AN LONGFORT CONNECTED
Comhairle Chontae An Longfoirt
Longford County Council
People - Place - Opportunity

Comhairle Chontae An Longfoirt
Áras an Chontae,
Sráid Mhór Na hAbhann,
Longfort, N39 NH56
T 043 334 3300
E planningadmin@longfordcoco.ie

Longford County Council
County Building,
Great Water Street,
Longford, N39 NH56
W longfordcoco.ie

AN BORD PLEANÁLA
LDG- 079638-25
ABP-
28 APR 2025
Fee: € 110 Type: PMO
Time: 9:20 By: Reg Post
SC

Registered Mail

25 April 2025

An Bord Pleanala
64 Marlborough Street
Dublin 1.

Re: DC 25/10 - Section 5 Referral – a 20kV grid connection route consisting of 0.577km of overhead line and 3.636km of underground cable between the customer substation (X628, 378 Y 772,961) granted planning under REF: 23/60010 and the 38/20kV ESB substation (X 625, 508, Y772, 744) in Lissanore, Lios an Oir, Co. Longford is or is not development and is or is not exempted development within the meaning of the Planning & Development Act 2000 (As Amended).

Dear Sir/Madam,

I refer to the above and request that An Bord Pleanala determine "a 20kV grid connection route consisting of 0.577km of overhead line and 3.636km of underground cable between the customer substation (X628, 378 Y 772,961) granted planning under REF: 23/60010 and the 38/20kV ESB substation (X 625, 508, Y772, 744) in Lissanore, Lios an Oir, Co. Longford" is or is not development and is or is not exempted development within the meaning of the Planning & Development Act 2000 (As Amended)'.

Attached for information all details relating to the application and Planner's consideration of the file along with the fee of €110.

Yours sincerely

Planning Section.

Encl.

Longford County Council

Planning Report

1.0 Site Location and Description:

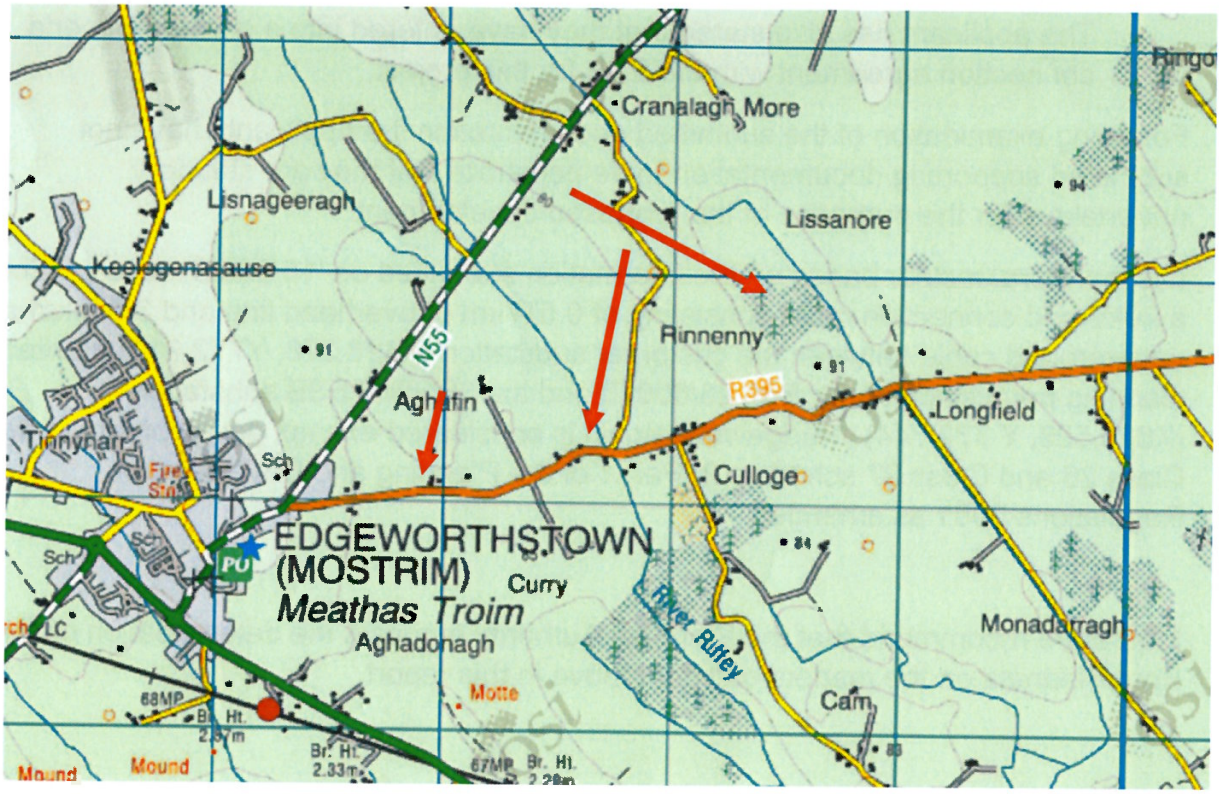
The application site is located in the townland of Lissanore, Edgeworthstown.

The proposed 20kV grid connection route is to comprise underground cabling and overhead lines between Lissanore Wind Farm 20kV substation and an existing 38kV substation in Edgeworthstown, Co. Longford.

The subject site is not located within any Natural Heritage Area, SAC, SPA or Broadzone, nor are there any sites or monuments or protected structures in close proximity to the site. The closest Natura 2000 sites are as follows:

- Glen Lough SPA (004045) located c.4.9km south of the subject site.
- Garriskil Bog SPA (004102) and SAC (000679) located c.8.3km to the south of the subject site.

General location of the proposed works



Kathryn Hosey

Kathryn Hosey

Senior Executive Planner

Date: 22/04/25

Rita Connaughton
Senior Planner

Date 24/04/2025

Comhairle Chontae An Longfoirt
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15th April 2025

Natural Forces Renewable Energy Limited
3rd Floor
Hampton House
27 Mount Street Lower
Dublin
D02 FC43

Acknowledgement of application for a Section 5 Declaration

Planning Reference: DC25/10

Date Received: 15th April 2025

Dear Sir/Madam,

I hereby acknowledge receipt of your application on the date stated above and wish to inform you that it is under consideration at present.

A decision will be issued to you by Registered Post in due course.

Should we require any further particulars or information in relation to the application, we will be in contact with you further.

Yours faithfully,

Linda Quinn

Planning Department

Mil scriobhann tu chugainn as Gaeilge, freagrofimid tu i nGaeilge.

Planning Section
Longford County Council
Great Water Street
Longford

15/04/2025 16:34:45

Receipt No : PLANNING/0/21999

Natural Forces Renewable Energy Limited
3rd Floor
Hampton House
27 Mount Street Lower
Dublin
D02 FC43

Class13 Plan Fee Misc	80.00
GOODS	80.00
VAT Exempt/Non-vatable	

Total : 80.00 EUR

Tendered :
Credit Card 80.00

Change : 0.00

Issued By : LINDA QUINN
From : Planning Section
Vat reg No 8D01483N

Longford County Council
Áras an Chontae
Great Water Street
Longford
N39 NH56

Date: 15/04/2025

RE: Application for DECLARATION ON DEVELOPMENT AND EXEMPTED DEVELOPMENT

Dear Sir/Madam,

Natural Forces Renewable Energy Limited (NFRE) wish to apply for **DECLARATION ON DEVELOPMENT AND EXEMPTED DEVELOPMENT (Planning & Development Act 2000 (as amended)(Section 5)**

The proposed development and construction of a 20kV grid connection route consisting of 0.577km of overhead line and 3.636km of underground cable between the customer substation granted planning under REF:23/60010 and the 38/20kV ESB substation in Edgeworthstown is considered exempt development under Class 26 and Class 27 Schedule 2, Part 1 of the Planning and Development Regulations 2001 as amended.

The substation locations are detailed below,

	Substation	ITM Coordinates
A	IPP Substation location	X 628,378, Y 772,961
B	38/20kV ESB substation	X 625,508, Y 772,744

Attachments enclosed:

1. Application Form
2. Site Location Map
3. Site Layout Plans and particulars of the proposed development

Appendix

A. Statutory Undertaker & Confirmation of Class 26 & 27
B. CEMP
C. AA Screening
D. Grid Construction Methodology

It should be noted that the application fee of €80 has not yet been paid. Can you kindly contact Jonathan Coffey on 0876352172 for card payment. Should you have any further clarifications or required further information regarding the application, please don't hesitate to contact me.

Yours faithfully,

_____

Jonathan Coffey
jcoffey@naturalforces.ie
0876352172

Natural Forces

Section 1 - Application Form

Comhairle Chontae An Longfoirt
Áras an Chontae,
Sráid Mhór Na hAbhann,
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E planningadmin@longfordcoco.ie

Longford County Council
County Building,
Great Water Street,
Longford, N39 NH56
W longfordcoco.ie

Section 5 Declaration on Development and Exempted Development
Planning & Developments Acts 2000 (as amended)

SECTION 5 APPLICATION FORM – PART 1

1. **Applicant Name:** Natural Forces Renewable Energy Limited

2. **Name of Agent (if any):** _____

3. **Location of Proposed Development:** Lissanore, Lios an Óir, Co. Longford.

4. **Description of Development:** a 20kV grid connection route consisting of 0.577km of overhead line and 3.636km of underground cable between the customer substation (X 628,378, Y 772,961) granted planning under REF:23/60010 and the 38/20kV ESB substation (X 625,508, Y 772,744) in Edgeworthstown is considered exempt development under Class 26 and Class 27 schedule 2, Part 1 of the Planning and Development Regulations 2001 as amended.

5. **Under what section of the Planning and Development Act, 2000 as amended and Planning and Development Regulations, 2001 as amended is exemption sought (Specific details required)**

Section 5

6. **Will the development take place within the curtilage of a dwelling house?**

Please tick as appropriate: **YES** ____ **NO** X

7. **Will / Does development take place in / on a Protected Structure or within the curtilage of a Protected Structure?**

Please tick as appropriate: **YES** ____ **NO** X

7(a) **If "YES", has a Declaration under Section 57 of the Planning & Development Act 2000, as amended, been requested or issued for the property by the Planning Authority?**

Please tick as appropriate: **YES** ____ **NO** ____

8. **Please state applicants interest in this site:**

Grid Connection - 4.25km Underground Cable

If applicant is not the owner of site, please provide name & address of owner on part 2 of the application form.

9. **Are you aware of any enforcement proceedings connected to this site?**

Please tick as appropriate: **YES** ____ **NO** X

9(a) If "YES" please supply details:

10. **Are you aware of any previous planning application/s on this site?**

Please tick as appropriate: **YES** ____ **NO** X

10(a) If "YES" please supply details:

11. **List of Items to accompany this application:-**

a) **A fee of €80**

b) **1 x appropriately scaled site location map (not less than 1:2,500 rural and 1:1000 urban), clearly indicating the site of the proposed development outlined in red.**

c) **1 x appropriately scaled site layout plan (not less than 1:500) indicating the location of the proposed works and access to same from the public road.**

d) **1 x Plans and particulars of the proposed development, including sections and dimensions to differentiate between the existing works and proposed works.**

e) **1 x Approximate finished floor levels of the proposed development should be provided in relation to the existing ground level at the site of the proposed development.**

SIGNED: _____ **DATE:** 15/04/2025

PLEASE NOTE:

This application form must be fully completed and all items listed in Part 11 submitted, or your application will not be accepted and will be returned.

SECTION 5 APPLICATION FORM – PART 2

Please note:

· The applicant's address must be submitted on this page.
· If the applicant/agent wishes to submit additional contact information, this may be included here.
· This page will not be published as part of the planning file.

12. Applicant Address/Contact Details:

Address	3rd Floor, Hampton House, 27 Mount Street Lower, Dublin, D02 FC43
Email address	bscott@naturalforces.ie
Telephone/mobile number (optional)	

13. Agent's (if any) Address/Contact Details:

Address	
Email address	
Telephone/mobile number (optional)	

14. Address for Correspondence:

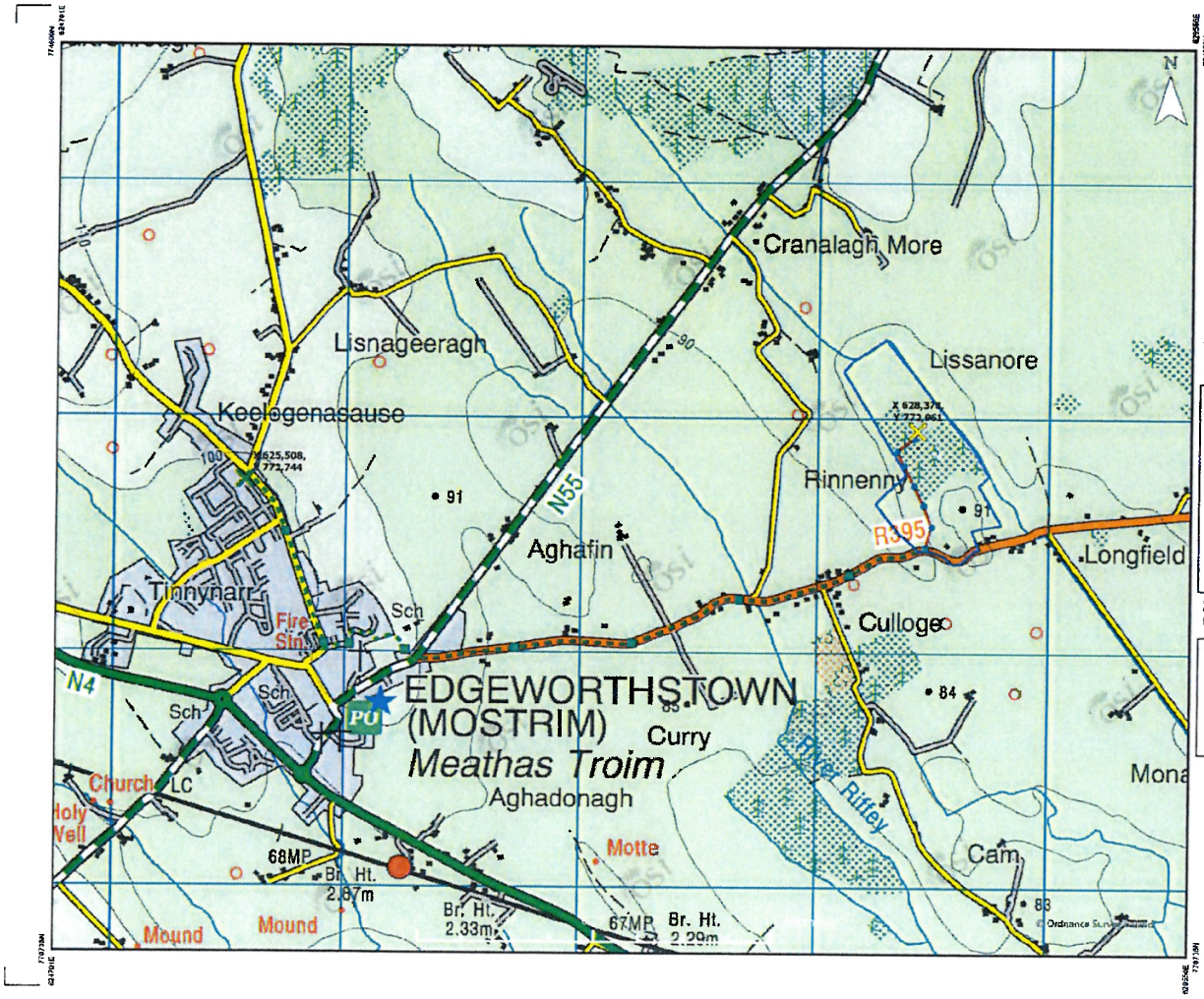
Please tick the box to indicate if correspondence is to go to the applicant or agent:

Applicant [X] **Agent** [ ]

15. Owner (required where applicant is not the owner):

Name of Owner (required)	
Address (required)	
Telephone/mobile number (optional)	
Email address (if any)	

Section 2 – Site Location Map



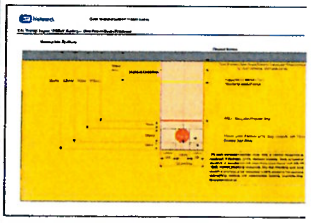
Natur Force

Lissanore Single Turbine Project

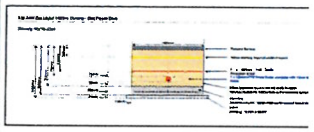
- ESB Substation Location - X 625508, Y 772744
- On-Site Substation Location - X 628376, Y 77290
- (UGC) Joint Bay (6)
- (OHL) Poles (7)
- (UGC) Underground Cables - 3835.96m
- (OHL) Overhead Line - 576.54m
- 1A LD6803 Daryl Noble

Drawings

1. ESB Trench Layout 10/20kV Ducting – One Power Duct (Roadway)



2. ESB Joint Bay Layout 10/20kV Ducting - One Power Duct



Production Date: Apr 3, 2023
Production Time: 15:35
Prepared By: Michael Nolan

Production Date: Dec 9, 22
Production Time: 12:12
Prepared By: Michael Nolan

Section 3 – Site Layout Plans and Particulars of the Proposed Development

Lissanore, Co. Longford

- (UGC) Joint Bay (#)
- (OHL) Poles (7)
- (UGC) Underground Cables - 3635.95m
- (OHL) Overhead Line - 575.54m
- 1A LD8903 Daryl Noble

Kilometers

0 0.25 0.5 1

Production Date: Apr 3, 202
Production Time: 1503
Prepared By: Michael Nolan

Lissanore, Co. Longford

- (UGC) Joint Bay (8)
- (OHL) Poles (7)
- (UGC) Underground Cables - 3635.96m
- (OHL) Overhead Line - 576.54m
- 1A LD8903 Daryl Noble

Production Date: Apr 3, 202
Production Time: 15:11
Prepared By: Michael Nolan


Lissanore, Co. Longford
(UGC) Joint Bay (8)
(OHL) Poles (7)
(UGC) Underground Cables - 3635.99m
(OHL) Overhead Line - 576.54m
1A LD8903 Daryl Noble
N
bing
Kilometers
0
0.28
0.55
1.1
Production Date: Apr 3, 202
Production Time: 15:09
Prepared By: Michael Nolan

Appendix A – Statutory Undertaker & Confirmation of Class 26 & 27

Undertaker / Statutory Undertaker

The proposed construction of a 20kV grid connection route—comprising of overhead lines and underground cables between the Independent Power Producer (IPP) substation at Lissanore Wind Turbine Project to the ESB Substation in Edgesworthtown (The Point of Connection) is considered **Exempt Development** for the following reasons:

Article 3(3) of the Planning Regulations defines an "electricity undertaking" as "an undertaker authorised to provide an electricity service." Although this definition lacks further statutory clarification, the **Electricity Regulation Act 1999**, Section 2(1), defines an "electricity undertaking" as:

"any person engaged in the generation, transmission, distribution or supply of electricity, including any holder of a licence or authorisation under this Act, or any person who has been granted a permit under section 37 of the Principal Act."

The use of the term "including" indicates that holding a licence, authorisation, or permit is not mandatory; the definition applies broadly to **any individual or entity engaged in electricity-related activities**.

Classes 26 and 27 of the Planning Regulations, which fall under the broader category of "Development by Statutory Undertakers" (Classes 23-32), are applicable in this case. The terms "undertakers," "undertakings," and similar references in these classes are interpreted to mean **statutory undertakers**.

Under the Act, a **Statutory Undertaker** includes:

"...a person, for the time being, authorised by or under any enactment or instrument under an enactment to provide, or carry out works for the provision of electricity."

Natural Forces Renewable Energy Limited qualifies as a statutory undertaker due to:

- Its authorisation under the Planning Act to construct a wind turbine under planning reference 2360010 , which constitutes electricity infrastructure, and
- Its licence and authorisation granted by the Commission for Regulation of Utilities (CRU) under Sections 14 and 16 of the Electricity Regulation Act.

Therefore, the proposed grid connection development qualifies as exempt under **Classes 26 and 27**.

Natural Forces will appoint an electrical works contractor to undertake the **design, procurement, and construction** of the entire 20kV grid connection route, linking the Lissanore IPP Substation to the ESB's Substation in Edgeworthstown.

There are two types of grid connection arrangements: **contestable** and **non-contestable**.

