Comhairle Contae Chorcaí
Cork County Council

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Planning & Development,
County Hall,
Carrigrohane Road, Cork T12 R2NC.
Tel (021) 4276891
Email: planninginfo@corkcoco.ie
Web: www.corkcoco.ie

Soleire Renewables SPV Ltd.,
c/o Richard Mahlalela,
Entrust Limited,
Unit 1, First Floor,
Oranmore Business Park,
Oranmore,
Co. Galway.

22nd April 2025

REF: D/201/25
LOCATION: Townlands of Ballynadrideen & Ballyroe, Co. Cork

RE: DECLARATION OF EXEMPTED DEVELOPMENT UNDER SECTION 5 OF THE PLANNING & DEVELOPMENT ACT 2000 - 2010.

Dear Sir,

On the basis of the information submitted by you on 6th January and 18th March 2025 the Planning Authority, having considered whether the construction of 33 kV underground cabling to facilitate a connection between Ardnageehy Solar Farm and a 110 kV Ballyroe Substation SID in the **townlands of Ballynadrideen & Ballyroe** is or is not development or is or is not exempted development, has declared that it is **not exempted development**.

Reason for Decision

The Planning Authority in considering this referral, had particular regard to

- Sections 4(4) of the Planning and Development Act 2000 (as amended)
- Article 9(1)(a)(viiB) of the Planning and Development Regulations 2001 – 2024(as amended)
- The plans and particulars received on 6th January and 18th March 2025

The Planning Authority considers that the construction of 33 kV underground cabling to facilitate a connection between Ardnageehy Solar Farm and a 110 kV Ballyroe Substation SID in the townlands of Ballynadrideen & Ballyroe is development and **is not exempted development** by virtue of Section 4 (4) of the Planning and Development Act 2000 (as amended) and Article 9 (1) (a) (viiB) of the Planning and Development Regulations 2001 (as amended) as it has not been satisfactorily demonstrated that the development would not have a significant effect on the integrity of a European site and an appropriate assessment would not be required.

Please note that under Section 5 Subsection 3(a) where a declaration is issued under this section, any person issued with a declaration under subsection 2(a) may, on payment to the Board of such fee as may be prescribed, refer a declaration for review by the Board within 4 weeks of the date of the issuing of the declaration.

Yours faithfully,

CATHAL DE BARÓID,
ADMINISTRATIVE OFFICER,
PLANNING DEPARTMENT.

In order to process your query, it may be necessary for Cork County Council to collect Personal information from you. Such information will be processed in line with our privacy statement which is available to view at https://www.corkcoco.ie/privacy-statement-cork-county-council

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Joan Brassil,
Ballynadrideen,
Ballyhea,
Charleville,
Co. Cork.

22nd April 2025

Our Ref.: D/201/25

Re: Declaration of Exempted Development under Section 5 of The Planning and Development Act 2000 – 2010.

Whether the construction of 33 kV underground cabling to facilitate a connection between Ardnageehy Solar Farm and a 110 kV Ballyroe Substation located in the townlands of Ballynadrideen and Ballyroe, Co. Cork is development or is or is not exempted development.

Dear Madam,

Further to recent correspondence notifying you of a third-party Declaration with regard to the above development I enclose for your information copy of the Planning Authority's decision.

Yours faithfully,

Tracy O'Callaghan

TRACY O' CALLAGHAN,
STAFF OFFICER.

Encl.

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Thomas McNamara & Anna McNamara,
Ballyroe,
Ballyhea,
Co. Cork.

22nd April 2025

Our Ref.: D/201/25

Re: Declaration of Exempted Development under Section 5 of The Planning and Development Act 2000 – 2010.

Whether the construction of 33 kV underground cabling to facilitate a connection between Ardnageehy Solar Farm and a 110 kV Ballyroe Substation located in the townlands of Ballynadrideen and Ballyroe, Co. Cork is development or is or is not exempted development.

