description
Tincurry	Ballycarney	Scarawalsh	*Tigh an Churraigh* – 'House of the marsh'
Tomgarrow	Ballycarney	Scarawalsh	*An Tuaim Gharbh* – 'The rough mound / burial place'
Killabeg	Clone	Scarawalsh	*An Choill Beag* – 'The Little Wood' or *An Chill Beag* – 'The Little Church'
Ballylough	Ferns	Scarawalsh	*Baile Ó Lóiche* – 'The homestead / town of the lough
Coolbaun	Ferns	Scarawalsh	*An Chúl Bhán* – 'The white corner'
Crory	Ferns	Scarawalsh	*Cruaire* – 'Hard land'
Lodgewood	Ferns	Scarawalsh	An English name referring to woodland

5. TOPOGRAPHICAL FILES OF THE NATIONAL MUSEUM OF IRELAND

Four stray finds have been recorded in the Topographical Files of the National Museum of Ireland from the townland of Tincurry. They comprise three iron horseshoes (NMI ref. 1937:2435-7) and a cresset lamp (NMI ref. 2023:337).

6. SITE INSPECTION PHOTOS



Plate 6.1 Site of substation in F1, with woodland in F2, facing NNW



Plate 6.2 Route of cable route in F2, facing west



Plate 6.3 Cable route in F3 where hedgerow will be breached (at trees), facing north



Plate 6.4 Granite gatepost in F3



Plate 6.5 Lodgewood Stream, facing east



Plate 6.6 Cable route and vegetation along Lodgewood Stream in F4 (facing NW)



Plate 6.7 Former gatelodge to Ballylough House



Plate 6.8 Shed in F5, facing north



Plate 6.9 Cable route in F5, facing NE



Plate 6.10 Cable route along laneway, facing north



Plate 6.11 South-west field boundary of F5, facing NW



Plate 6.12 F6, facing WNW