- In a **non-contestable** connection, ESB Networks is solely responsible for the design, procurement, and construction of the grid connection. However, the generator must still carry out civil works for the onsite substation and underground medium-voltage (MV) cables.
- In a **contestable** connection, the project developer (in this case, Natural Forces) engages a qualified electrical contractor to carry out the full scope of works for the substation and MV cable or overhead line up to the ESB Point of Connection.

These works must meet ESB Networks' technical standards and are subject to their review throughout the process. Once construction and commissioning are complete, **ESB Networks assumes ownership** of the assets.

It's important to note that third-party contractors under a contestable arrangement are only permitted to build infrastructure up to existing ESB assets. Any modifications or additions within existing ESB substations or the current MV/38kV network remain the responsibility of ESB Networks.

Natural Forces Renewable Energy Limited has entered into a **contestable grid connection agreement** with ESB for this project

Appendix B – CEMP

Lissanore Wind Turbine

Preliminary Construction & Environmental Management Plan

Date 02/04/2025

Natural Forces
27 Mount Street Lower|
Dublin 2, Ireland |
D02 FC43
T: +353 087 635 2172
www.naturalforces.ie

AN BORD PLEANÁLA

28 APR 2025

LTR DATED _____ FROM Rafferty.

LDG- _____

ABP- 322413-25

Document History

Doc Name	Rev	Details	Author	Approved
CEMP	01	02/04/2025	BS	JC

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Addressee

The content of this report is for the exclusive use of the Client. If other parties choose to rely on the contents of this report they do so at their own risk.

Disclaimer

Natural Forces has performed the consultancy services as described in this report in accordance with a standard of best practice available within the industry. Natural Forces do not make any representations or warranty, expressed or otherwise as to the accuracy or completeness of the source data used in this report, and nothing contained herein is, or shall be relied upon, as a promise or representation, whether as to the past or the future in respect of that source data.

This document has been prepared by

Barra Scott

.....

Natural Forces

This report has been approved by

Jonathan Coffey

.....

Natural Forces

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1. Proposed Development

1.1 Overview of the proposed project

The proposed Project relates to the:

- The construction of one Enercon E138 Wind Energy Converter on an 81m tower with an electrical rating of 4.2MW and an overall tip height of 149.38m.
- Installation of the hardstanding area for the Wind Energy Converter.
- Installation of underground circuit cables which will run in underground cable trenches (c.1.2m deep), from the proposed Wind Energy Converter to the proposed substation building on the site.
- Construction of the proposed substation building which will be located c. 98m from the proposed wind turbine and surrounded by stock proof fencing. It will be a single storey building, measuring 55m² and c.4.8m in height.
- Construction of proposed internal site access track, constructed from permeable material and which will run from the site entrance to the Wind Energy Converter hardstanding area.
- Construction of 3.636km of 20kV underground cabling (UGC) and 0.577km of 20kV overhead lines (OHL) between the onsite substation and the ESB 38kV Station in Edgesworthtown
- All associated ancillary infrastructure and preparatory works such as provision of the site entrance.

The power rating associated with the proposed wind turbine will be 4.2 megawatts (MW).
The proposed Project will have a 30-year lifespan.
The closest residential dwelling is located c. 554m of the proposed Project. There are a total of 33 residential dwellings within a 1km radius of the subject site.

1.2 Purpose and Scope of the CEMP

The scope of the CEMP covers the activities relating to the proposed construction of the works at the proposed development in Lissanore, Co. Longford and includes those works undertaken by contractors during the construction phase of the project.
The CEMP is developed with the objective of avoiding adverse impacts.
The CEMP is applicable to the Client, the appointed construction contractor and also any sub-contractor's site staff during the construction phase of the proposed works.

1.3 Site Location and Site Layout

The proposed Project is located in the townland of Lissanore, Co. Longford, which is c. 2.7km northeast of Edgeworthstown. The proposed wind turbine is located at Irish grid reference, E628379 N773063 ITM.

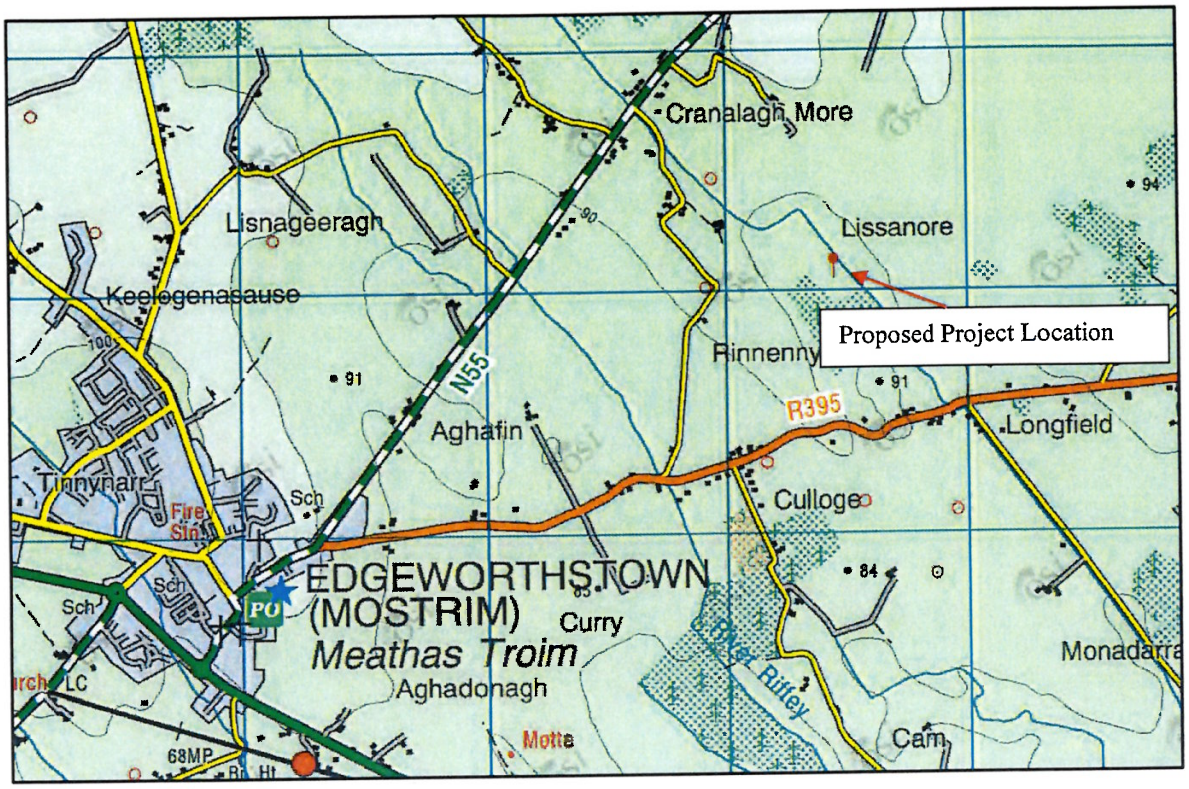


Figure 1-1: Site Location

The site area for the proposed Project is c 3.13ha. The proposed site layout is shown below in which also defines the ownership boundary (blue line) and site works boundary (red line).

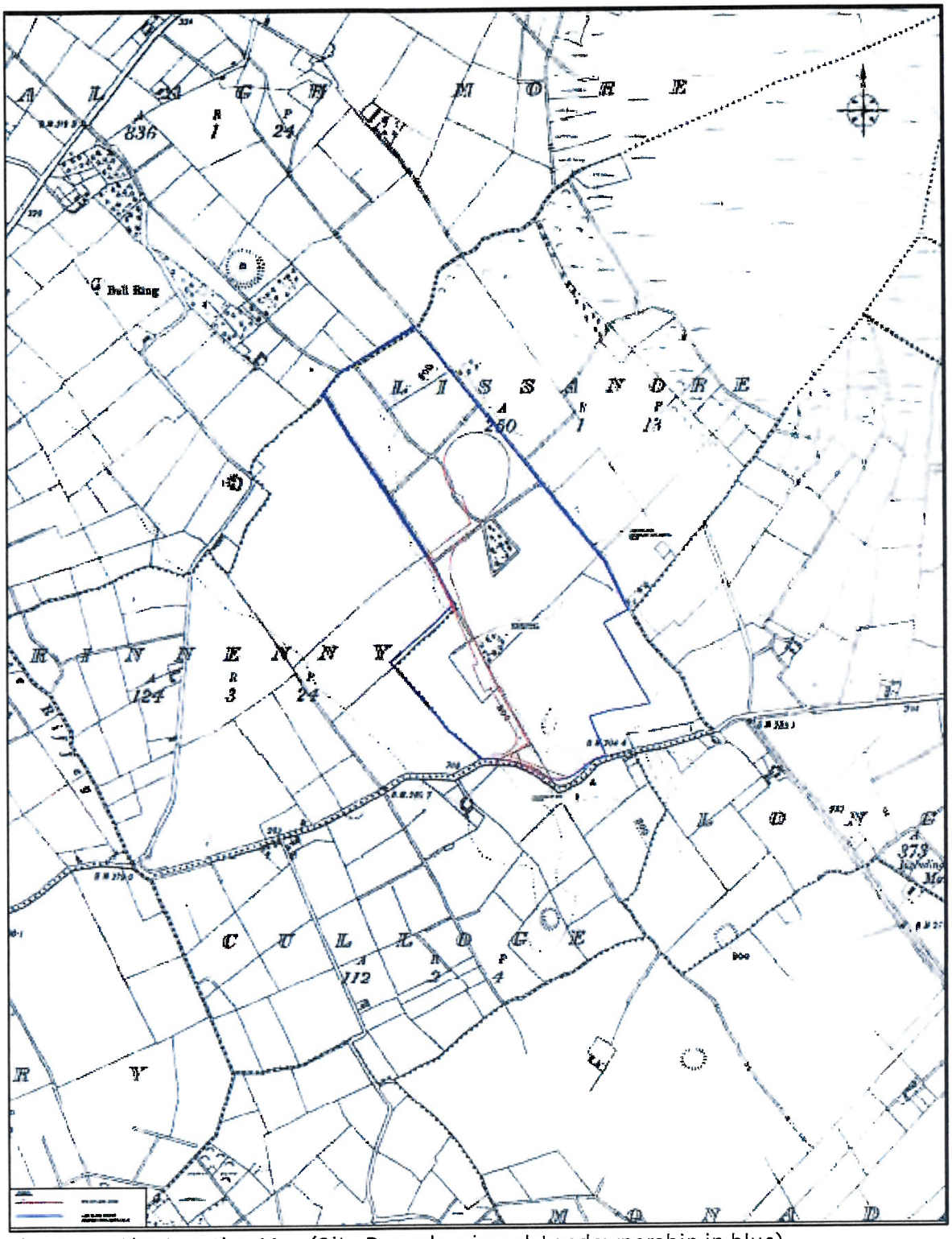


Figure 1-2: Site Location Map (Site Boundary in red, Landownership in blue).

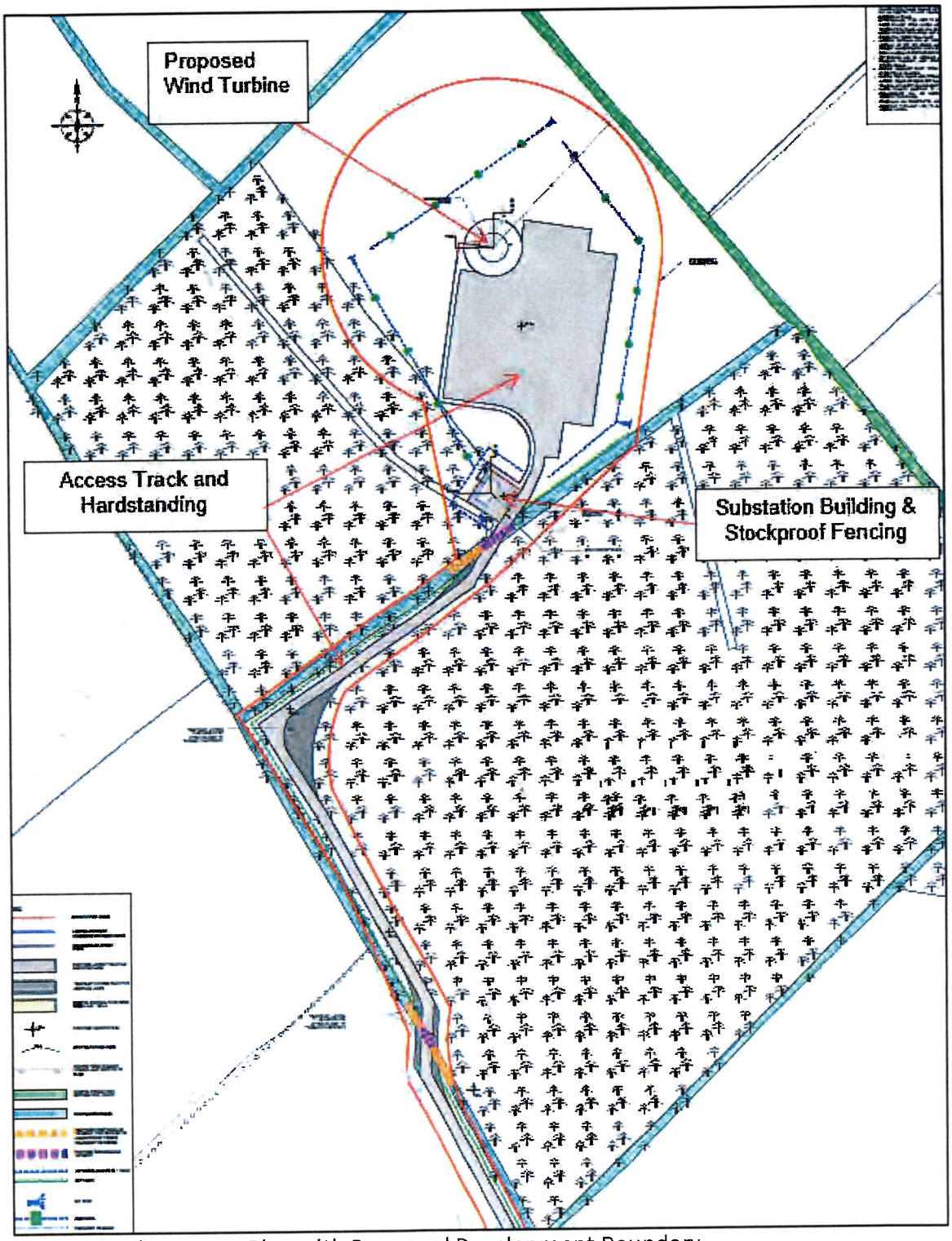


Figure 1-3: Site Layout Plan with Proposed Development Boundary

1.4 Site Access

The layout of proposed new roads, road upgrades, and hardstanding areas is shown on Drawing No. 23528-101,102,103. The site access roads and hardstand will be constructed using crushed rock and Geo-synthetics.

Haulage Route for the Turbine Parts

Dublin Port is the most likely destination for the turbine parts. Should parts be delivered to Dublin port, they are expected to be delivered to the site via the following route (121km Total). Please refer to Figure 1-4.

- Leaving Dublin Port on the Tolka Quay Road, travelling onto the M50.
- Exiting the M50 onto the N4.
- Travelling onto the M4.
- Travelling onto the N4.
- Exiting the N4 at Edgeworthstown onto the N55.
- Travelling on the N55, turning right onto the R395
- Travelling to Site.

Figure 1-4 Abnormal Load Haul Route

1.5 Grid Connection Route

The proposed 20 kV grid connection route between the Lissanore Wind Farm 20kV substation and the existing 38kV ESB substation in Edgeworthstown Co. Longford is to be composed of both underground cabling (UGC) and overhead lines (OHL). As per figures 1-5 & 1-6 below, the route will consist of 3.636km of underground cabling (UGC) and 0.577km of overhead lines (OHL).

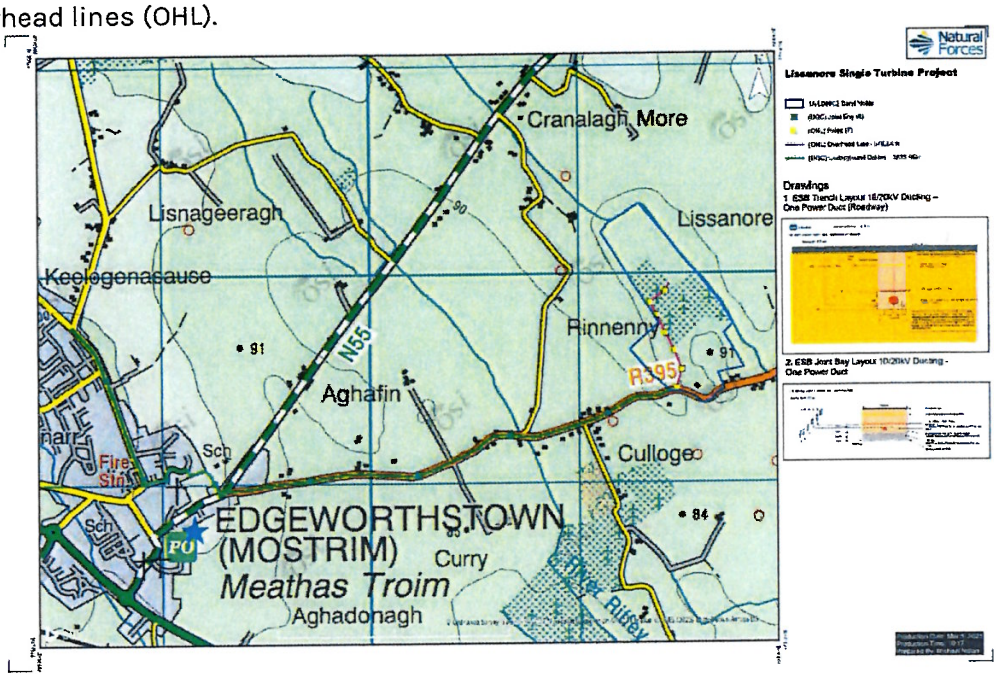


Figure 1-5 Grid Route Location Map OSI

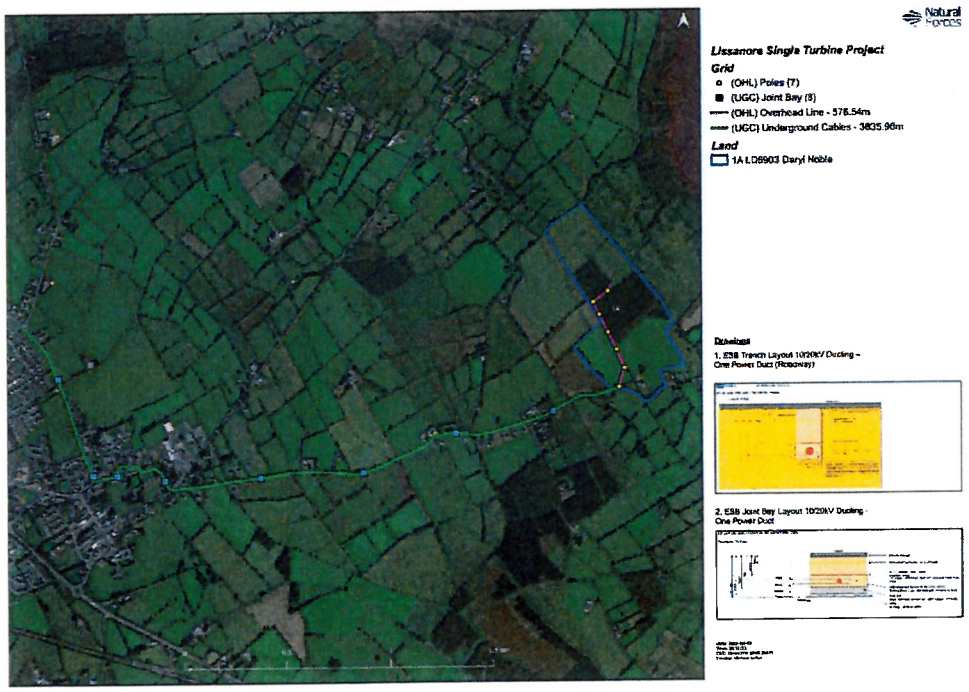


Figure 1-6 Grid Route Location Map Aerial

1.6 Operational Phase of the development

During the Operational Phase of the development Scheduled / Unscheduled Maintenance events will be required to ensure the turbine operates at it optimal level . The operation of the proposed Project will be monitored and controlled remotely.
At the end of the 30-year lifespan, a decision will be made in relation to repowering or decommissioning the proposed wind turbine. This process would be subject to a separate planning permission application.