Dear Sir & Madam,

Further to recent correspondence notifying you of a third-party Declaration with regard to the above development I enclose for your information copy of the Planning Authority's decision.

Yours faithfully,

Tracy O Callaghan

TRACY O' CALLAGHAN,
STAFF OFFICER.

Encl.

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Web: www.corkcoco.ie

Kathleen O'Sullivan & Michael O'Sullivan,
Ballynadrideen,
Ballyhea,
Charleville,
Co. Cork.

22nd April 2025

Our Ref.: D/201/25

Re: Declaration of Exempted Development under Section 5 of The Planning and Development Act 2000 – 2010.

Whether the construction of 33 kV underground cabling to facilitate a connection between Ardnageehy Solar Farm and a 110 kV Ballyroe Substation located in the townlands of Ballynadrideen and Ballyroe, Co. Cork is development or is or is not exempted development.

Dear Sir & Madam,

Further to recent correspondence notifying you of a third-party Declaration with regard to the above development I enclose for your information copy of the Planning Authority's decision.

Yours faithfully,

Tracy O Callaghan

TRACY O' CALLAGHAN,
STAFF OFFICER.

Encl.

In order to process your query, it may be necessary for Cork County Council to collect Personal information from you. Such information will be processed in line with our privacy statement which is available to view at: https://www.corkcoco.ie/privacy-statement-cork-county-council

Comhairle Contae Chorcaí
Cork County Council

Planning and Development Directorate
Section 5 – Application for Declaration of Exemption Certificate

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Ref: D/201/25 – Section 5 Declaration

Name: Soleire Renewables SPV Limited

Development: Whether the construction of 33 kV underground cabling to facilitate a connection between Ardnageehy Solar Farm and a 110 kV Ballyroe Substation SID in the townlands of Ballynadrideen & Ballyroe is exempted development?

Site Location/Address: Townlands of Ballynadridenn and Ballyroe, Charleville, Co. Cork

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Further Information Requested

1. Appropriate Assessment

The Planning Authority note the submitted details including the Outline Construction Method Statement and Appropriate Assessment Screening Report. Having to the de-exemption under Article 9(1)(a)(viiB) of the Planning and Development Regulations 2001 (as amended) and Section 4(4) of the Planning and Development Act 2000 (as amended), the applicant is required to submit information in relation to the following to enable a determination:

(a) The applicant has submitted Appropriate Assessment Screening Report which report notes that Whooper Swan, a species of conservation interest of the Kilcolman Bog SPA (004095), are known to frequent the surrounding region. With regard to Whooper swan and the Kilcolman Bog SPA (004095), likely significant effects have been screened out on the basis that the habitat on site would not be significant habitat to the species. Additionally, as the interconnector will be underground there therefore will be no potential for bird collision.

It is noted that survey work undertaken on behalf of the Applicant for other solar infrastructure developments in the wider area of the site, and separately by the National Parks and Wildlife Service have indicated a strong that ex-situ connectivity between the Awbeg floodplain area and Kilcolman Bog SPA, with movements of Whooper Swans recorded between the two areas over the winter period.

Located south of the proposal site are regularly used areas by Whooper Swans with flock sizes recorded exceeding the 100-mark on a number of occasions. Of significance is the presence of a regular roost site at Ballyroe quarry pond (within 350m of the proposed development).

The main risk posed by the proposed development (alone) is disturbance/displacement impacts where construction activity takes place during the winter period when Whooper Swans are present in the area and where such disturbance such as noise or human activity occurs at a level that would illicit a response from the birds i.e. causing displacement from foraging and/or roost sites.

While the proposal alone may not lead to a likely significant decrease in the numbers or range of areas used by Whooper Swan during construction, the potential for in-combination effects cannot be excluded based on the information provided. As per the submitted report cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated within an area or location. The provided report would appear to not have had regard to all other solar infrastructure related projects in the area in its assessment, with no assessment on in-combination effects actually provided.