1.7 Decommissioning of the proposed project

A Decommissioning Plan has been provided to Longford County Council in the planning application documents which has been already submitted for the proposed Project.
The Plan details the decommissioning phases which include for the:

- Removal of above ground structures including wind turbine; and
- Removal of underground structures including foundations and cables.

Reinstatement activities will differ slightly in approach for the turbine foundations, hardstanding, and access road. However, the overall aim will be the same for each section - to restore the vegetation cover, with topsoil and reseeding.
All decommissioning and reinstatement activities would be agreed in advance with the Planning Authority.

1.8 Environmental Constraints of Note at the Site

1.8.1 Site Habitats

The habitats at and in the vicinity of the proposed wind turbine location at Lissanore consist of a low-lying field of rush-dominated grassland intermediate between humid acid grassland (GS3) and wet grassland (GS4). The vegetation is dominated by soft rush (Juncus effusus) and grasses including Yorkshire fog (Holcus lanatus) and creeping bent (Agrostis stolonifera), with abundant creeping buttercup (Ranunculus repens) and silverweed (Potentilla anserina) and occasional Yellow flag (Iris pseudacorus).

1.8.2 Water Features

An unnamed stream (IE_SH_26R030100) is located 65m northeast of the proposed site. The river flows north and ultimately discharges into The Riffey River which is located 3.1km southeast of the proposed site.
The River/site is located within the Inny[Shannon]_SC_050 Water Framework Directive (WFD) River Sub Basin RIFFEY_010 & Sub Catchment and the Upper Shannon Catchment. Under the WFD, all water bodies are required to meet good status within a certain time period. Ireland is now in the second cycle of the WFD and therefore good status should be achieved in all water bodies by the end of this current cycle, i.e., 2021. If a waterbody is unlikely to achieve this status, then it is deemed to be *At Risk*. Upstream and downstream of the site, the Unnamed stream and the Riffey River is unassigned, however the River Inny is described as being of 'Good 'status and ' Not at Risk'.

Figure 1-7: Surface water features relevant to the development site.

1.8.3 Natura 2000 Sites

The proposed wind turbine location is not within a designated conservation area. Figure 1-6 shows the European designated sites within a c15km zone around the proposed development.

There are ten European sites within a 15km radius of the proposed turbine location. The nearest designated site is Ardgullion Bog SAC which is 2.8km to the northeast of the proposed turbine location. Glen Lough SPA is located 5.4km to the south of the proposed turbine. There are eight other designated conservation areas within a 15km radius of the development.

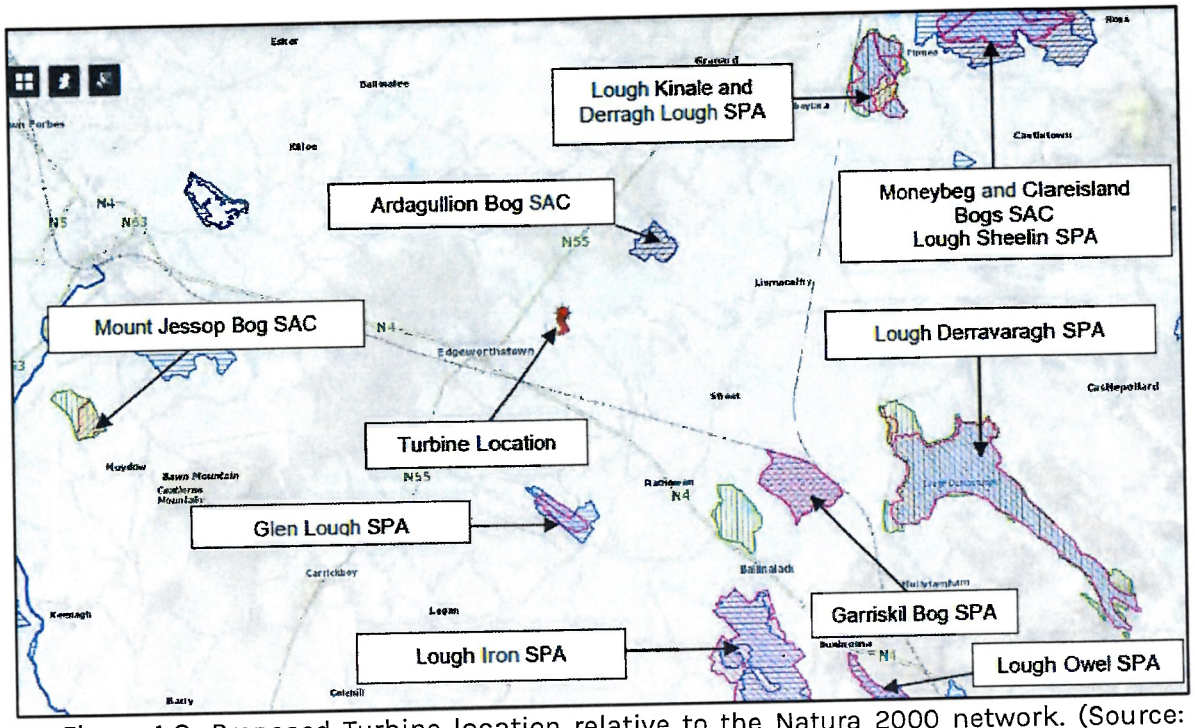


Figure 1-8: Proposed Turbine location relative to the Natura 2000 network. (Source: NPWS Map viewer)

1.8.4 Soils, Geology & Hydrogeology Environment

Geology

Subsoils at the site are classified as Cut - Cut over raised peat and the site is underlain by Lucan Formation described as Dark limestone & shale.

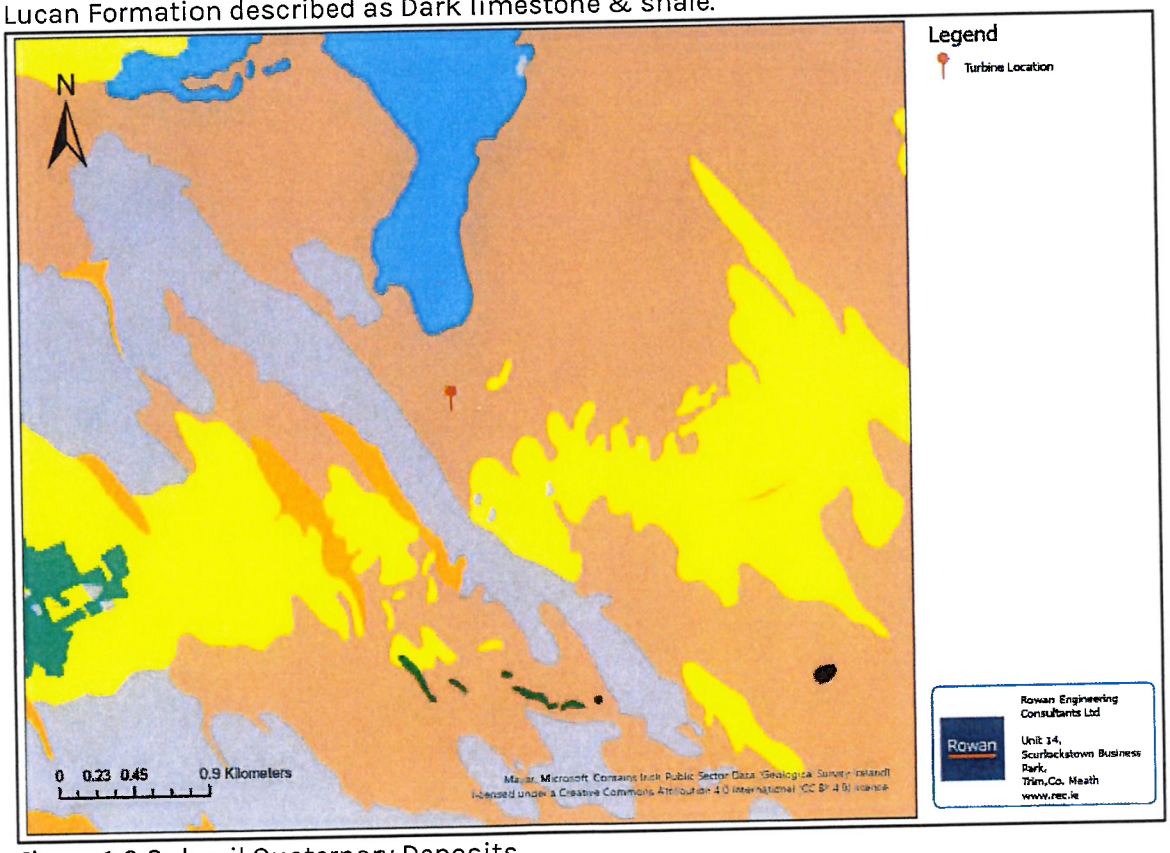


Figure 1-9 Subsoil Quaternary Deposits

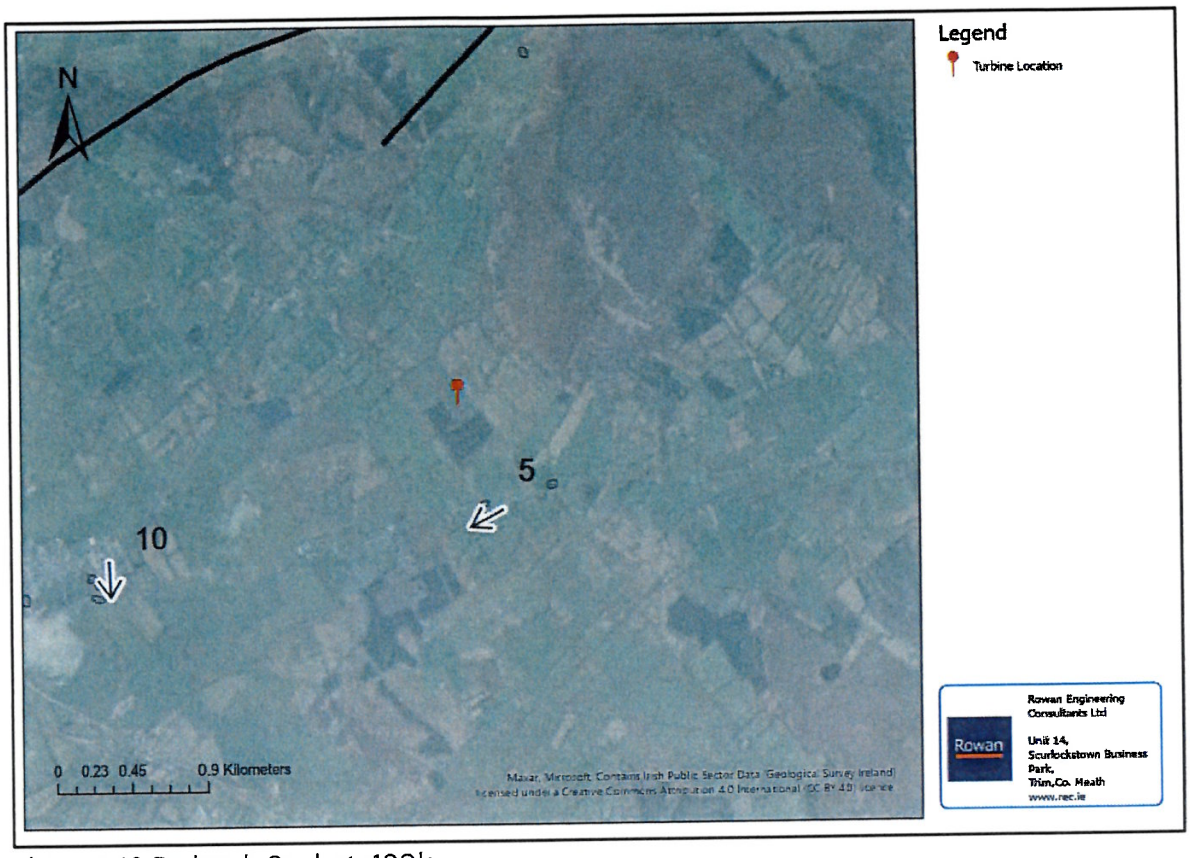


Figure 1-10 Bedrock Geology 100k

Aquifer Vulnerability:

Groundwater vulnerability is a measure of how easily a groundwater body can be contaminated, it is heavily influenced by the amount of subsoil covering the aquifer and the permeability of overlying material. The site location falls within an area of *Medium* groundwater vulnerability.

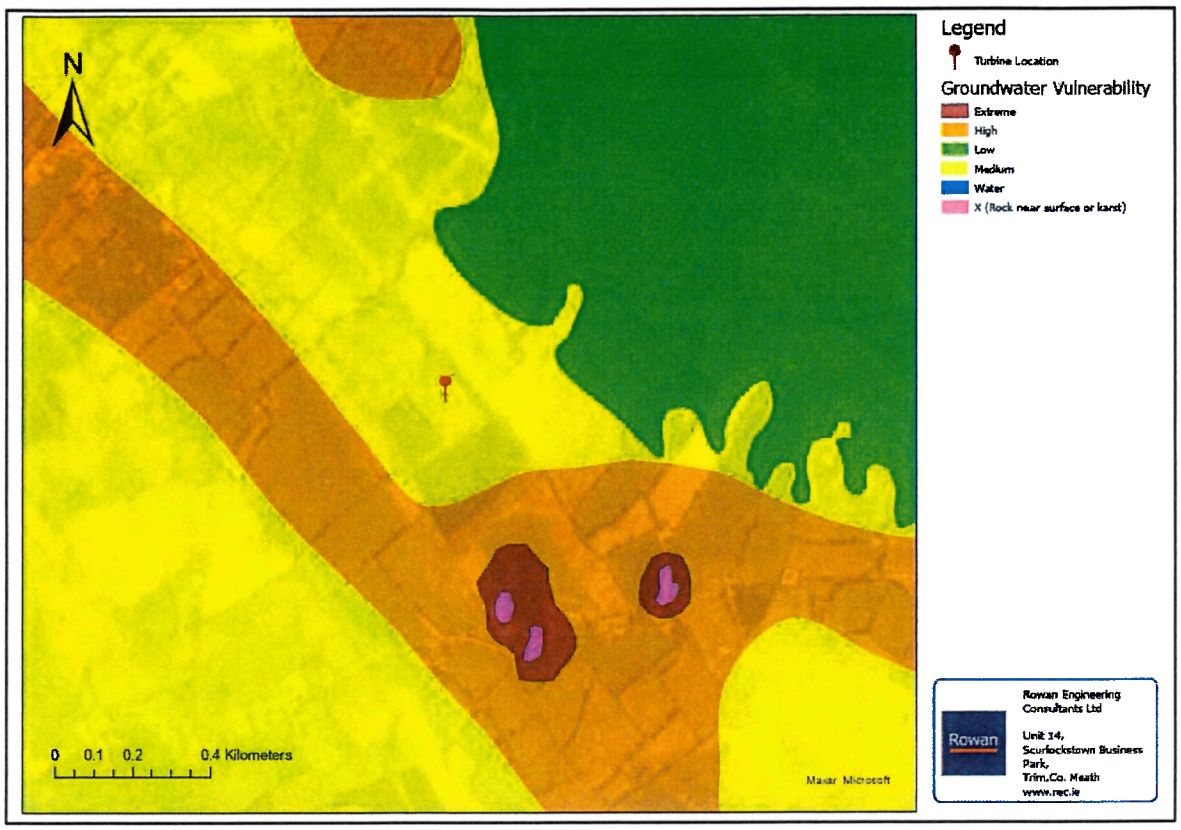


Figure 1-11: Groundwater Vulnerability at the Proposed site.

Groundwater Wells

No groundwater wells are present within the site, however there are a number around the site as detailed within Table 1-2.

Table 1-1: Groundwater wells that are present within the site.

Groundwater Wells Description			
Well Ref:	2027SEW005	2027SEW005	2327SWW001
Distance from Site	c.200m north	c.700m northwest	c. 1.3km southeast
Well Type	Borehole	Borehole	Dug well
Depth	26.8m	26.8m	c.9.1m
Drill Date	15/11/1956	15/11/1956	26/07/1961

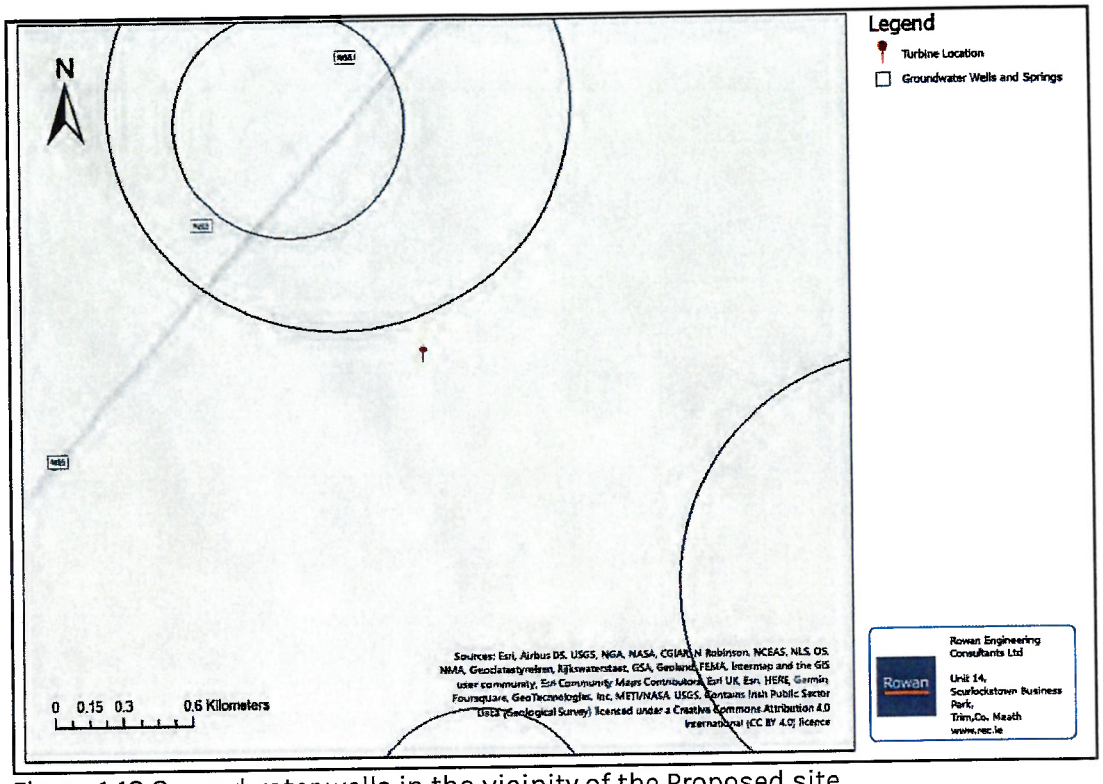


Figure 1-12 Groundwater wells in the vicinity of the Proposed site.

Karst Features

No karst features are reported onsite the nearest karst feature is located c.20km southeast from the site.

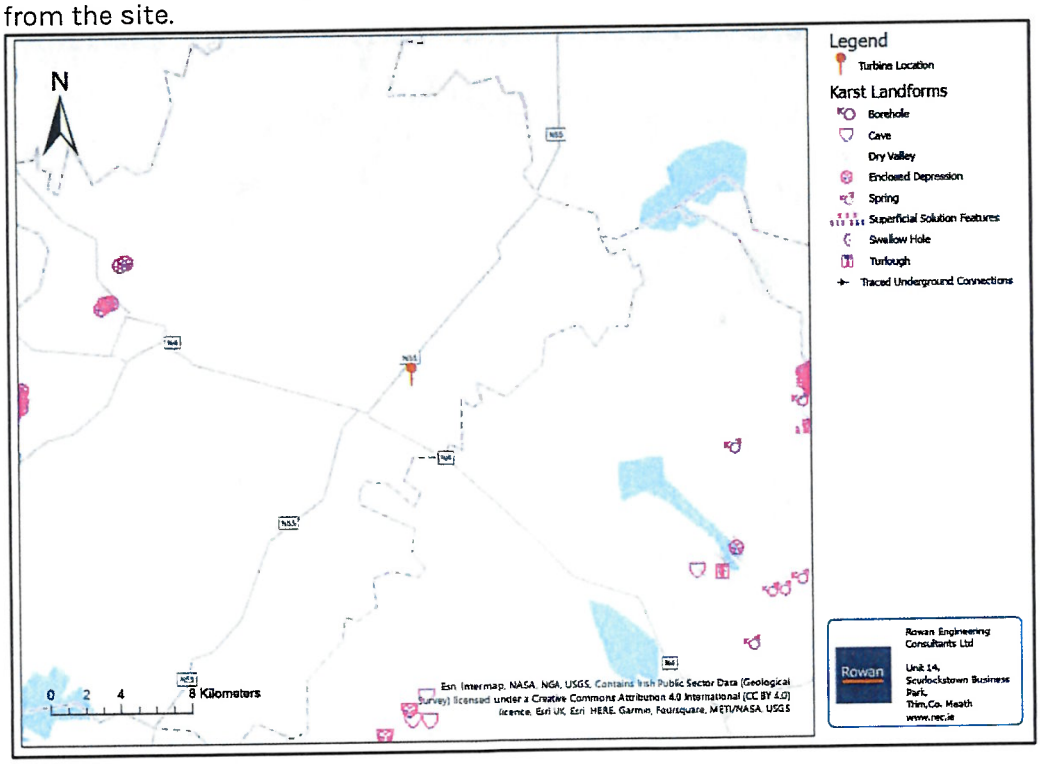


Figure 1-13: Karst Features

Public Supply Source Protection Zone

No Water Supply Protection zone are located onsite the nearest Source Protection Zone is located c.14km northeast.