Therefore, it you are requested to provide a more robust AA Screening report. The likely most critical aspect in respect to the disturbance / displacement effects will be the timing of the works.

(b) Furthermore, it is noted that the AA Screening has not had regard to mitigation measures, numerous references to the use of same are outlined within the Outline Construction Methodology report, with specific mention to measures detailed within accompanying EIAR and NIS reports. The applicant is requested to revise their submitted Section 5 documents to ensure that the content of all documents is consistent with no conflicting statements.

2. Article 9(1)(a)(i)

Permission reg. ref. 23/6099 / ABP-320298-24 included an underground grid connection to connect with the previously consented electricity grid interconnector (reg. ref. 22/5933). In the interests of clarity the applicant is requested to clarify and demonstrate that the proposed grid connection under this Section 5 application does not contravene a condition and the terms of permission granted under reg. ref. 23/6099 / ABP-320298-24.

3. Hedgerow/Field Boundary Removal

In the interests of clarity, the applicant is requested to clarify whether the route of the proposed cable will require the removal of any existing field boundaries and hedgerows. For clarity, drawings clearly demonstrating route alignment and existing field boundaries and hedgerows should be submitted.

Review of FI Response

Notwithstanding any exemptions within the regulations, Section 4(4) of the Act states that:

"development shall not be exempted development if an environmental impact assessment or an appropriate assessment of the development is required".

In addition, Article 9(1)(a)(viiB) de-exempts where developments "*comprise development in relation to which a planning authority or An Bord Pleanála is the competent authority in relation to appropriate assessment and the development would require an appropriate assessment because it would be likely to have a significant effect on the integrity of a European site*".

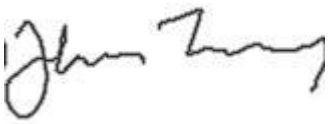
I note the report of the Ecology unit dated 14/04/2025, taking into account the submitted details and assessment, it is considered that the proposed development is not exempted development.

Conclusion/Recommendation

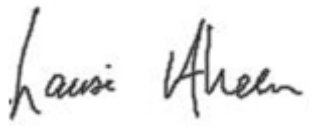
In view of the above and having regard to –

- The information and details received by the Planning Authority on the 06/01/2025 and 18/03/2025,
- Section 4(4) of the Planning and Development Act 2000 (as amended),
- Article 9(1)(a)(viiB) of the Planning and Development Regulations 2001 (as amended),

The Planning Authority considers that the construction of 33 kV underground cabling to facilitate a connection between Ardnageehy Solar Farm and a 110 kV Ballyroe Substation SID in the townlands of Ballynadrideen & Ballyroe is development and **is not exempted development** by virtue of Section 4 (4) of the Planning and Development Act 2000 (as amended) and Article 9 (1) (a) (viiB) of the Planning and Development Regulations 2001 (as amended) as it has not been satisfactorily demonstrated that the development would not have a significant effect on the integrity of a European site and an appropriate assessment would not be required.



_____
J. Tierney
Executive Planner
17/04/2025



L. Ahern
A/Senior Executive Planner
17/04/2025

Appendix 1 - Ecology Unit Report (14/04/2025)

Ref. D201/25 - Section 5 Declaration of Exemption for a 33kV underground cabling to facilitate a grid connection for a previously consented solar farm at Ardnageehy (Pl. Ref. Cork Co. Co. 230699 & ABP-320298-24) to a previously consented 110kV substation at Ballyroe (Pl. Ref. ABP-314431-22), at Ballynadrideen & Ballyroe Townlands, Co. Cork.

Following a report issued by this office in respect to the submitted Section 5 Declaration application and accompanying documentation, the Ecology Office required a number of points to be addressed in order to complete Screening for Appropriate Assessment.

As per my original report, I am satisfied that the proposal alone would not lead to a likely significant decrease in the numbers or range of areas used by Whooper Swan, a species of conservation interest of the nearby Kilcolman Bog SPA (004095). However, based on the information provided, the potential for in-combination effects could not be excluded at the time.