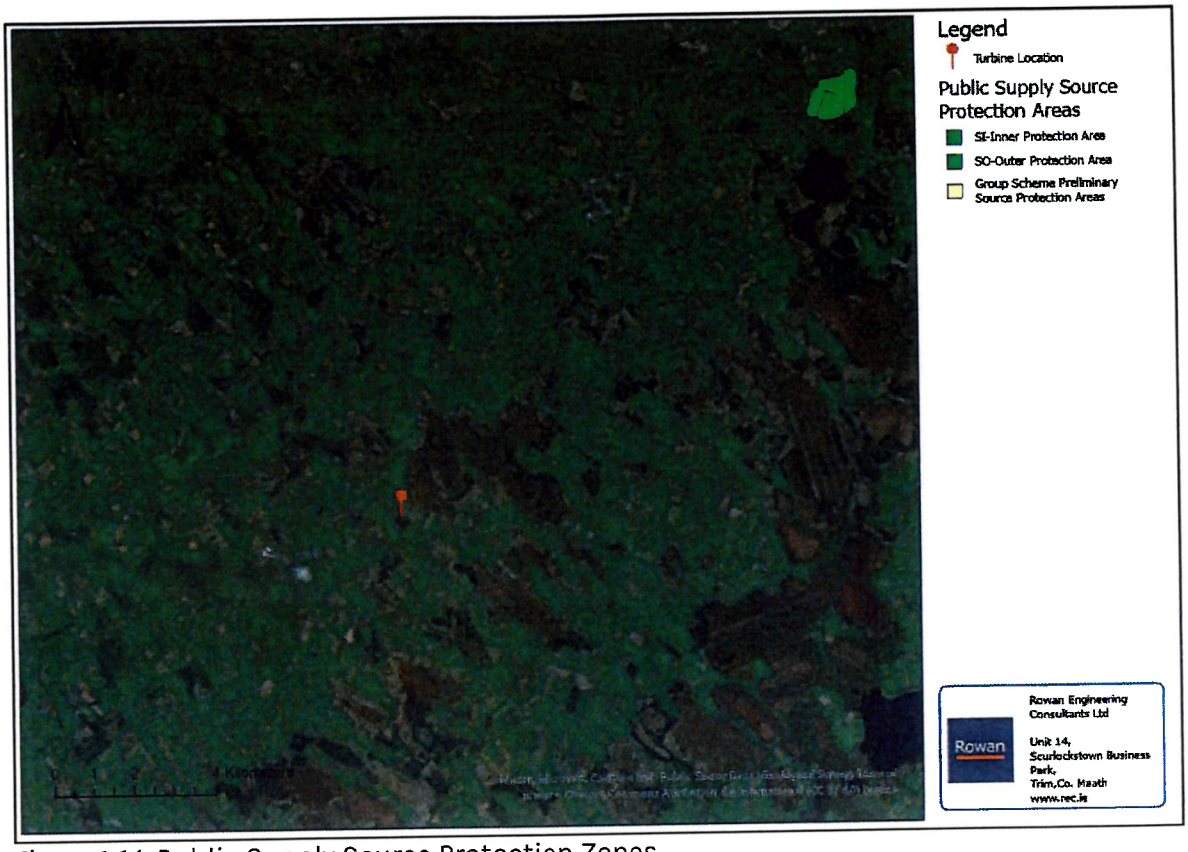


Figure 1-14: Public Supply Source Protection Zones

1.9 Flood Risk

The Office of Public Works (OPW) Flood Maps and Catchment Flood Risk Assessment and Management (CFRAM) maps were consulted as part of the assessment. A review of historical flood records indicates there were 1No. flood events recorded within 9km of the subject site.

Figure 1-15: Summary of flood events in the vicinity of the subject site.
The nearest flood events to the site are summarised in the table below:

Table 1-2: Summary of flood events recorded within 9km of the subject site.

Name	Details	Distance from site
Ferskill Recurring	Low lying land	c.7km northeast

Figure 1-16 Summary of flood events in the vicinity of the subject site (NIFM)

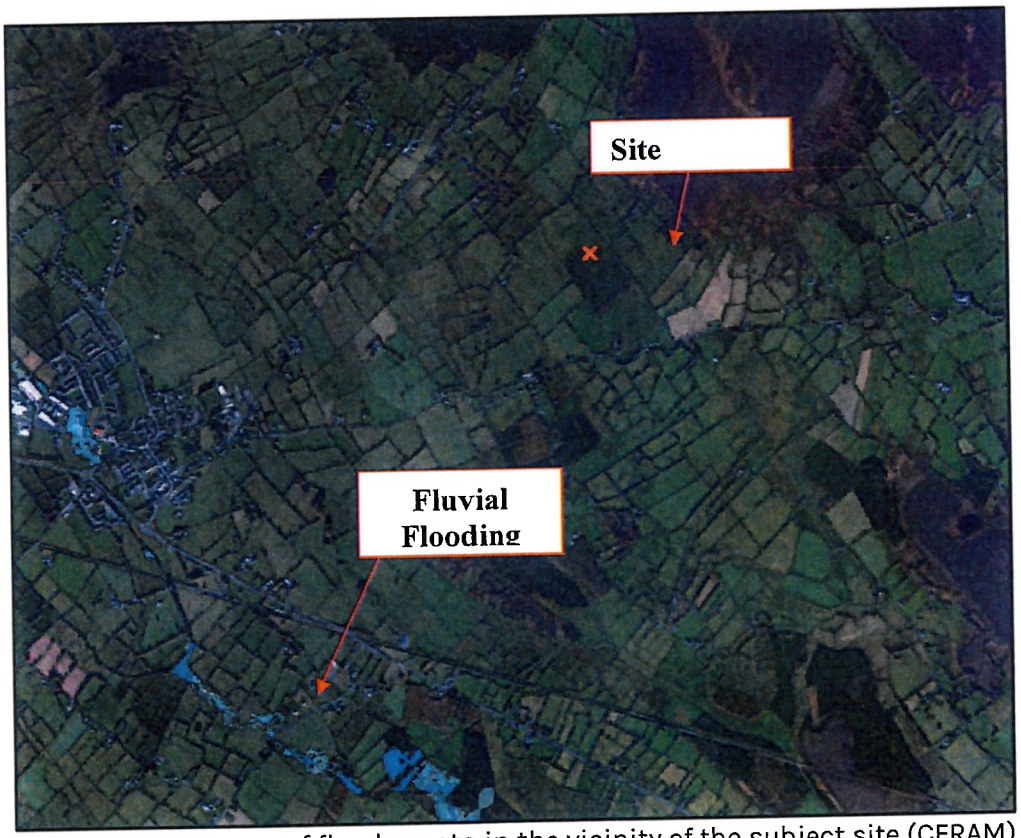


Figure 1-17: Summary of flood events in the vicinity of the subject site (CFRAM)

The CFRAM study commenced in June 2011 and ran until the end of 2016. The study involved detailed hydraulic modelling of rivers, their tributaries and tidal flooding to develop and

implement flood risk management plans, where required. The OPW released the final Plans on the OPW's Flood Maps (www.floodinfo.ie) website. .
According to the 2016 OPW Flood Maps website Figure 1-13 & Figure 1-14the subject property does not appear to be within an area at risk of fluvial, pluvial or tidal flooding.
The nearest historical flood event Figure 1-12 occurred c.9km away the risk score is rated as Low Risk
Please note a full Flood Risk Assessment has not been conducted and therefore Natural Forces cannot provide further comment in relation to flood risk.

2. Construction Environmental Management Plan

2.1 Construction Environmental Mitigation Measure

Construction environmental mitigation will be expected to follow best practice and any specific measures required in the planning conditions. The objective of this mitigation is to avoid/reduce the potential for environmental impacts during the construction phase. This mitigation will be implemented by the construction contractor to ensure and is detailed in Table 2-1 below.

Table 2-3 Construction Environmental Mitigation

Construction Activity	Mitigation incorporated into the Proposed Project
Removal of vegetation, tree felling, topsoil and site clearance works.	• Any stripping dealing with the access track, turbine and assembly area, internal site cable route and substation components will be managed sequentially in alignment with the proposed construction sequence. • Construction works will be undertaken in dry conditions outside of the winter period when the potential for surface run-off is at its lowest. • The vegetation clearance within the site will be kept to the minimum required for the access road and hard stand for the wind turbine.
Water Quality Surface water protection Drainage controls and surface water management for the protection of groundwater and surface waters.	• Construction works will be undertaken in dry conditions outside of the winter period when the potential for surface run-off is at its lowest. • Works will be undertaken in accordance with Inland Fisheries Ireland Guidelines on Protection of Fisheries during Construction Works in and adjacent to Waters (2016). • The vegetation clearance within the site will be kept to the minimum required for the access road and hard stand for the wind turbine. • No concrete laitance or wash-out will be allowed enter the drainage network. • Spill containment and clean-up materials will be held on site at all times during construction works. • Fuels, lubricants, and hydraulic fluids for equipment used on the site will be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with 110% spill containment. • Fuelling and lubrication of equipment will be carried out in dedicated fuelling location. Refer to Appendix 2 of this Framework CEMP or Drawing 23528-150-P1. • Any spillage of fuels, lubricants of hydraulic oils will be immediately contained, and the contaminated soil removed from the site and properly disposed of to a licenced facility. • The weather and corrosion resistant painting of the turbine will occur offsite. • Waste oils and hydraulic fluids will be collected in leak-proof containers and removed from the site for disposal or re-cycling to a licenced facility.

Construction Activity	Mitigation incorporated into the Proposed Project
	• All wastes generated during the works will be appropriately stored on site before being transported off site by licensed contractors. • Drawings are included as part of this planning application Appendix 2 or Drawing 23528-150-P1 and 23528-151-P1. The Drawings includes mitigation measure such as o Silt Fences, o Check Dams o Stilling Ponds, o Bunded refuelling area.
Air Quality and Climate	• Impacts to air quality during the construction phase are not considered to be significant. Mitigation measures that will be implemented on site during the construction phase shall include: • Hard surfaces will be swept to remove any mud or aggregate build up. • The local road in the vicinity of the development site will be inspected regularly for cleanliness and cleaned, as necessary. • No soils will be moved when they are too dry or when there are unusually windy weather conditions. • With regard to exhaust emissions and GHG emissions: • Vehicles on the site will be not left idling for more than a few minutes. • Daily visual Inspections will be carried at the site boundary. All visual inspections will be summarised in the Weekly Environmental Inspection Checklist which is Appendix 1 of this Framework CEMP. • The visual inspections will assist in monitoring the effectiveness of dust mitigation measures.
Construction Traffic management	• The construction period of the proposed Project is c. 6-8 months. • Construction Traffic Generation - The delivery of the turbine will require a number of loads using articulated haulage trucks. The delivery will comprise the tower (3 parts), blades (3), nacelle (1 part), hub (1 part) and various smaller/ancillary parts. The nacelle is the heaviest component of the turbine. These delivery loads will be considered "oversized". • Other vehicles requiring access to the site will include tracked excavators, dump trucks, mobile cranes, and articulated haulage trucks. • There will only be a small increase in movements of private cars and vans at the beginning and end of each working day as personnel arrive at and depart the site. The workforce is expected to be c. 2-20 people depending on the site activities. Where possible, carpooling will be encouraged.

Construction Activity	Mitigation incorporated into the Proposed Project
	• These procedures shall be adhered to during the construction phase and agreed during the preconstruction phase with the Planning Authority. • The turbine supplier will undertake a Haul Survey to confirm the most suitable haul route for the turbine and this will be confirmed with Longford County Council during preconstruction. • Traffic signage and temporary construction stage traffic measures are to be implemented in accordance with the Department of Transport's Traffic Signs Manual, particularly Chapter 8 entitled "Temporary Traffic Measures and Signs for Road works".
Population and Human Health	• During prolonged dry or windy periods, any areas with the potential to generate dust will be watered and. • Public roads will be inspected regularly for cleanliness and cleaned as necessary.
Noise	• The mitigation measures that will be implemented on site to minimise environmental impacts relating to noise, will include All vehicle engines will be switched off when not in use. • Restricted speed limits will be implemented on site to reduce the generation of noise from moving HGVs within the site. • Working hours will be limited during which site activities are permitted to Monday – Friday 08:00-20.00hrs Saturday: 08.00-16.00hrs • A site representative responsible for matters relating to noise will be appointed to liaise with client and residents.
Construction operating hours	• To be confirmed by Longford County Council but current expectations are: • Monday - Friday 08:00-20.00hrs • Saturday: 08.00-16.00hrs • Sunday: No operations unless prior approval received from Longford County Council
Biodiversity/ Ecology	In this regard, potential impacts to the unnamed stream during the construction phase are largely associated with the alteration of the existing drainage regime at the site and the potential for sediment/silt from construction activities to enter the stream. No construction works will be undertaken within 20m of the stream and the construction works will be undertaken in accordance construction mitigation that has been detailed for the proposed Project. This mitigation includes the following: • The loss of wet grassland habitat at the turbine location will be kept to the minimum required for the construction of the turbine base, associated hard stand and access track. • Clearance of any and all woody vegetation will be undertaken outside of the bird nesting season defined as March to August inclusive.

Construction Activity	Mitigation incorporated into the Proposed Project
	• While there is considered no significant risk of any silt or other pollutants entering the waterbody to the east of the proposed turbine location during the construction phase, the site construction area will be demarcated at the outset and a silt-fence erected along the eastern side of the site. The existing vegetation between the works area and stream will be retained intact to act as a buffer. • The access track construction to the turbine location from the R395 road will be set outside of the dripline of the adjoining hedgerow/treeline and no stock piling of soil or other materials will occur within this protected zone. • Spill containment and clean-up materials will be held on site at all times during construction works. • Fuels, lubricants, and hydraulic fluids for equipment used on the site will be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with 110% spill containment. • Fuelling and lubrication of equipment will be carried out in a dedicated fuelling location. • Any spillage of fuels, lubricants of hydraulic oils will be immediately contained, and the contaminated soil removed from the site and properly disposed of to a licenced facility. • Waste oils and hydraulic fluids will be collected in leak-proof containers and removed from the site for disposal or re-cycling to a licenced facility. • All wastes generated during the works will be appropriately stored on site before being transported off site by licensed contractors.
Waste Management	All wastes are collected and disposed of by licensed contractors.

3. Construction Methodology Grid Connection Route

The proposed 20 kV grid connection route between the Lissanore Wind Farm 20kV substation and the existing 38kV ESB substation in Edgeworthstown Co. Longford is to be composed of both underground cabling (UGC) and overhead lines (OHL). All UGC is to be contained entirely within the curtilage of the public road. All overhead lines will be placed across private lands with agreed upon terms with the requisite landowner.

The details and mitigation measures outlined within this CEMP shall be implemented across all aspects of the Proposed Development including the grid connection route.

The purpose of this document is to outline and explain the construction techniques and methodologies which will be implemented during construction of the grid connection route. The key elements of the construction of Grid Connection Route have been detailed below, whereas full details can be found in the construction methodology statement which accompanies this application.

3.1 Construction Timeframe

It is envisaged that the Grid Connection Route works would take approximately 2-3 weeks. The exact dates of construction are to be determined at a later date.
Construction works should not take place in periods of heavy rainfall.

3.2 Excavation (Cable Trench)

No more than a 100m section of trench will be opened at any one-time, further excavation will only commence once most of the reinstatement has been completed on the previous section of trench.
All excavated material shall be removed from the works area immediately and on an on-going basis. As the trenches are excavated, the spoil material is loaded to an adjacent truck and exported off site and disposed of at a fully licenced waste management facility. This means that there is no build up or storage of material in or around the work area.

3.3 Laying of Ducting

20kV UGC duct laying is to be carried out in line with the detailed ESB Networks installation methodologies. The specific methodologies follow the below sequencing:

1. Grade, smooth and trim trench floor when the required depth and width have been obtained
2. Place a layer of bedding material and compact it to the required thickness
3. Lay the single duct in the centre of the trench, use spacers / templates to maintain the correct position, place a bung on each end of the duct run to prevent the ingress of dirt or water
4. Carefully surround and cover ducts with CBGM B / ESB Sand and thoroughly compact without damaging ducts
5. Place cable protection strips on compacted backfill directly over the ducts
6. Place and thoroughly compact Clause 804 backfill, or soil backfill as specified and place warning tape
7. For public roads carry out immediate permanent reinstatement
8. In open ground backfill with suitable excavated material leaving at least 100 mm for topsoil at the top of the trench to allow for grass seeding
9. Clean and test the ducts by pulling through a brush and mandrel.
10. Install 12 mm polypropylene draw rope in each duct and seal all ducts using duct end seals.

3.4 Joint Bays

Joint Bays are typically pre-cast concrete structures installed below finished ground level for installation the following methodology would apply:

1. The contractor will excavate a pit for each joint bay at an agreed location c. every 500m
2. All excavated material removed from the location to fully licenced waste management facility
3. Grade and smooth floor; then lay sand on a layer of well compacted Clause 804 granular material
4. Place pre-cast concrete sections on sand bedding and backfill the perimeter with well compacted Clause 804 granular material
5. Where joint bays are located under the road surface the joint bay will be backfilled with compacted layers of Clause 804 and the road surface temporarily reinstated as specified by the Engineer
6. Prior to cabling to facilitate cable installation and jointing each pit will be re excavated once traffic management is in place and the works area secured

7. Following the completion of jointing works each joint bay is backfilled with CBGM B which is compacted in layers, cable protection strip and warning tape is installed at the correct depth below the finished surface level
8. Permanent reinstatement is carried out above the joint bay in accordance with the landowner/Longford County Council specifications

3.5 Bridge Crossing

The proposed Lissanore UGC routing crosses the Riffey river via a culvert bridge.

Given the nature of typical bridge designs, the depth of the running surface is generally restricted, therefore requires the standard road designs to be altered when approaching a bridge or similar type structure.

The Riffey bridge has been review and the depth level of the running subsurface is sufficient to utilise the standard ESB Network bridge crossing designs.

3.6 Cable Pulling

On completion of the works detailed above the Grid Connection Works Contractor will carryout a final inspection of the ducting to ensure the ducting remains clear of any debris, this inspection is carried out by pulling through a brush and mandrel.

Subject to ducts passing inspection the Grid Connection Works contractor will begin to pull the grid connection cable through the ducting. Cable will be pulled between the Joint bays installed along the length of the Grid Connection Route.

3.7 Overhead Line (Pole Erection)

The overhead section of the grid connection route will necessitate the placement of poles along the route. Poles will be places within private lands, the contractor will follow the ESB functional. Poles will be transported from adjacent roadways to designated erection sites. Using a wheeled or tracked excavator equipped with a pole grab attachment, poles will be placed into excavated holes. Manual backfilling and tamping of the pole hole will be carried out to a minimum depth of 1.0m, ensuring adequate support for the pole.

4. Emergency Response Procedure

The purpose of the emergency response procedure (ERP) is to address an emergency situation which may originate on-site. The main scenario's which were considered to potentially occur on site were associated with:

- A spill or leakage.
- A fire; and

4.1 Emergency Spill/Leakage Protocol

The procedure for dealing with spillages and/or leakages on site is as follows:

- The site operator shall be notified of a spill/leakage immediately by site staff.
- Where there is any indication that environmental pollution (releases to the environment) has, or may have, taken place, then The site operator will consult with the appropriate Authority as deemed required.
- If possible, the type & nature of the spilled material and the volume shall be confirmed. Any risks to human health and/or the environment shall be determined.
- Stop the source and contain the spillage.