In respect of my assessment and as per my calculation the closest point of the proposal / redline boundary to known Whooper Swan habitat i.e. Ballyroe Pond is approximately 250m. I further note that a number of areas within the Awbeg floodplain and Blackwater Flats (Annagh South townland) proximal to the site have been recorded as habitually used by Whooper Swan for foraging and/or roosting, with numbers of occasions exceeding national importance. A non-breeding buffer zone for Whooper Swan is listed as between 200-600m[1].

As part of the response to the further information request a revised AA Screening Report has been provided, which states that '*If the planned construction work takes place in the summer months as advised there will be no effect on these winter visitors'*. Should this be the case, the potential for disturbance / displacement effects on Whooper Swan will be negated as the species will not be present within the area at that time as they will be on breeding grounds in Iceland. However, this advice can be interpreted as a measure to either wholly or partially avoid and/or reduce an impact to a species of conservation interest tied to Kilcolman Bog SPA and as such cannot be considered at the screening stage. As referenced above and based on dedicated surveys for Whooper Swan it has been acknowledged that the area and surrounding environs and that of Kilcolman Bog support the one-herd concept.

More significantly, should the works occur within the wintering period and concurrently with other projects (solar farm developments etc.) in the area there is potential for considerable disturbance / displacement events to occur, at a worst-case displacing Whooper Swan entirely from the area during that period. For example and as referenced within the submitted report, while I note that permission was previously granted for a solar farm at the site of Ballyroe Pond (CCC Reg. Ref. 20/4041) a subsequent application (CCC Reg. Ref. 22/06901) for a solar farm on the same site has been refused by Cork County Council on the grounds that the development would '*result in the direct loss of an area of core foraging habitat Whooper Swan, a Species of Conservation Interest (SCI) of the Kilcolman Bog Special Protection Area (Site Code: 004095*)'. I note that no reference to this application has been made in the AA Screening Report.

Therefore, taking the above into consideration and a precautionary approach there is the potential for likely significant effects on Whooper swan a species of conservation interest of Kilcolman Bog SPA when considering the proposal in-combination with other developments granted and /or proposed in the area. It is therefore considered that Appropriate Assessment is required and as such the

[1] https://www.nature.scot/doc/naturescot-research-report-1283-disturbance-distances-review-updated-literature-review-disturbance

development will require planning permission having regard to Section 4(4) of the P&D 2000 Act (as amended).

Ecology Office

14/04/2025

entrust
planning. environmental. technical.

Cork County Council
Planning Section
Cork County Hall
Carrigrohane Road,
Cork, T12 R2NC

12 March 2025

Re: /planning reference: D/201/25

APPLICATION FOR DECLARATION OF EXEMPT DEVELOPMENT - SOLEIRE RENEWABLES SPV LIMITED.

INSTALLATION AT: ARDNAGEEHY – BALLYROE INTERCONNECTOR, LAND AT BALLYNADRIDEEN & BALLYROE TOWNLANDS, CO. CORK

RE: Application for a declaration of exempted development under Section 5 of the Planning and Development Act 2000 (as amended) for the development described as the construction of 1.83 km of 33kV underground cabling to facilitate a grid connection for a previously consented solar farm at Ardnageehy (Pl. Ref. Cork Co. Co. 230699 & ABP-320298-24) to a previously consented 110kV substation at Ballyroe (Pl. Ref. ABP-314431-22), at Ballynadrideen & Ballyroe Townlands, Co. Cork.

Enclosures;

No.	Title	Sub-Title	Scale
1.	RFI AA Screening report	Addressing information as per RFI(1(a) & (b)	Not applicable
2.	RFI Cable route (SLM_OSI)	Site Locality	1:10560
3.	RFI Cable route (SLM_OSI)	Addressing information as per RFI(3)	1:5000
4.	RFI Cable route (Part 1)	Addressing information as per RFI(3)	1:2500

planning. environmental. technical.

5.	RFI Cable route (Part 2)	Addressing information as per RFI(3)	1:2500
6.	RFI Cable route (Part 1)	Addressing information as per RFI(3)	1:500
7.	RFI Cable route (Part 2)	Addressing information as per RFI(3)	1:500
8.	RFI Cable route (Part 3)	Addressing information as per RFI(3)	1:500
9.	RFI Cable route (Part 4)	Addressing information as per RFI(3)	1:500
10.	RFI Cable route (Part 5)	Addressing information as per RFI(3)	1:500
11.	RFI Cable route (Part 6)	Addressing information as per RFI(3)	1:500
12.	RFI Cable route (Part 7)	Addressing information as per RFI(3)	1:500
13.	RFI Cable route (Part 8)	Addressing information as per RFI(3)	1:500
14.	RFI Cable route (Part 9)	Addressing information as per RFI(3)	1:500
15.	RFI Cable route (Part 10)	Addressing information as per RFI(3)	1:500

A chara,

In relation to the request for further information dated 31/01/2025, I will be responding in the sequence of questions as the planning authority's request below.

Before responding to the questions provided by the council, highlighting the policies and frameworks relating to the proposed development. A brief summary is outlined for each of the policies.

Legislation

1. National Energy Security Framework (April 2022)

   The Framework tackles Ireland's energy security challenges in light of the war in Ukraine, aligning efforts across the electricity, gas, and oil sectors. It emphasizes the importance of decarbonizing society and the economy while adhering to emission reduction targets outlined in the Climate Action Plan. Theme 3, focused on minimizing reliance on imported fossil fuels, prioritizes three key objectives: reducing fossil fuel demand, transitioning to renewable energy sources like solar power, and diversifying the supply of fossil fuels.

   Under section 7.2, it is stated that emphasizing renewable energy aligns with the provisions of the updated Renewable Energy Directive and the EC REPowerEU action statement. The Commission has urged Member States to regard renewable energy projects as being of overriding public interest and crucial for public safety, a position that the Government fully endorses.

2. Climate Action Plan (CAP) 2024

   The Climate Action Plan 2024 (CAP24) represents Ireland's third annual update to its Climate Action Plan. It outlines a comprehensive strategy with initiatives aimed at achieving the nation's climate goal of transforming into a carbon-neutral, climate-resilient economy that supports biodiversity and environmental sustainability by 2050. This aligns with the Climate Action and Low Carbon Development (Amendment) Act 2021 and adheres to the legally established carbon budgets and sector-specific emissions limits set by the Government in July 2022.

3. National Development Plan 2021-2030 (NDP)

   The National Development Plan (NDP) outlines the investment priorities supporting the implementation of the National Planning Framework (NPF). Chapter 13 focuses on National Strategic Outcome (NSO) 8, which aims for a transition to a climate-neutral and climate-resilient society. Public capital investments must drive a 51% reduction in greenhouse gas emissions by 2030 and pave the way toward achieving net-zero emissions by 2050. This will necessitate large-scale renewable electricity generation and storage solutions.

4. Local Planning Policy – Cork County Development Plan 2022-2028

The Cork County Development Plan 2022–2028, effective from June 6, 2022, is the primary framework relevant to this assessment. The subject site lies in open countryside without specific zoning or designations. The plan outlines comprehensive policies on solar energy, renewable energy, and related matters, all within the EU, national, regional, and local context.

Chapter 13: Energy and Telecommunications This chapter includes the core objective for renewable energy (ET 13-2 a), which emphasizes supporting Ireland's commitments to renewable energy as per Government policies. This includes fostering the development of renewable energy sources—such as wind, solar, geothermal, hydro, bio-energy, and energy storage—at suitable locations, provided they have no adverse impacts on the environment, biodiversity, landscape, or local amenities.