- Limit the spillage effected area by blocking, diverting, or confining the spillage.
- Smaller leaks/spillages shall be contained using a spill kit, where absorbent product will be applied to the spill and removed as soon as it has absorbed all the material. All contaminated spill kit material shall be put into a suitable waste container and labelled as to the contents, prior to collection by a licenced waste contractor.
- If a bigger spillage occurs, access to any surface water features is to be blocked off to stop potential discharges. Then, staff shall clear up the spillage and dispose of the spill material to an authorised waste facility.
- If a spillage results in discharges to a surface water feature or there is potential for adverse impact on the environment, the site operator shall report to the appropriate authority (e.g., Longford County Council / Irish Water, Inland Fisheries Ireland) and agree a course of action.
- A record of the spill/leakage incident shall be retained on-site.

4.2 Fire

In the event of a fire, persons near the outbreak of the fire shall alert the site operator. In an emergency situation, the appropriate services will be notified.
The following information will be provided:

1. The name of the company
   Natural Forces Renewable Energy Ltd
2. Townland
   Lissanore, Co. Longford
3. Details of the Fire

Emergency contact details are:
Local Garda Station: Edgeworthstown - +353436671002
Local Fire Station: Edgeworthstown - (043) 667 1016
Dialling 999/112 will connect the caller with any of the emergency services.
If a fire on-site has an adverse impact on the environment, Longford County Council, Irish Water, and Inland Fisheries Ireland (as relevant) will be notified and they shall agree a course of action.

4.3 Bunding and Storage of Chemicals/Oils/Fuels On-Site

Minimal volumes of oil/fuels/chemicals are expected to be stored on site. The following controls shall be implemented by the construction contractor in relation to the storage of chemicals, oils, and fuels on-site: at a dedicated hydrocarbon area see Appendix 2 of this Framework CEMP or Drawing 23528-150-P1.

- Appropriate and sufficient spill control materials will be installed at strategic locations within the site. Spills kits for immediate use will be kept in the cab of mobile equipment.
- Oil booms and oil soakage pads should be maintained on-site to enable a rapid and effective response to any accidental spillage or discharge. The correct disposal of these booms and pads will be demonstrated during the toolbox talks. Records will be maintained by the environmental manager of the used booms and pads taken off site for disposal.
- Fuel, oils, greases, and hydraulic fluids shall be stored in bunds.
- Bunds shall be able to contain at least 25% of the total volume of the stored products or 110% of the total volume the largest container (whichever is greater).
- Damaged or leaking containers will be removed from use and replaced immediately.
- Spill kits will be stored in the site compound with easy access for delivery to site in the case of an emergency. A minimum stock of spill kits will be maintained at all times and site vehicles will carry spill kits at all times. Spill kits must include suitable spill control materials to deal with the type of spillage that may occur and where it may occur. Typical contents of an on-site spill kit will include the following as a minimum.
    - Absorbent granules.
    - Absorbent mats/cushions.
    - Absorbent booms.
- Spill kits will contain gloves to handle contaminated materials and sealable disposal sacks.
- Track mats, drain covers and geotextile material.
- Any pollutant chemicals, fuels of any kind, etc will take place in a designated area (Appendix 2 of this Framework CEMP or Drawing 23528-150-P1.) which will be away from any existing surface water drains.
- The site compound fuel storage areas and cleaning areas will be rendered impervious and will be constructed to ensure no discharges will cause pollution to surface or ground waters.
- Re-fuelling of construction vehicles and the addition of hydraulic oils or lubricants to vehicles, will take place in a designated area (Appendix 2 of this Framework CEMP or Drawing 23528-150-P1.) which will be away from any existing surface water drains which could also provide pathways to the underlying geology.
- Mobile plant will refuel in a designated area (Appendix 2 of this Framework CEMP or Drawing 23528-150-P1.) which will be away from any existing surface water drains.
- The contractor will ensure that no hazardous or noxious materials enters a watercourse/drain. Should this situation arise emergency procedures will be activated.
- Damaged or leaking containers will be removed from use and replaced immediately.
- Any bunds shall be checked daily by the contractor to:
    - Determine if it is necessary to drain the contents of the bund.
    - Ensure that the bund contents will not overflow the bund (Ideally the bund should be dry, as any volume occupied by liquid within the bund reduces the potential of the bund to retain the spilled contents of a tank should a spillage or leakage occur).
    - Check the condition of the bund; and

- Confirm that any drain valves are in the closed position and locked if necessary.

- Material drained from the bunds shall not be drained to the unnamed stream located to the east under any circumstances.

4.4 Refuelling of Plant and Equipment

The requirement for refuelling on-site will be limited.
Where it is required, the following controls shall be implemented by the construction contractor:

- Delivery and/or transport of any fuel will be in approved vehicles and tanks.
- All refuelling of construction vehicles and the addition of hydraulic oils or lubricants to vehicles will be undertaken in a designated area.
- Refuelling shall not be undertaken when plant and equipment engines are running.
- The construction contractor will confirm that all equipment, fittings, hoses, tanks, and nozzles are in good condition and free from leaks.
- All dispensing of fuel will be attended for the duration of the operation; and
- The construction contractor staff member will inspect the refuelling area prior to and on completion of the refuelling activity.

5. Drainage System Onsite

5.1 Protection of Surface Water/Groundwater Quality

Drainage features are primarily required to remove silt and other suspended and settleable solids from site surface water runoff.
These features include:

- Drainage Crossings,
- Silt Fences,
- Check Dams,
- Silt Ponds.

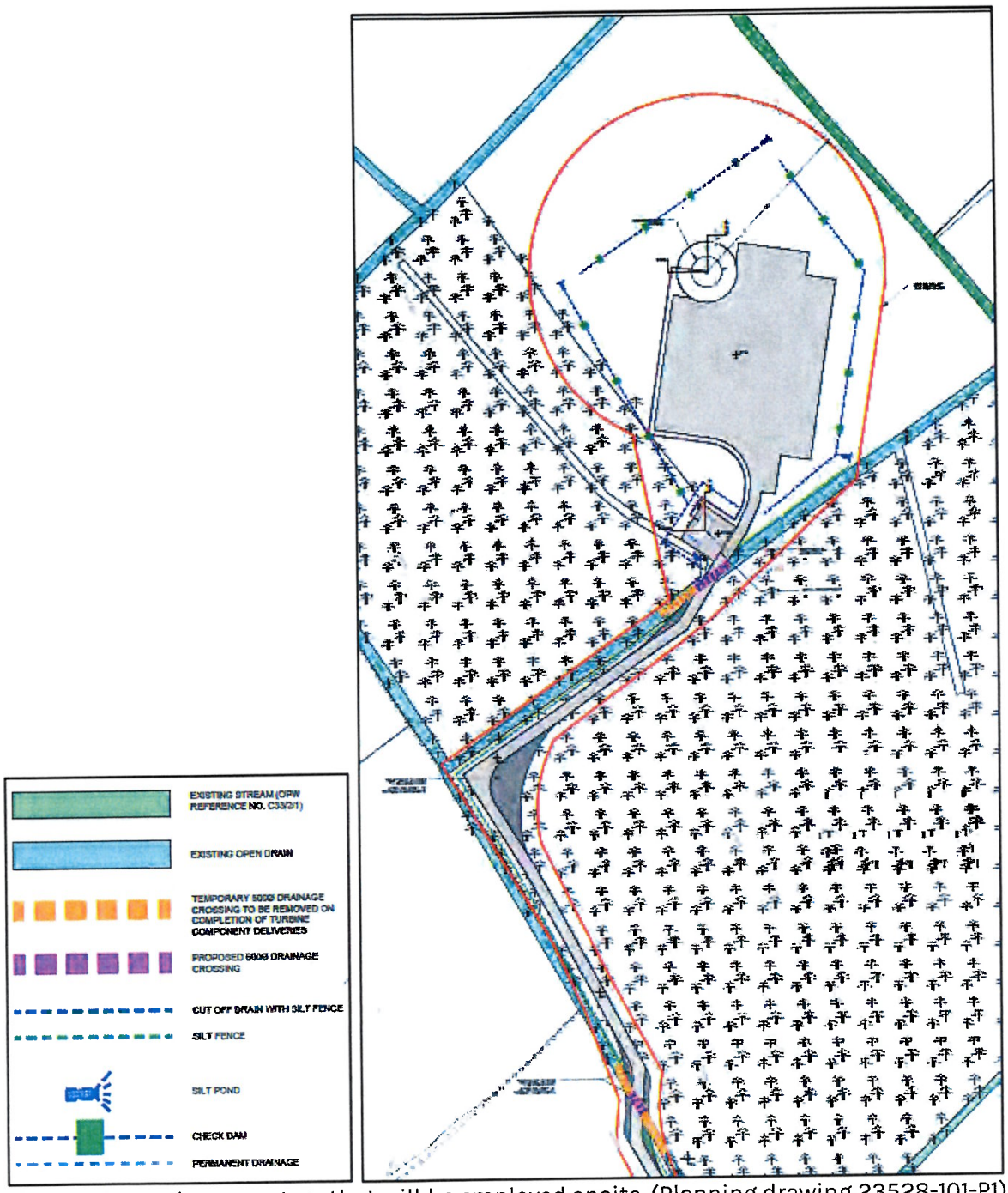


Figure 5-18: Drainage system that will be employed onsite. (Planning drawing 23528-101-P1)

5.2 Drainage Crossing & Temporary drainage crossing.

Drainage crossing involves the construction of a manhole, diameter drainage line and outfall headwall which will be constructed under the access tracks to prevent sedimentation of the access road running into the open drain and to ensure existing drainage of the site is not disrupted.

5.3 Silt fences

Silt fencing will be located along the existing open drain located to the west of the site. (Figure 4-1) This will act to prevent entry to watercourses of sand and gravel sized sediment, released from excavation of mineral sub-soils of glacial and glaciofluvial origin, and

entrained in surface water runoff. Inspection and maintenance of these structures during the construction phase is critical to their functioning to stated purpose. They will remain in place throughout the entire construction phase. Site fence material will be Terra Stop Premium or equivalent in accordance with the specifications.

5.4 Check Dams

Check Dams will be installed around the wind turbine hardstand at regular intervals to ensure flow is non-erosive (Figure 4-1) Check dams will restrict flow velocity, minimise channel erosion and promote sedimentation behind the dam. The check dams will flow into the silt ponds.

5.5 Silt Ponds

The purpose of the stilling ponds is to intercept runoff potentially laden with sediment and to reduce the amount of sediment leaving the disturbed area by reducing runoff velocity. Reducing runoff velocity will allow larger particles to settle out in the stilling ponds. Silt ponds will be constructed as per Figure 4-1.

6. Monitoring Management Plan

A full Monitoring Management Plan for the construction phase will be prepared with the appointed contractor before the construction phase of the project.

7. Site Inspection Procedure and Checklist

Regular site assessments will be undertaken to confirm that the CEMP is being followed. These will include.

- Daily and weekly site walkovers using prescribed check lists.
- Daily and weekly inspections will be undertaken on any sediment control devices, and these will be stabilised/repaired as required.
- Daily and weekly inspections will be undertaken on any watercourses receiving flows from the proposed site.
- Environmental Toolbox talks.
- Visual checking and recording of mechanical plant for leaks and mechanical issues in order to minimise leakage and breakdowns on site. The purpose is to identify any need for pre-emptive maintenance, so as to avoid any accidental spillage of hydrocarbons.

The checklists proposed for use are appended to this framework CEMP.

Appendix 1: Environmental Checklist

Introduction & Scope

This environmental inspection procedure outlines the requirements for the conduct of regular visual inspections at the site, Lissanore, Co. Longford.

Regular visual inspections are performed to ensure a clean working environment.

The inspections also aim to identify potential environmental hazards in the work area and to minimise associated risks.

Responsibilities

The site operator

- Undertake regular visual inspections of the Site.
- Undertake and record the Weekly Check inspections (per checklist attached); and
- Implement and adhere to any required corrective actions/ control measures.

Inspection Procedure

1. Review the Weekly Checklist Form.
2. Conduct the inspection by walking around the work environment.
3. Identify any hazards and areas of noncompliance against the checklist.
4. Record all findings, ensuring the Form is signed and dated and includes details of the personnel conducting the environmental inspection.

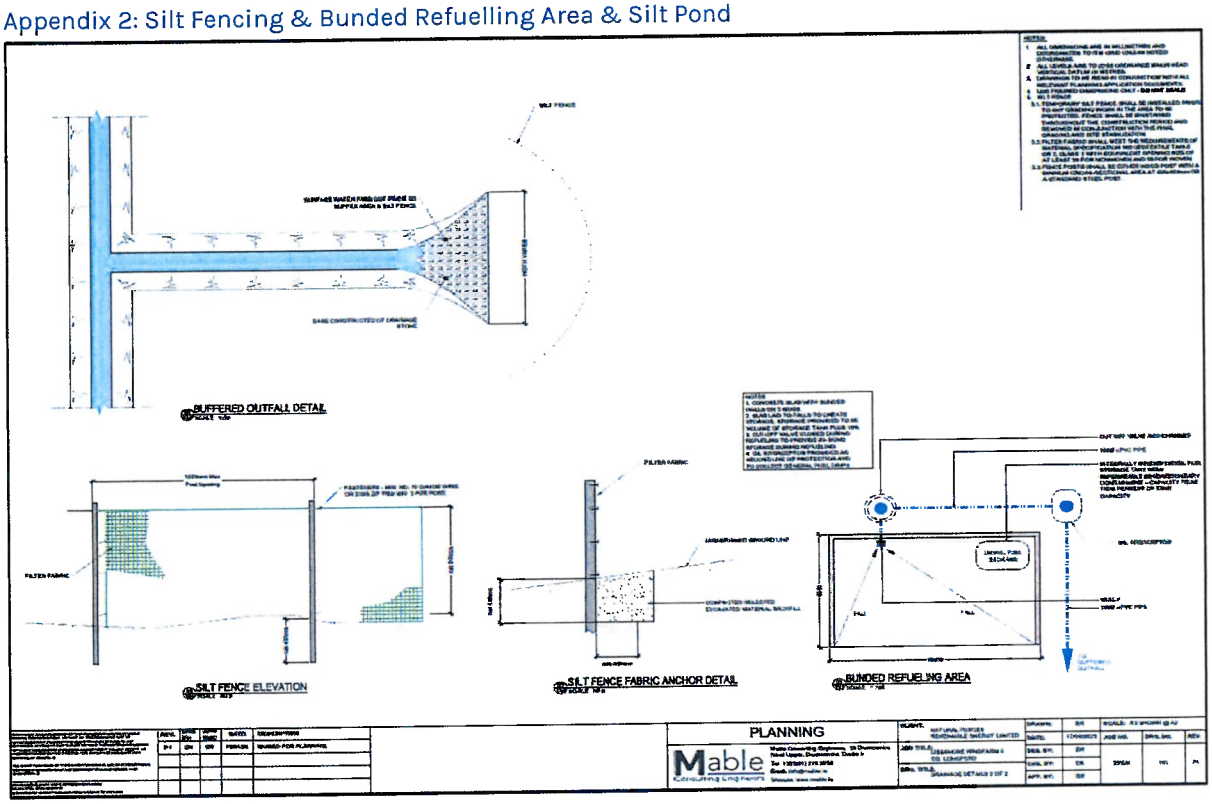
Environmental Inspection Checklist
Date: _____
Person: _____

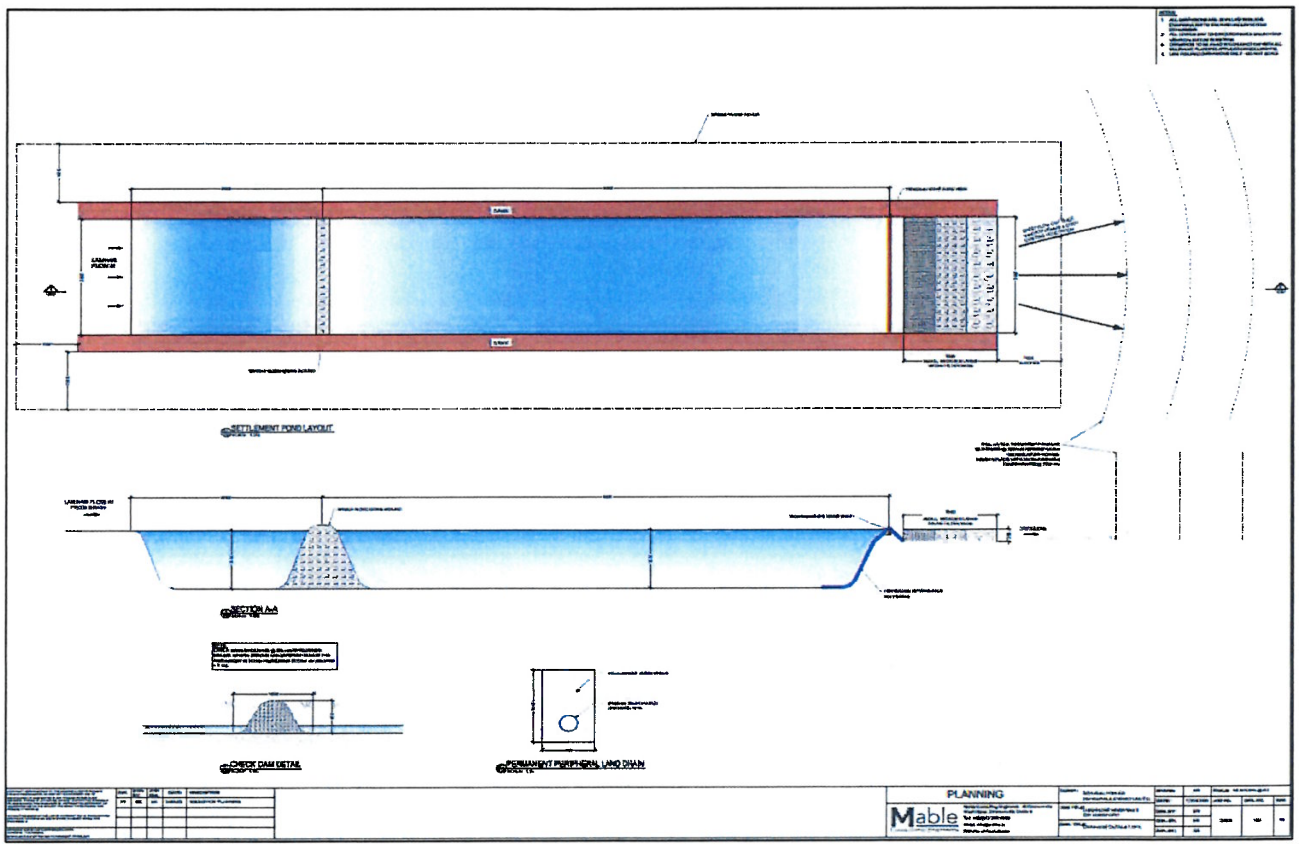
Weather condition (precipitation, sun, wind- speed and direction)

Environmental Inspection Checklist	Comments	Corrective Actions Needed (Y/N)
GENERAL		
Site clean and tidy – no litter, good housekeeping?		
Are there any leaks or mechanical issues with plant and equipment on-site?		
Do any corrective action records remain open?		
DUST EMISSIONS		
Are site activities sprayed to minimise dust generation?		
Are dusty sections of the site sprayed with water?		
Are speed control measures being complied with		
WATER ENVIRONMENT		
Are daily and weekly inspections undertaken on any sediment control devices		
Are daily and weekly inspections undertaken on any watercourses receiving flows from the proposed site.		
Is wastewater regularly removed off-site		
Has Water Quality sampling taken place		
Is the quality of discharge from the site		

Environmental Inspection Checklist	Comments	Corrective Actions Needed (Y/N)
drainage network checked weekly and after a heavy rainfall.		
Is water recycled where possible for dust suppression		
NOISE		
Is idle equipment turned off?		
Any noise mitigation measures adopted?		
WASTE MANAGEMENT		
Are wastes regularly removed off-site for recycling/ appropriate disposal?		
Are all wastes collected and disposed of by licensed contractors		
Are waste containers appropriately & clearly labelled?		

Appendix 2: Silt Fencing & Bunded Refuelling Area & Silt Pond




SETTLEMENT POND LAYOUT
SECTION AA
CHECK DAM DETAIL
PERMANENT PERIPHERAL LAND DRAIN
PLANNING
Mable

Natural Forces

Appendix C – AA Screening

Appropriate Assessment Screening Report
for
Single Wind Turbine
at
Lissanore, Co. Longford

February 2022

Final

Doc. Ref: 2068/6/A

EirEco
Environmental Consultants

Carron
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1.0 INTRODUCTION

1.1 Overview

This report, prepared by Paul Murphy of EirEco Environmental Consultants on behalf of Natural Forces in respect of the proposed development of a single 4.2MW Enercon E138 wind turbine with hub height 81m in Lissanore, Edgeworthstown, Co. Longford. The objective is to determine the potential effects, if any, on the Natura 2000 network as a result of proposed development.

There are ten European designated conservation areas within a 15km radius of the development. The nearest designated site is Ardgullion Bog SAC which is 2.8km to the northeast of the proposed turbine location, while the next designated site is Glen Lough SPA which is located 5.4km to the south of the proposed turbine. This report presents a Stage 1 Screening which assesses whether the proposed project would be likely to give rise to a significant impact on any designated sites within the Natura 2000 network.

1.2 Guidance

Article 6(3) of the Habitats Directive states '*any plan or project not directly connected with or necessary to the management of the (*Natura 2000*) site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives.*

This Screening Report has been prepared having regard to the following guidance documents:

- European Commission (2000) *Managing Natura 2000 sites. The provisions of Article 6 of the 'Habitats Directive' 92/43/EEC.* Office for Official Publications of the European Communities, Luxembourg.
- European Commission (2001) *Assessment of plans and projects significantly affecting Natura 2000 sites. Methodological guidance on the provision of Article 6 (3) and (4) of the Habitats Directive 92/443/EEC.* Office for Official Publications of the European Communities, Luxembourg.
- Department of Environment Heritage and Local Government (DoEHLG) (2008) *Circular Letter SEA 1/08 & NPWS 1/08 Appropriate Assessment of Land Use Plans.*
- Department of Environment, Heritage and Local Government (DoEHLG) (2010) *Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities.*
- Scottish Natural Heritage (2012) *Habitats Regulations Appraisal of Plans: Guidance for Plan-Making Bodies in Scotland. Version 2.0. August 2012.*
- Scottish Natural Heritage (2012) *Habitats Regulations Appraisal (HRA) Advice Sheet: Screening general policies and applying simple mitigation measures.*

1.3 Report Format

This assessment is laid out as follows:

- Description of the proposed development and existing environment;
- Natura 2000 Sites and Conservation Objectives;
- Stage 1 Screening;
- Conclusion and final determination.

1.4 Approach

In accordance with guidance above the following approach has been undertaken with regard to this assessment:

The project is being assessed to determine:

- Whether aspects of the project have the potential to impact on the Natura 2000 network.
- Whether impacts would have both a spatial and temporal element, and can be described as 'the change of an environmental parameter, over a specified period and within a defined area'.
- Whether impacts could be considered as direct (primary) or indirect (secondary). Whether impacts have the potential to cause 'significant effects' on the Natura 2000 network.

A Source-Pathway-Receptor (SPR) model has been adopted to determine the potential of significant effect. In other words, the potential for a significant effect is dependent on:

- The 'Source' of potential impact (e.g. habitat removal, sediment run-off, vehicular emissions).

- The nature and magnitude of impact, taking into account the effectiveness of design measures at source (e.g. sediment traps), and any spatial or temporal effects;
- The existence of a 'Pathway' or vector between a source and receptor (e.g. Air, surface water, groundwater);
- Presence of a susceptible 'Receptor' where a pathway exists. Specifically, these are the qualifying species and habitats for which there are conservation objectives associated with a Natura 2000 sites' structure and function, with the potential to be adversely affected by an individual impact or a combination of impacts. The significance of a significant effect is assessed both alone and in-combination with potential effects resulting from other plans or projects.

The likely zone of impact of the project is the geographic extent over which significant ecological effects are likely to occur. In accordance with the NPWS guidance *(Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities,* 2010) the zone of impact is established on a case-by-case basis with reference to the following key variables:

- The nature, size and location of the project;
- The sensitivities of the ecological receptors;
- The potential for cumulative effects.

1.5 Methodology

The site was surveyed on the 28th October 2021. The survey entailed mapping of habitats at and in the vicinity of the proposed turbine location, access road and all associated infrastructure. While the survey was undertaken outside of the growing season, it was possible to accurately classify habitats which are presented in this report following the Heritage Council Classification system (Fossitt, 2000). Records of rare or protected species of flora from the study area were determined from existing database including the National Biodiversity Data Centre (NBDC), the National Parks and Wildlife Service (NPWS) and the Botanical Society of Britain and Ireland (BSBI).

Evidence of and the suitability for protected species of fauna was assessed based on a combination of field signs, the nature of the habitats present and a review of databases including that of the NBDC, NPWS, BirdWatch Ireland (BWI) and Bat Conservation Ireland (BCI).

2.0 Description of Proposed Development & Existing Environment

2.1 Description of Proposed Development

The proposed development consists of the construction of a single 4.2MW wind turbine with associated access track, hard stand and sub-station grid connection at Lissanore, Edgeworthstown, Co. Longford (see location in Figure 1). The proposed site layout shown in Figure 2 also defines the ownership boundary (blue line) and site works boundary (red line).

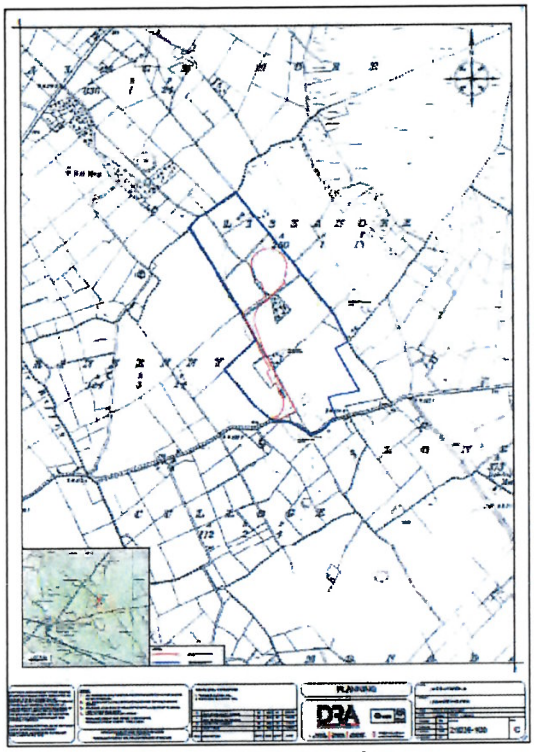

Figure 1. Site location.
(Source: Natural Forces)

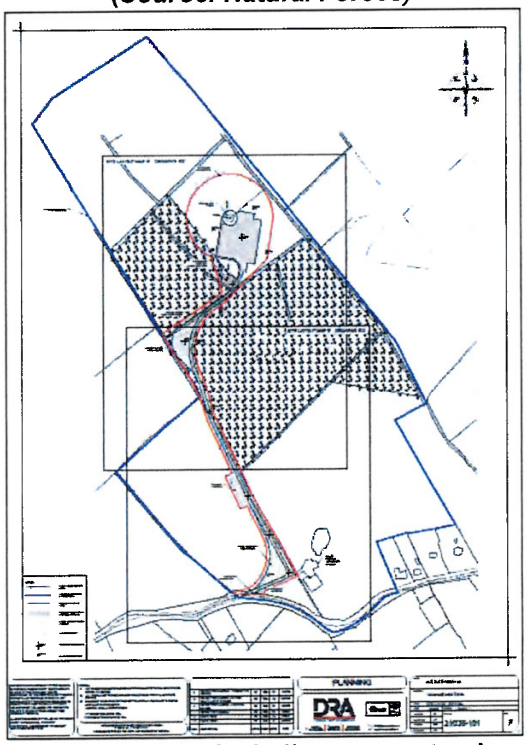

Figure 2. Proposed site layout including access track and hard stand.
(*Source: Natural Forces*)

In relation to the grid connection for the proposed turbine, the Wind Energy Development Guidelines for Planning Authorities (2006) states:

"*It is not always possible due to reasons outside the applicants control to provide details of the grid connection and in these instances details of indicative and feasible options for grid connection lines and facilities should in general be adequate for a planning authority to consider a wind energy application as the precise capacity required for a connection will not be known until planning permission is obtained.*"

The point of connection to the national grid will ultimately be decided by EirGrid or ESB Networks as the independent electricity Transmission System Operator (TSO) and Distribution System Operators (DSO) with statutory competent responsibility. However, on the basis of detailed analysis including an assessment of the existing grid network and grid capacity, the following grid connection option as shown in Figure 3 has been identified which will consist of ~3.6km of underground cabling within the public route network and ~576m of overhead lines across private property with agreed upon terms.

Figure 3. Indicative Grid Connection route.

2.2 Description of Existing Environment

2.2.1 Habitats

The habitats at and in the vicinity of the proposed wind turbine location at Lissanore (see aerial image in Figure 4) consist of a low-lying field of rush-dominated grassland intermediate between humid acid grassland (GS3) and wet grassland (GS4). The vegetation is dominated by soft rush (*Juncus effusus*) and grasses including Yorkshire fog (*Holcus lanatus*) and creeping bent (*Agrostis stolonifera*), with abundant creeping buttercup (*Ranunculus repens*) and silverweed (*Potentilla anserina*) and occasional Yellow flag (*Iris pseudacorus*) (Figure 5).

Figure 4. Aerial image of habitats in the vicinity of the proposed turbine location. ***(Source: Bing)***

Figure 5. Location of proposed wind turbine.

There are blocks of immature conifer plantation (WD4) to the south and west of the turbine location, with some scrub woodland (WN/WS) along their margins dominated by willow (*Salix* spp.) with occasional Alder (*Alnus glutinosa*), gorse (*Ulex europaeus*), hawthorn and Briar (*Rubus fruticosus* aggr.). Lands to the east appear to have being recently drained with a view to further planting. A small stream (FW2) runs in a south-easterly direction along the east side of the field. This has been canalised and has a deep glide flow in the section adjacent to the field, though downstream adjacent to the forestry it develops some riffle habitat (Figure 6). A drainage ditch (FW4) also runs along the western boundary of the forestry though this has no perceptible flow.

Figure 6. Stream along eastern margin of turbine field.

The proposed access track from the R395 road follows an existing track leading to a farm yard which is flanked by a treeline (WL2) of Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*) and with two semi-mature Ash (*Fraxinus excelsior*) which are heavily ivy-clad (*Hedera helix*). A small pond (FL8) occurs to the north of the farmyard which has a stand of Japanese knotweed (*Fallopia japonica*) growing along its western side (Figure 7). Japanese knotweed is an invasive alien species listed under the Third Schedule of the EC Birds and Natural Habitats Regulations (SI No. 477 of 2011). The proposed track will however stay to the west of a hedgerow / treeline (WL11/2) running northwards from the farmyard within a field of improved agricultural grassland (GA1). The track will maintain a sufficient setback to avoid any ground works in the vicinity of the Knotweed (maintaining a minimum 10m).

Figure 7. Japanese Knotweed adjacent to pond.

The habitats at and in the vicinity of the proposed development site do not provide suitable habitat for any rare or threatened plant species listed in the Irish Red Data Book or the Flora Protection Order (2015), and there are no records of any protected plant species from the vicinity of the site.

2.2.2 *Fauna*

While the habitats in the general area are likely to support a range of small mammals including Irish hare (*Lepus timidus hibernicus*), badger (*Meles meles*), Irish stoat (*Mustela erminea hibernica*), hedgehog (*Erinaceous europaeus*) and fox (*Vulpes vulpes*), there was no evidence of any breeding or resting refugia in the location of the proposed turbine or within the vicinity of the site.

The drainage from the site is to the south with the stream to the east of the turbine location flowing into the River Riffey flows approx. 2km downstream. The Riffey joins the River Inny a further 7 km downstream. The stream in the vicinity of the proposed wind turbine may support Minnow, Stickleback and Eel, but appears unsuited for salmonids. In view of the limited fish populations, it is not likely to support regular occurrence of Otter (*Lutra lutra*) though periodic movement of animals may be expected. Otter are listed under Annex II of the EU Habitats Directive.

There are no potential bat roost sites in the immediate vicinity of the proposed turbine location. The short treeline to the west of the farmyard entrance off the R395 road, which includes two semi-mature ash with dense ivy cover, offers low potential roosting habitat for bats. A solitary mature Alder (*Alnus glutinosa*) occurs to the west of the conifer plantation north of where the access track will enter (Figure 8). This tree is partially hollow and offers moderate potential for roosting bats, but has been avoided in the layout of the access track. The trees along the hedgerow / treeline to the east of the access track are primarily young to semi-mature and do not contain cavities or features suitable for use by bats. Some foraging by bat species is expected to occur along the hedgerow / treeline network and in the fringes of the conifer plantation.

Figure 8. Solitary mature Alder tree with moderate potential as a bat roost.

The habitats at the site are likely to support a suite of typical breeding farmland bird species. The open grassland habitat at the proposed turbine location may support some ground nesting species such as Skylark and Meadow pipit and possibly Snipe. Both Meadow Pipit and Snipe are Red listed species of Conservation Concern (Gilbert et. al. 2021) while Skylark is Amber listed. The hedgerows and treelines are likely to support various warblers, tits, finches, thrushes, wood pigeon, etc.

The habitats at and in the vicinity of the site do not support any habitats suitable for significant aggregations of wintering birds. Small numbers of wintering Snipe are expected in the grassland, while the conifer planation's may support occasional Woodcock.

3.0 NATURA 2000 SITES AND CONSERVATION OBJECTIVES

3.1 Identifying the European Sites to be Considered in the Assessment

The DoEHLG Guidance (2010) highlights that the approach to screening should be dependent on the scale and likely effects of the plan or project. This guidance states that the assessment should include:

- Any Natura 2000 site within or adjacent to the plan or project area; and
- Any Natura 2000 site within the potential zone of impact of the plan or project. With regard to zone of impact, for plans the guidance references the UK Guidance (Scott Wilson et al 2006) which sets a limit of 15km.

Both the DoEHLG and the Scottish Natural Heritage Guidance also refer to the need to check sites which may be separated by greater distances if they are connected (for example hydrologically) or if the impact of the plan or project is such that it could impact these sites.

The Scottish Natural Heritage Guidance (2012) also highlights that identifying the Natura 2000 sites that should be considered in the assessment is not always a straightforward process. The guidance states that "*It is important to ensure all sites potentially affected are considered, but it is equally important to avoid excessive data gathering about sites that are not likely to be affected and to keep the assessment proportional to the likelihood of significant effects.*"

3.2 Natura 2000 Sites

The proposed wind turbine location is not within a designated conservation area. Figure 8 shows the European designated sites within a c15km zone around the proposed development. Table 1 lists the designated areas, the distance from the proposed wind turbine location and their qualifying interests (QI) / special conservation interests (SCI).

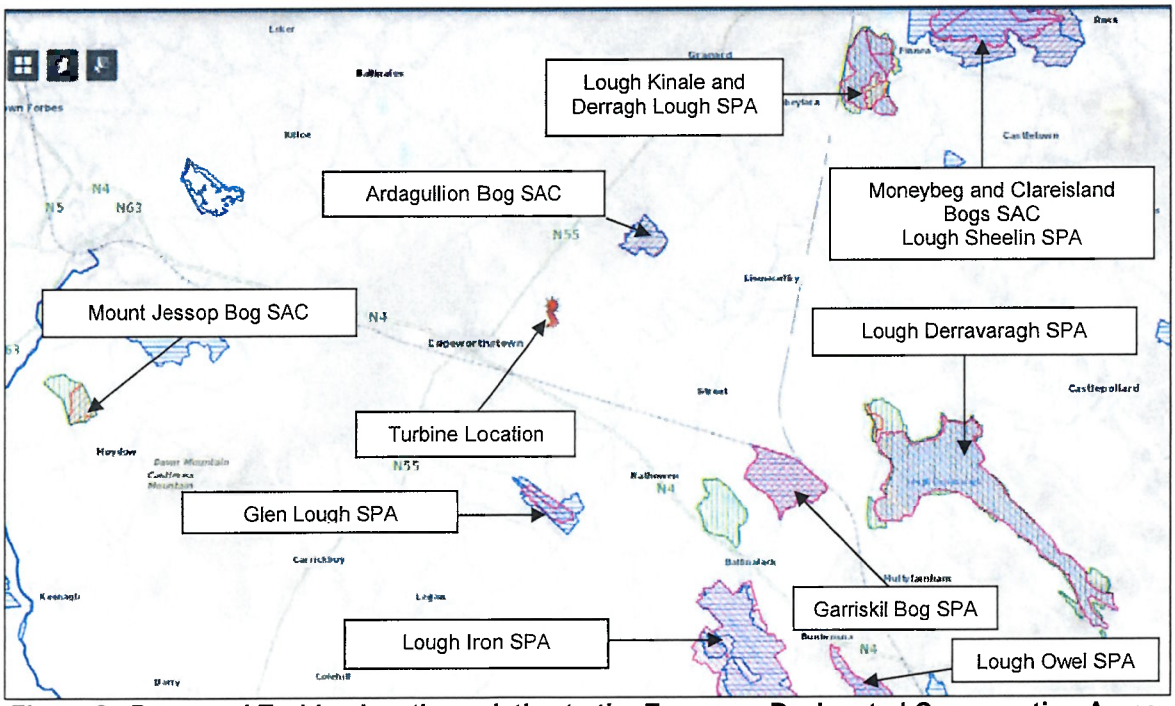

Figure 8. Proposed Turbine location relative to the European Designated Conservation Areas. (*Source: NPWS Mapviewer*)

There are ten European sites within a 15km radius of the proposed turbine location. The nearest designated site is Ardgullion Bog SAC which is 2.8km to the northeast of the proposed turbine location. Glen Lough SPA is located 5.4km to the south of the proposed turbine. There are eight other designated conservation areas within a 15km radius of the development.

Table 1. Designated European Sites within 15km of the proposed development.

Site Name	Status	Code	Distance	QI / SCI
Ardgullion Bog	SAC	002341	2.8km	• Active raised bogs [7110] • Degraded raised bogs still capable of natural regeneration [7120] • Depressions on peat substrates of the Rhynchosporion [7150]
Glen Lough	SPA	004045	5.4km	• Whooper Swan (Cygnus cygnus) [A038]
Garriskil Bog	SPA	004102	7.6km	• Greenland White-fronted Goose (Anser albifrons flavirostris) [A395]
Garriskil Bog	SAC	000679	7.6km	• Active raised bogs [7110] • Degraded raised bogs still capable of natural regeneration [7120] • Depressions on peat substrates of the Rhynchosporion [7150]
Lough Iron	SPA	004046	10.km	• Whooper Swan (Cygnus cygnus) [A038] • Wigeon (Anas penelope) [A050] • Teal (Anas crecca) [A052] • Shoveler (Anas clypeata) [A056] • Coot (Fulica atra) [A125] • Golden Plover (Pluvialis apricaria) [A140] • Greenland White-fronted Goose (Anser albifrons flavirostris) [A395] • Wetland and Waterbirds [A999]
Lough Derravaragh	SPA	004043	11.3km	• Whooper Swan (Cygnus cygnus) [A038] • Pochard (Aythya ferina) [A059] • Tufted Duck (Aythya fuligula) [A061] • Coot (Fulica atra) [A125] • Wetland and Waterbirds [A999]
Lough Kinale and Derragh Lough	SPA	004061	11.6km	• Pochard (Aythya ferina) [A059] • Tufted Duck (Aythya fuligula) [A061] • Wetland and Waterbirds [A999]
Mount Jessop Bog	SAC	002202	15.km	• Degraded raised bogs still capable of natural regeneration [7120] • Bog woodland [91D0]
Moneybeg & Clareisland Bog	SAC	002340	15.km	• Active raised bogs [7110] • Degraded raised bogs still capable of natural regeneration [7120] • Depressions on peat substrates of the Rhynchosporion [7150]
Lough Sheelin	SPA	004065	15.km	• Great Crested Grebe (Podiceps cristatus) [A005] • Pochard (Aythya ferina) [A059] • Tufted Duck (Aythya fuligula) [A061] • Goldeneye (Bucephala clangula) [A067] • Wetland and Waterbirds [A999]

3.3 Conservation Objectives and Favourable Conservation Status

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network. European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

3.4 Conservation Objectives

The primary conservation objectives developed for the various Qualifying Interests for SAC's and Special Conservation Interests for SPA's is to maintain or restore the favourable conservation status of the habitats and listed as qualifying interests for the SAC (NPWS, 2020).