Section 13.8: Solar Energy Key objectives are:

- **ET 13-14: Solar Farm Development:** (a) Support solar farm projects at appropriate locations, ensuring no negative effects on the environment, landscape, historic sites, or amenities. (b) Encourage solar infrastructure, particularly for on-site energy use, such as solar PV, while maintaining environmental safeguards and protecting heritage, biodiversity, and scenic views. (c) Assess new solar farm proposals according to the plan's criteria until Section 28 Guidelines are issued. (d) Conduct glint and glare assessments for solar developments near roads and airport infrastructure. (e) Ensure ecological impact assessments, and when necessary, Appropriate Assessments, for solar projects and associated infrastructure to protect designated sites, species, and ecologically significant locations.

Objective ET 13-21: Electricity Network

- Support the sustainable development, upgrading, and expansion of electricity transmission, storage, and distribution infrastructure.
- (b) Promote grid development, including strategic energy corridors, in line with international standards.
- (c) Facilitate connections to renewable energy sources like wind and solar farms, subject to proper planning considerations.
- (d) Approve projects near nature conservation sites or habitats of high conservation value only if assessments confirm no adverse impacts on their integrity.

1(a) The main risk posed by the proposed development (alone) is disturbance/displacement impacts where construction activity takes place during the winter period when Whooper Swans are present in the area and where such disturbance such as noise or human activity occurs at a level that would illicit a response from the birds i.e. causing displacement from foraging and/or roost sites.

Response:

Table 4.1 of the Screening Assessment, detailed in the Appropriate Assessment (AA) report on page 20 of Appendix 1, evaluates the potential effects arising from the proposed development using the Source-Pathway-Receptor (SPR) model. The table examines any possible impacts and their significance within relevant European sites. In this evaluation, the conservation objectives and special conservation interests for which these European sites are designated are carefully considered.

Potential impacts within the relevant European sites, along with their significance, are assessed below. These impacts are evaluated in light of the Conservation Objectives and Special Conservation Interests associated with the designated European sites.

According to Table 4.1 of the AA report (page 20, Appendix 1), the Kilcolman Bog Special Protection Area (SPA) is located entirely outside the proposed development site, with its nearest boundary approximately 7.9 kilometers southeast of the development area. There is no hydrological connectivity between the proposed site and this European site. Furthermore, the habitats observed on-site are considered unsuitable for the SPA's Qualifying Interests (QIs).

Although Whooper Swans are present within the region, the assessment concludes that the Kilcolman Bog SPA does not serve as a significant habitat for these swans. Previous studies confirm that the flight paths and colonies of Whooper Swans are situated south of the proposed site, with no overlap. Additionally, conducting construction activities during the summer months would manage any potential impacts on wintering species, as Ballyroe Quarry Pond, a known roosting site for Whooper Swans, is within the 350-meter disturbance buffer.

The Kilcolman Bog and Awberg Floodplain, which are recognized as Whooper Swan roosts, are both located south of the project area and outside the flight paths or disturbance zones. Therefore, the assessment determines that Kilcolman Bog SPA can be excluded from further consideration for potential impacts.

Furthermore, Section 6.1 of the AA report (page 23, Appendix 1) provides an analysis of the Potential Significant Effects. The findings indicate that no Natura 2000 sites are located within the development boundary or rely on it for resources. The closest site, the Blackwater River Special Area of Conservation (SAC), lies 193.5 meters from the proposed interconnector. While it may experience minor, short-term disturbance during construction, the limited project scale and duration ensure there will be no significant long-term effects.

Hydrological assessments confirm that neither the Dromin Stream nor the drainage ditch provides a viable pollution pathway to the Blackwater River SAC. Additionally, the subsoil and bedrock conditions at the site limit groundwater connectivity, eliminating the risk of indirect impacts.

Finally, bird species protected under conservation directives, including the Whooper Swan, Eurasian Curlew, and Northern Lapwing, have been observed within a 2 km^2 radius of the site. However, the proposed development area does not provide suitable habitats for these species. The Whooper Swan's roosts and flight paths are situated south of the project site, beyond the disturbance buffer. While Ballyroe Quarry, a known roosting site, is within 222 meters of the site, conducting construction during the summer months would prevent any adverse impacts. Should winter construction occur, the short duration of activities, with approximately 100 meters of cable installed per day, would result in minimal and insignificant disturbance.