The objectives define favourable conservation condition for a particular habitat or species) is achieved when:

- Its natural range, and area it covers within that range, are stable or increasing, and
- The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future; and
- The conservation status of its typical species is favourable.

4 STAGE 1 SCREENING

4.1 Consideration of Likely Significant Effect

The 'Waddenzee ruling' of the European Court of Justice ruled that a project should be subject to appropriate assessment "*if it cannot be excluded, on the basis of objective information, that it will have a significant effect on the site, either alone or in combination with other plans and projects.*" A likely effect is therefore one that cannot be ruled out on the basis of objective information. "*The precautionary approach is fundamental and in cases of uncertainty it should be assumed that effects are significant*" (DEHLG 2010).

4.2 Identification of Potential Impacts

In practice and as outlined in the EU document *'Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC'* and the national guidance document *'Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities'*, impacts that could potentially occur can be categorised under a number of headings as follows:

- *Impact on Annex I habitat;*
- *Loss / reduction of habitat area;*
- *Direct or indirect damage to the physical quality of the environment (e.g. water quality, hydrology and water flow alteration, soil compaction, etc.);*
- *Impact on Annex II species;*
- *Causing serious or ongoing disturbance to species or habitats for which the site is selected (e.g. noise, illumination, human activity);*
- *Causing direct or indirect damage to the size, characteristics or reproductive ability of populations of Natura 2000 site;*
- *Fragmentation of habitats or populations of species due to the location of development.*

The impact type which can occur is dependent on the attributes of the Qualifying Interests or Special Conservation Interests for which an SAC or SPA respectively is designated. For the purposes of this assessment and in view of the nature of the proposed development and the distance between the source (the development) and the receptor (the various designated sites), the potential impacts have been categorised as follows and are assessed as such in Section 4.3 below:

- *Direct and indirect loss of habitats;*
- *Direct or indirect damage to the physical quality of the environment (e.g. water quality, hydrology and water flow alteration, soil compaction, etc.);*
- *Fragmentation of habitats or populations of species due to the location of development.*

4.3 Assessment of Potential Impacts on Designated Areas

This section assesses the likelihood of potential impacts from the proposed works involving the construction and operation of a single 4.2MW wind turbine and associated works at Lissanore, Co. Longford on designated European sites within a 15km radius of the proposed development. The specific qualifying interests for the SAC or Special Conservation Interests for the SPA and the potential for them to be impacted by the proposed works are assessed in Table 2.

Table 2. Potential for impacts on Designated Sites from the proposed works.

Natura 2000 Site	Qualifying Interest / Special Conservation Interest	Potential Impacts	Screened In / Out
Ardgullion Bog SAC	• Active raised bogs [7110] • Degraded raised bogs still capable of natural regeneration [7120] • Depressions on peat substrates of the Rhynchosporion [7150]	There is no hydrological or other connectivity to the site.	Out
Glen Lough SPA	• Whooper Swan (Cygnus cygnus) [A038]	There is no hydrological or other connectivity to the site. There is no ex-situ habitat for Whooper Swan at the proposed development site.	Out
Garriskil Bog SPA	• Greenland White-fronted Goose (Anser albifrons flavirostris) [A395]	There is no hydrological or other connectivity to the site. There is no ex-situ habitat for Greenland white-fronted geese at the proposed development site.	Out
Garriskil Bog SAC	• Active raised bogs [7110] • Degraded raised bogs still capable of natural regeneration [7120] • Depressions on peat substrates of the Rhynchosporion [7150]	There is no hydrological or other connectivity to the site.	Out
Lough Iron SPA	• Whooper Swan (Cygnus cygnus) [A038] • Wigeon (Anas penelope) [A050] • Teal (Anas crecca) [A052] • Shoveler (Anas clypeata) [A056] • Coot (Fulica atra) [A125] • Golden Plover (Pluvialis apricaria) [A140] • Greenland White-fronted Goose (Anser albifrons flavirostris) [A395] • Wetland and Waterbirds [A999]	There is no hydrological or other connectivity to the site. There are no ex-situ habitats present used by SCI species.	Out
Lough Derravaragh SPA	• Whooper Swan (Cygnus cygnus) [A038] • Pochard (Aythya ferina) [A059] • Tufted Duck (Aythya fuligula) [A061] • Coot (Fulica atra) [A125] • Wetland and Waterbirds [A999]	There is no hydrological or other connectivity to the site. There are no ex-situ habitats present used by SCI species.	Out
Lough Kinale and Derragh Lough SPA	• Pochard (Aythya ferina) [A059] • Tufted Duck (Aythya fuligula) [A061] • Wetland and Waterbirds [A999]	There is no hydrological or other connectivity to the site. There are no ex-situ habitats present used by SCI species.	Out
Mount Jessop Bog SAC	• Degraded raised bogs still capable of natural regeneration [7120] • Bog woodland [91D0]	There is no hydrological or other connectivity to the site.	Out
Moneybeg & Clareisland Bog SAC	• Active raised bogs [7110] • Degraded raised bogs still capable of natural regeneration [7120] • Depressions on peat substrates of the Rhynchosporion [7150]	There is no hydrological or other connectivity to the site.	Out
Lough Sheelin SPA	• Great Crested Grebe (Podiceps cristatus) [A005] • Pochard (Aythya ferina) [A059] • Tufted Duck (Aythya fuligula) [A061] • Goldeneye (Bucephala clangula) [A067] • Wetland and Waterbirds [A999]	There is no hydrological or other connectivity to the site. There are no ex-situ habitats present used by SCI species.	Out

4.3.1 *Direct and indirect loss of habitats*

The proposed development site is not within a designated conservation area. The nearest European site is Ardgullion Bog SAC which is 2.8km to the northeast of the proposed turbine location while Glen Lough SPA is located 5.4km to the south of the proposed turbine. There are eight other designated conservation areas within a 15km radius of the development. There is no hydrological or other connectivity between the proposed development site and any of the European Designated areas. The habitats within the proposed development site consist of wet grassland in the vicinity of the proposed turbine location, while the access track will cross a section of hedgerow/treeline, through improved agricultural grassland and a small area of coniferous plantation, none of which are listed under Annex I of the EU Habitats Directive. The habitats in the vicinity of the proposed development are not used for foraging or other use by any special conservation bird species. The proposed grid route is entirely on the existing road network and will have no impacts on any semi-natural habitats with any designated European sites.

In summary, the proposed development is considered not to present any risk of giving rise to direct or indirect loss of any Annex I listed habitats or any habitats suitable for use by Annex II listed species under the Habitats Directive or Annex I listed birds under the Birds Directive.

4.3.2 *Direct or indirect damage to the physical quality of the environment (e.g. water quality, hydrology and water flow alteration, soil compaction, etc.)*

The stream running to the east of the proposed turbine location is located approx. 50m at its closest to the proposed turbine and associated hard stand area. There is considered no significant risk of any silt or other pollutants entering the waterbody during the construction phase in view of the separation between the works area and the stream, and as the land in this location is very flat. Nonetheless, as best practice, the site construction area will be demarcated at the outset of works, a silt-fence erected along the eastern side of the site and the existing vegetation between the works area and stream retained intact to act as a buffer. While the stream flows into the River Riffey (a tributary of the River Inny) which has hydrological connectivity to a number of designated European designated sites in its downstream reaches, there is considered to be no potential for impacts on water quality arising from the proposed development in view of the distance from the works to the stream, and the distance between the source and any receptor. The nearest designated site is Garriskil Bog SAC which is >10km downstream which the Riffey flows adjacent to immediately prior to is confluence with the River Inny. There is no potential for interference with hydrology or flows in any designated site. In view of the nature of the habitats at the proposed development site, the distance between the proposed development site and all European sites and the lack of pathways of connectivity, there is considered to be no risk of giving rise to any change or damage to the physical quality of the environment in any designated conservation area.

4.3.3 *Fragmentation of habitats or populations of species due to the location of development*

In view of the nature of the habitats at and in the vicinity of the proposed development site, there is no potential for occurrence for any qualifying interest species or special conservation interest species. The flat topography and open agricultural nature of the surrounding landscape would preclude any obvious flight paths for SCI bird species transiting between either designated areas or potentially suitable ex-situ foraging or roosting habitats. There is therefore considered no risk of the proposed development giving rise to any fragmentation effects on any species within European designated areas.

4.4 Screening Conclusion

The first stage of the Appropriate Assessment process, screening, has been completed in compliance with the relevant European Commission and national guidelines. The DEHLG (2010) guidance document states that screening can result in one of three possible conclusions or outcomes:

- AA is not required – the plan or project is directly connected to the management of the site;
- No potential for significant effects/AA is not required – screening concludes that there is no potential for significant effects; or
- Significant effects are certain, likely or uncertain – the plan or project must proceed to Stage 2 Appropriate Assessment.

The Screening Assessment undertaken for the proposed 4.2MW wind turbine at Lissanore, Co. Longford in Section 4.3 above has determined that the proposed development presents no risk of giving rise to any significant or other impacts within any European Designated Conservation Areas.

On the basis of this Screening Assessment there is considered to be no requirement to proceed to Stage 2 Appropriate Assessment.

References

Department of Environment, Heritage and Local Government (2010). *Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities.*

European Commission (2002). *Assessment of plans and projects significantly affecting Natura 2000 site – Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC.* Impact Assessments Unit, School of Planning, Oxford Brooks University.

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Natural Forces

Appendix D – Grid Construction Methodology

Lissanore Wind Turbine

Grid Construction Methodology Report – 20 kV Underground Cable and Overhead lines

Date 02/04/2025

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Document History

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1.0 Introduction

Natural Forces Construction Ireland Limited (NFC) on the behalf of Natural Forces Renewable Energy limited (NFRE) have prepared this construction methodology report in relation to the 20kV grid connection route which will connect the Lissanore wind turbine, located near Edgeworthstown County Longford with the existing ESB substation on Bracklin road.

The purpose of this document is to outline and explain the construction techniques and methodologies which will be implemented during construction of the proposed Lissanore development and its proposed 20kv grid connection, from the site to the existing Bracklin road ESB Substation in Edgeworthstown.

NFC have reviewed the existing ESB Networks grid connection agreement and the proposed routing of the grid connection, which consist of 3.636km of underground cabling (UGC) and 0.577km of overhead lines (OHL).

2.0 Programme / Works Schedule

It is estimated that the construction of the electrical grid connection will take approximately 2-3 weeks to complete. Where possible, construction works should take place during the summer months when the land will be drier and there is less likelihood of prolonged heavy rainfall.

3.0 Construction Methodology

3.1 UGC Construction Methodology

As per the ESB Networks UGC specifications (SPEC-231213-AXUU) the works will require a single trench for the entire length of the cable route, located within the centre of the public road. The trench will be typically excavated 450mm wide by 1000mm deep and contain 1 No. 125mm diameter HDPE duct to accommodate power cables as detailed below. Figure 01 below illustration a cross section of the standard ESB Networks design detail.

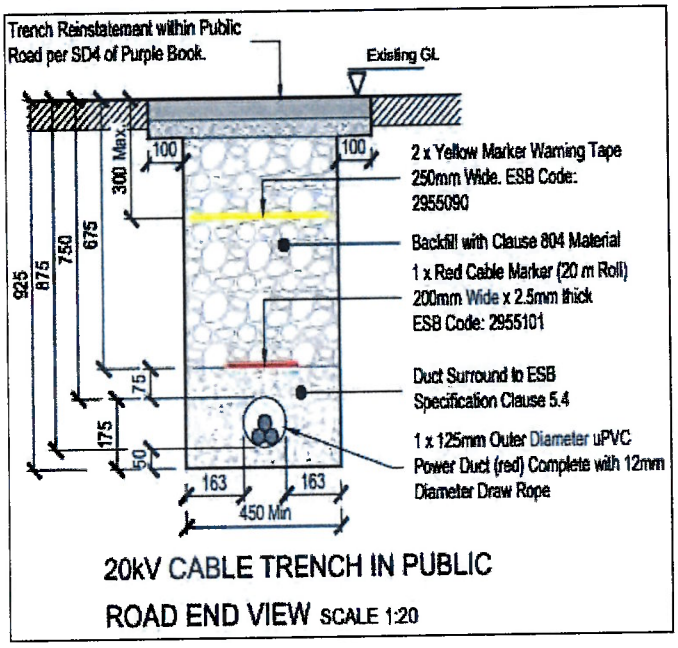

Figure 01 - Standard 20kv Trench Detail in a Public Road (SPEC-231213-AXUU)

Similarly to Figure 01 above, the below Figure 02 is an illustration a cross section of the standard ESB Networks design detail within a private road network. The subtle difference relates to the surface reinstatement, as this is to match the existing road running surface, and is locational specific.

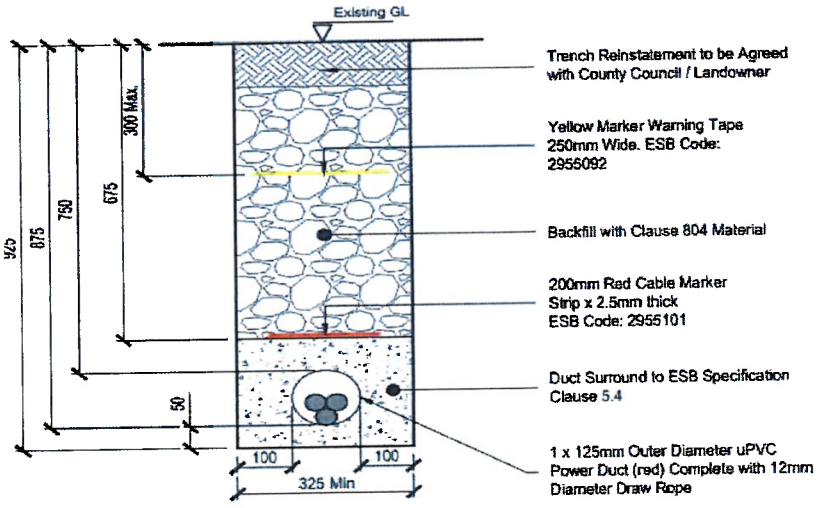

Figure 02 - Standard 20kv Trench Detail in a Private Road (SPEC-231213-AXUU)

As each project has specific requirements, i.e. if the project is located in bogland areas etc. the standard detail may change along the route in order to accommodate such items are existing services, watercourse crossings, bridge, crossing etc. At each of these locations, a specific design detail will be provided to ESB Networks for each situation, prior to works commencing to ensure that all ESB Networks design requirements are met.

The underground cable ducts will be installed in the trench and reinstated in accordance with the requirement and specifications of the ESB i.e. SPEC-231213-AXUU. At the point where the underground cable duct installation works are completed, the electrical cables are pulled through the installed duct, via a pre-installed draw wire.

3.1.1 Excavation Methodology

The most onerous aspect of the underground cable installation works is deemed to be the excavation works. As the per the ESB Networks specification, the works contractor (NFC) will be required to prepare a specific Method Statement (MS) prior to carrying any works. This MS will be reviewed and agreed with the assigned ESB Networks project team, including their environmental specialists.

Similarly, the contractor is required to outline the construction methodology, and have specific reference to the incorporation of all mitigation and control measures, which were included within the relevant planning conditions and the Construction Environmental Management Plan (CEMP) for the project.

The underground component of the proposed Lissanore grid connection route is contained entirely within the curtilage of the public road network. Prior to the commencement of the works, the Longford Roads Engineer will be consulted in relation to a specific requirement around public roads traffic management.

The contactor will apply to Longford County Council for a road opening licensing in order to facilitate the works. The Engineer will liaise and agree with the contractor to set up and to maintain a lane/road closures, where applicable, for the duration of the works in accordance with the relevant road opening licencing conditions.

During the road opening licence application, the contractor will identify any existing underground services along the proposed routing prior to the commencement of construction works.

At watercourse crossings, the contractor will be required to adhere to and implement the environmental control measures outlined within the planning conditions and the CEMP prior any works commencing. Where the cable route intersects with culverts, the culvert will remain in place (where possible) and the ducting will be installed either above or below the culvert to provide minimum separation distances in accordance with ESB Networks specifications.

All excavated material shall be removed from the works area on an on-going basis. As the trenches are excavated, the spoil material is loaded to an adjacent truck and off site and disposed of at a fully authorised soil recovery site. This means that there is no build up or storage of material in or around the work area.

No more than a 100m section of trench will be opened at any one-time, further excavation will only commence once most of the reinstatement has been completed on the first section. The sections are then immediately back filled by clean material sourced from licenced facility in line with the ESB Networks specifications. Figure 03 below illustrates a section of excavated 20kV trenching in a public road, with the duct laid and ready for backfilling.

Figure 03 - Photographic Example 20Kv Duct Laying in a public road, ready for back filling

3.1.2 Duct Laying Methodology

The 20kV UGC duct laying is to be carried out in line with the detailed ESB Networks installation methodologies. The specific methodologies follow the below sequencing:

1. Grade, smooth and trim trench floor when the required depth and width have been obtained
2. Place a layer of bedding material in accordance with the specification and compact it so that the compacted thickness is as per the drawings
3. Lay the single duct in the centre of the trench, use spacers / templates to maintain the correct position, place a bung on each end of the duct run to prevent the ingress of dirt or water (Figure 03)
4. Carefully surround and cover ducts with CBGM B / ESB Sand in accordance with the design drawings and specifications and thoroughly compact without damaging ducts
5. Place cable protection strips on compacted backfill directly over the ducts
6. Place and thoroughly compact Clause 804 backfill, or soil backfill as specified and place warning tape at the depth shown on the drawings (Figure 04)
7. For public roads carry out immediate permanent reinstatement in accordance with the specification and to the approval of the local authority and/or private landowners
8. In open ground backfill with suitable excavated material leaving at least 100 mm for topsoil at the top of the trench to allow for grass seeding
9. Clean and test the ducts in accordance with the specification by pulling through a brush and mandrel. Install 12 mm polypropylene draw rope in each duct and seal all ducts using duct end seals.

Figure 04 - Typical 20Kv Trench Profile & Back fill

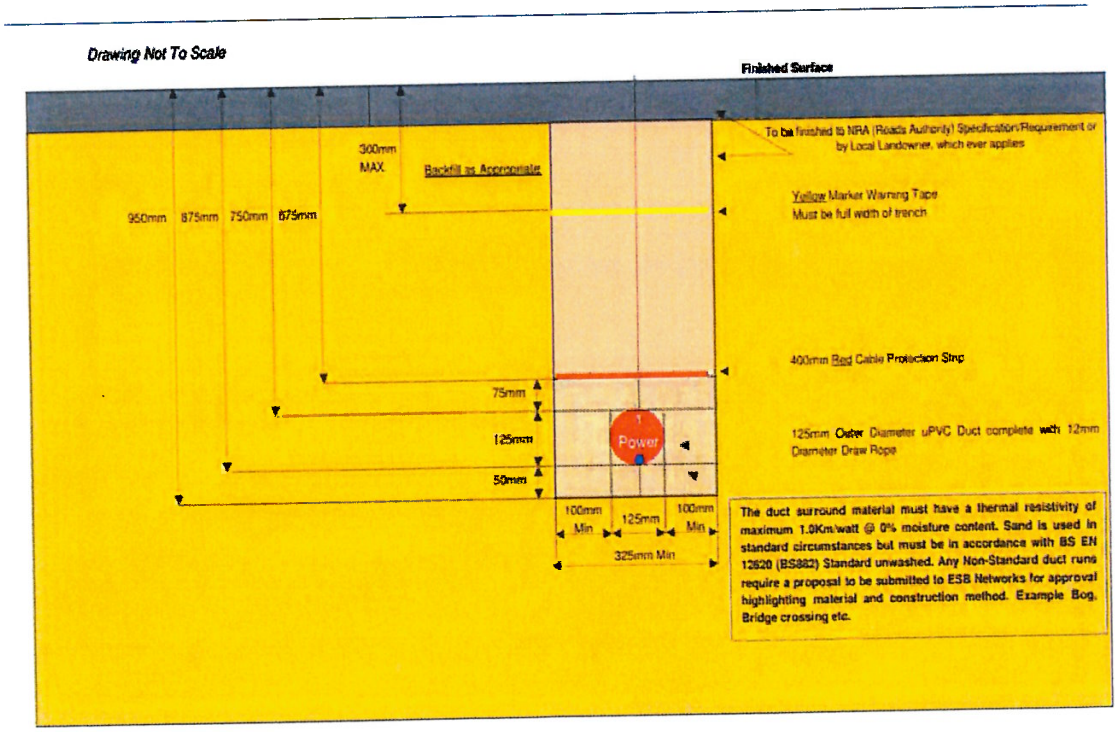

Figure 05 – Drawings for 10/20 kV ducting specifications

3.2 OHL Construction Methodology

The Overhead Line (OHL) sections of the grid connection route is planned to traverse c 577 metres of private lands with agreed upon terms. The route will necessitate the placement of c. 7 wooden pole-sets each ranging from 12 to 16 meters in height.

3.2.1 Installation Process:

The installation works for both poles and lines will adhere to standard procedures for a 20kV ESB overhead line.

3.2.2 Pole Erection:

Poles will be transported from adjacent roadways to designated erection sites. Using a wheeled or tracked excavator equipped with a pole grab attachment, poles will be placed into excavated holes. Manual backfilling and tamping of the pole hole will be carried out to a minimum depth of 1.0m, ensuring adequate support for the pole.

3.2.3 Stay Wires:

At locations where the line changes direction, drops from OHL to UGC and at pole set locations with unfavourable ground conditions, stay wires will be necessary. Stay wires will be supported by stay blocks made of wooden sleepers, buried underground for stability.

3.2.4 Conductor Stringing:

Conductor stringing involves the manual pulling of polypropylene rope along the route. The conductors are attached to the rope, and a stringing machine is employed to pull them into the desired position.

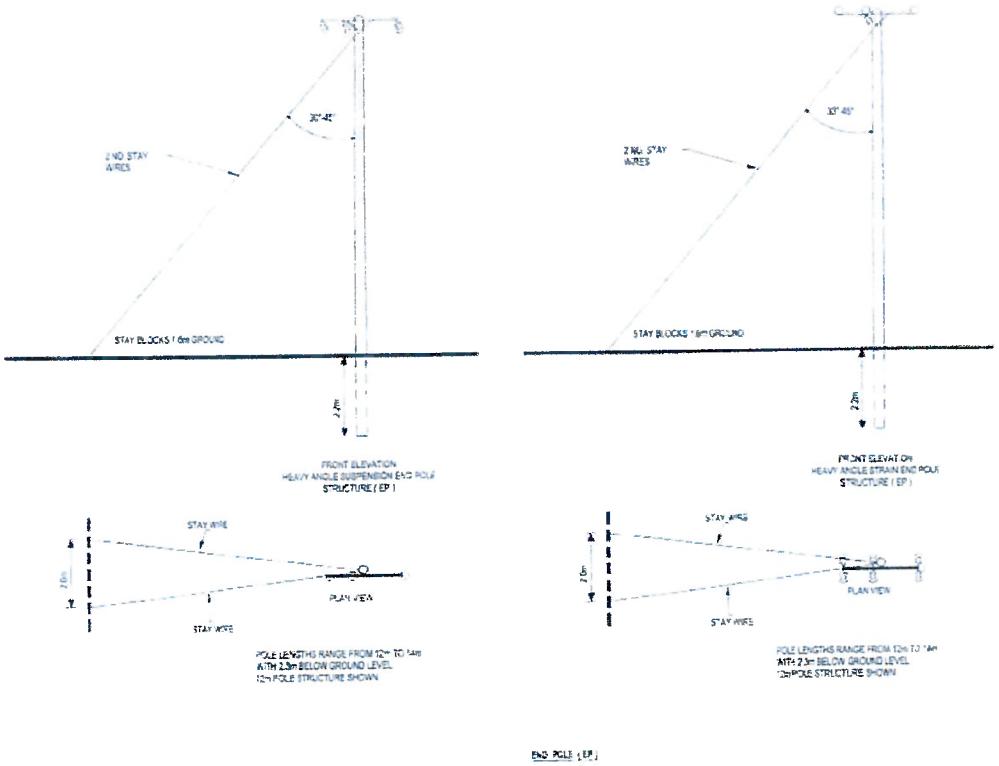

Figure 06 - Standard 20kV End Pole/Pole with Stays

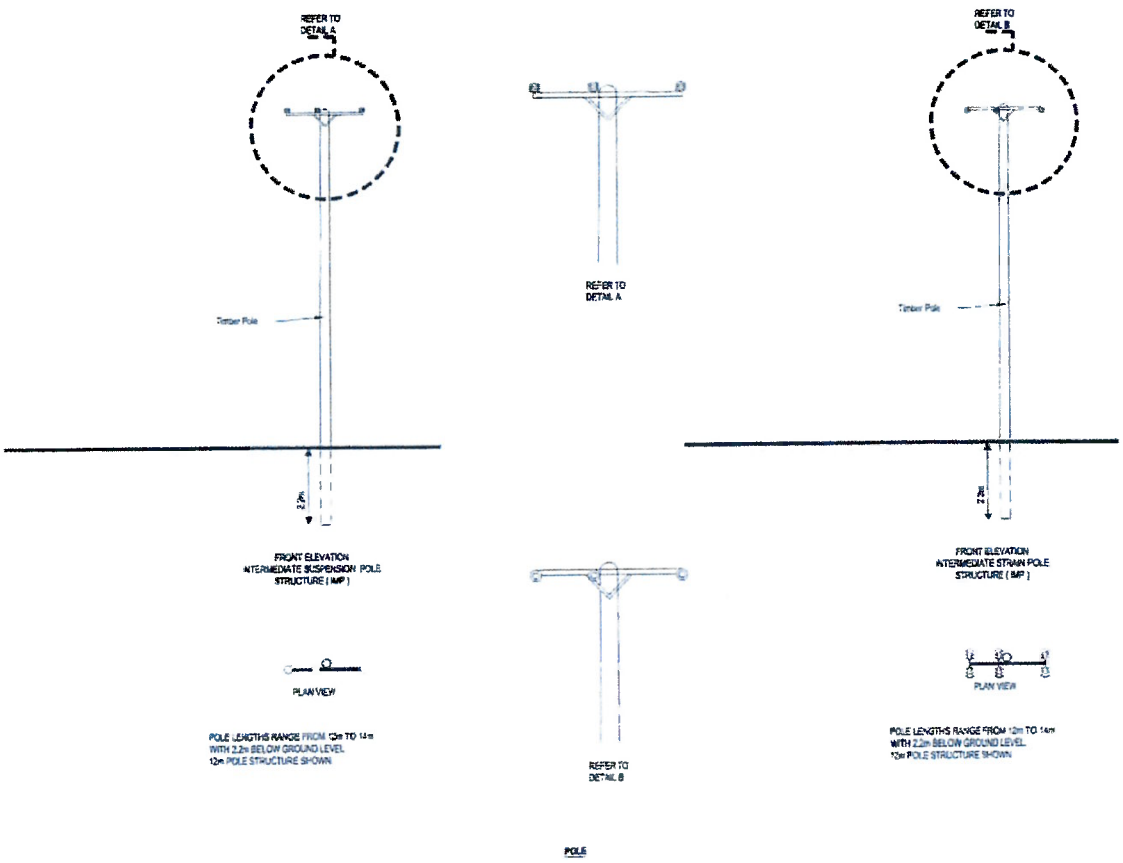

Figure 07 - Standard 20kV Intermediary pole design

4.0 Joint Bays

Where Joint Bays (JBs) are to be installed, they are to be spaced approximately every 500 along the grid route to facilitate the jointing of cables. Joint Bays are typically pre-cast concrete structures installed below finished ground level (Figure 08) for installation the following methodology would apply:

1. The contractor will excavate a pit for each joint bay at an agreed location with the Engineer
2. All excavated material removed from the location to an approved facility
3. Grade and smooth floor; then lay sand on a layer of well compacted Clause 804 granular material
4. Place pre-cast concrete sections on sand bedding and backfill the perimeter with well compacted Clause 804 granular material
5. Where joint bays are located under the road surface the joint bay will be backfilled with compacted layers of Clause 804 and the road surface temporarily reinstated as specified by the Engineer
6. Prior to cabling to facilitate cable installation and jointing each pit will be re excavated once traffic management is in place and the works area secured
7. Following the completion of jointing works each joint bay is backfilled with CBGM B which is compacted in layers, cable protection strip and warning tape is installed at the correct depth below the finished surface level
8. Permanent reinstatement is carried out above the joint bay in accordance with the landowner/Longford County Council specifications

Figure 08 - Typical example of a 20kv Joint Bay in a public road.

1.3: Joint Bay Layout 10/20kV Ducting – One Power Duct

Drawing Not To Scale

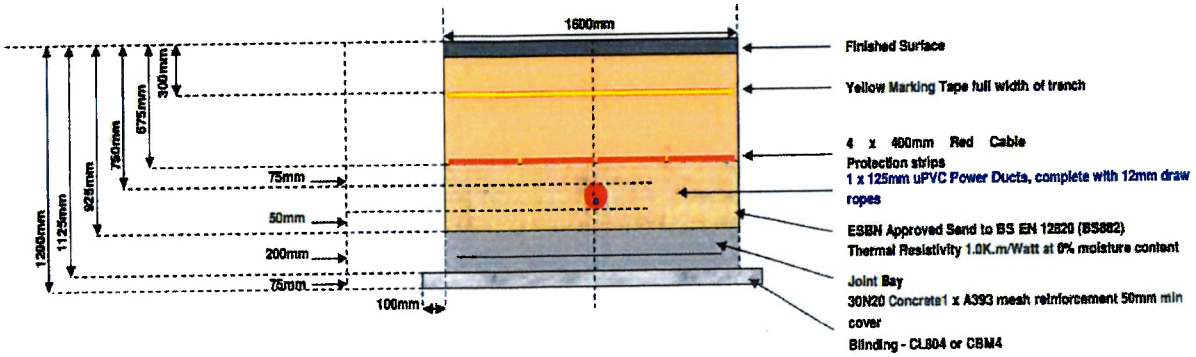

Figure 09 – Joint bay specifications for 20kV ducting.

5.0 Bridge Crossings

The proposed UGC routing will cross the river 'Riffey' through a culvert bridge. Similar to the other forms of installation designs, bridge crossings are commonly used when installing underground cables. Given the nature of typical bridge designs, the depth of the running surface is generally restricted, therefore requires the standard road designs to be altered when approaching a bridge or similar type structure. The bridge has been review and the depth level of the running subsurface is sufficient to utilise the standard ESB Network bridge crossing designs.

Figure 10 & Figure 11 below illustrates a typical bridge crossing design, where the depth of the cable duct is reduced in line with available depth profile of the structure.

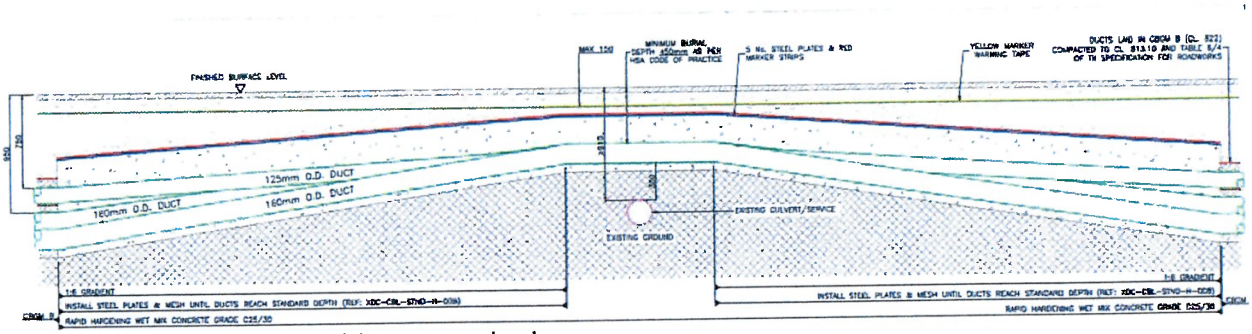

Figure 10 – Typical ESB bridge cross design

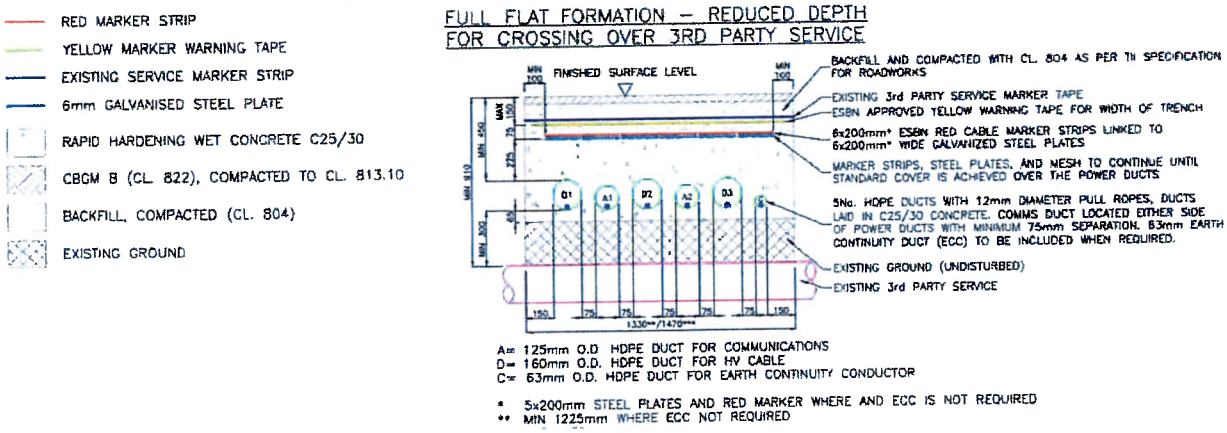

Figure 11 – Typical ESB bridge cross design section

6.0 Design measures

The following design measures will be implemented during the electrical connection works:

- A working wayleave of 4 metres will be maintained along the existing roadway.
- No in stream works will be permitted.
- Trenching works shall not take place at periods of high rainfall, and shall be scaled back or suspended if heavy rain is forecast.

- A floating hydrocarbon boom and spill kit will be employed.
- Prior to works commencing the access route will be walked. Where soft exposed ground is present and likely to be vulnerable to track rutting, bog mats will be used.
- Plant will travel slowly across bare ground at a maximum of 5km/hr. If wheel rutting is observed then bog mats or rolling road will be employed.
- Silt fencing will be erected along the river's banks, the aim of seeing that no sediment is released into the river.
- Silt Traps will be installed in the arterial drain and will remain in place until the project is complete.
- Any excess construction material shall be removed from the works areas and disposed of in a fully licensed landfill. No re-fuelling of machinery will take place on site or within 50 metres of any watercourse.
- Machinery will be checked and cleaned before going on site to ensure there is no introduction of alien invasive plant species (e.g. Japanese knotweed) to the site.
- All construction workers will be given a tool box talk addressing the environmental topics prior to commencement of construction.
- Where plant is required to track across vegetated areas a 4 metre wide access corridor will be marked with timber posts and all plant and machinery will remain within this to reduce impacts on vegetation and habitats.
- Locally excavated material will be reinstated immediately following construction to allow recovery of any potential groundwater level change as quickly as possible.
- Temporary Stockpiles will be restricted to less than 2m in height. Stockpiles will be located as far as possible from drainage ditches, mature trees, hedgerows, surface water drains and water courses.
- Re-fuelling of construction equipment and the addition of hydraulic oil or lubricants to vehicles/ equipment will take place in designated bunded areas within the main construction compound located on the wind farm site where possible, and not on-site.
- 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 in order to contain any spillages that may occur.

7.0 Monitoring

All works undertaken including preparatory works will be carried out under supervision of a suitably qualified Ecologist.

ESB Networks will monitor the construction phase of the project and ensure works are being carried out in accordance with the agreed method statement, safety procedures, pollution control etc.

All pole locations will be checked for underground services such as cables, water pipes etc. and will be set out and pegged prior to excavation proceeding.

Once all works are complete, the access route and the construction areas shall be restored to their original condition or better. Generally this work is carried out by a specialised agricultural contractor and is carried in accordance with the relevant IFA agreements and in consultation with the individual landowner.

8.0 Conclusion

NFC have successfully completed thirty plus 20kV grid connections to date. Many of which have included bridge crossings, traversed SACs and various other sensitive locations. As there are clear and defined specifications set out by ESB Networks, with both the ESB Network and the Longford County Council Road Engineer required to review and sign off upon the design and implementation of the works, NFC are confident that the works can be completed without any adverse impact on the local environment.

Comhairle Chontae An Longfoirt
Áras an Chontae
Sráid Mhór na hAbhann
Longfort N39 NH56

Longford County Council
Áras an Chontae
Great Water Street
Longford N39 NH56

T 043 334 33 41

E roadscustomerservice@longfordcoco.ie

Your ref:
Our Ref: NO'D/lm
18 March 2025

By email only: barras4@live.ie
Natural Forces
27 Mount Street Lower
Dublin 2
D02 FC43

Re: Devine Crescent, Edgeworthstown, Co. Longford

A Chara,

I wish to acknowledge with thanks receipt of your letter dated the 4 March 2025 in relation to roads at Devine Crescent, Edgeworthstown, Co. Longford, and your payment in the sum of €125.00.

The highlighted roads L-10195-0, L-10195-1, L-10195-2 at Devine Crescent, Edgeworthstown, Co. Longford, has been taken charge by the Longford County Council (LCC).

For queries relating to Uisce Éireann services please email TICqueries@water.ie.

Your sincerely,

Niall O' Dowd

Niall O'Dowd
Technician
Infrastructural Services

Mil scríobhann tú chugainn as Gaeilge, freagróimid tú i nGaeilge.

Comhairle Chontae An Longfoirt
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T 043 334 33 41

E roadscustomerservice@longfordcoco.ie

Your ref:
Our Ref: NO'D/lm
26 March 2025

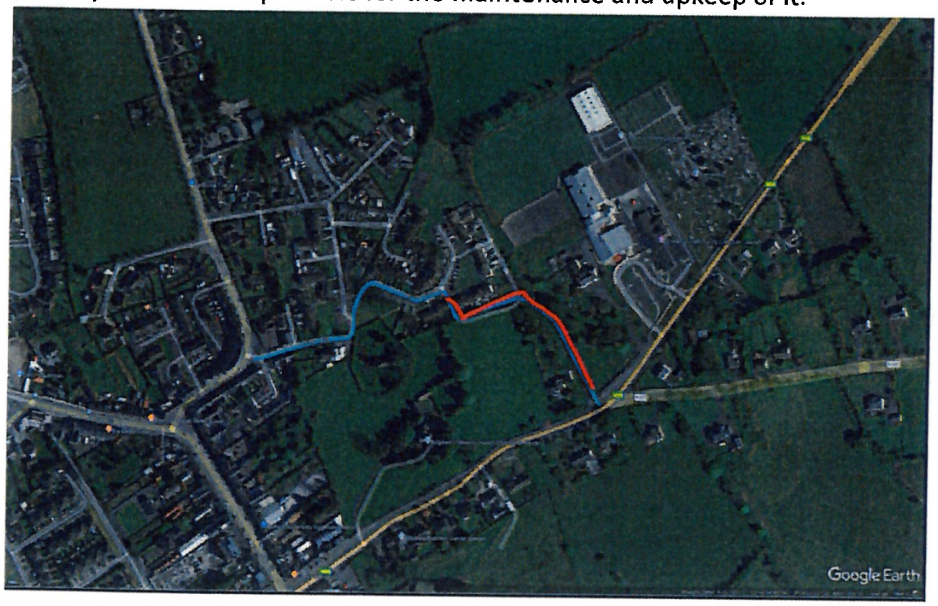
By email only: barras4@live.ie
Natural Forces
27 Mount Street Lower
Dublin 2
D02 FC43

Re: Devine Crescent, Edgeworthstown, Co. Longford

A Chara,

I wish to acknowledge with thanks receipt of your letter dated the 4 March 2025 in relation to roads at Devine Crescent, Edgeworthstown, Co. Longford, and your payment in the sum of €125.00.

The area walkway highlighted in red below was built by Longford County Council and Longford County Council is responsible for the maintenance and upkeep of it.



For queries relating to Uisce Éireann services please email TICqueries@water.ie.

Your sincerely,

Brian McNeela
Senior Executive Engineer
Infrastructural Service

Mil scríobhann tú chugainn as Gaeilge, freagróimid tú i nGaeilge.