In conclusion, the proposed development is unlikely to cause significant direct or indirect impacts on Natura 2000 sites or their Qualifying Interests

1(a) While the proposal alone may not lead to a likely significant decrease in the numbers or range of areas used by Whooper Swan during construction, the potential for in-combination effects cannot be excluded based on the information provided. As per the submitted report cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated within an area or location. The provided report would appear to not have had regard to all other solar infrastructure related projects in the area in its assessment, with no assessment on in-combination effects actually provided.

Response:

In- combination and cumulative effects outlined in section 7 of the AA report were determined through assessing and reviewing whether the proposed development, alone or in combination with the other approved solar PV projects in the lands of Ardnageehy could have significant effects in the Natura 2000 sites. Hydrological, ecological or habitat related pathways were considered in the assessment.

A search of planning databases identified multiple nearby projects, including solar farms, wind energy developments, a quarry, an electricity interconnector, and the proposed M20 Road Project. Each of these projects underwent Appropriate Assessment (AA) screening and/or Natura Impact Statements (NIS), which determined that, with appropriate mitigation, they would not have significant effects on Natura 2000 sites. Several solar farm projects, such as Ballyroe and Fiddane Solar Farms, include biodiversity enhancement measures, such as designated areas for Whooper Swans, contributing to a potential net gain for local biodiversity. The N/M20 Road Project, while having potential interactions with the Blackwater River SAC, will undergo further assessment to ensure no significant negative effects.

According to the findings from the assessment. There was no significant cumulative effects between the proposed development and other projects. The staggered timelines of solar projects and robust mitigation measures in place suggest no cumulative impact on Natura 2000 sites.

1(b) It is noted that the AA Screening has not had regard to mitigation measures, numerous references to the use of same are outlined within the Outline Construction Methodology report.

Response:

The industry-standard construction measures incorporated into the project design, which serve as best practice measures, have been revised as outlined in Section 3.2: Project Description (page 14) of the Appropriate Assessment (AA) report (Appendix 1).

The following standard construction measures will be implemented to minimize environmental impacts during the project's execution:

- **Stockpile Management:**

- Excavated material stockpiles will be located at least 50 meters from surface water features.
- Stockpile locations must be approved by the site manager and relevant ecological or environmental officers.

- **Excavation and Reinstatement:**

- Excavated materials will be reused for trench reinstatement, with any surplus material transported to a licensed disposal facility.
- Hedgerows, earth embankments, and grassed areas will be carefully removed and reinstated post-trenching.

- **Controlled Trenching Process:**

- A maximum of 100 meters of trench will remain open at any time.
- Excavation of new 100-meter sections will only commence once reinstatement of the preceding section is substantially complete.

- **Watercourse Protection:**

- Horizontal Directional Drilling (HDD) will be employed at crossings of Dromin Stream and its drainage ditch to avoid in-stream works and minimize surface disruption.

- **Equipment and Storage:**

- Plant, machinery, and equipment will be stored within designated contractor compounds or defined works areas.
- Fuels will be stored in bunded bowsers, and oils or chemicals will be securely contained within double-bunded site containers located in the contractor's compound.

- **Timing and Scheduling:**

- Work will be scheduled Monday to Friday (08:00–20:00) and Saturday (08:00–18:00).
- No work will be conducted on Sundays or Bank Holidays, except in emergencies.
- Construction is recommended during summer months to minimize environmental risks.

These measures aim to ensure the project is carried out with minimal environmental disturbance and in compliance with best practices.

2. Permission Reg. Ref. 23/6099 / ABP-320298-24 included an underground grid connection to connect with the previously consented electricity grid interconnector (reg. ref. 22/5933). In the interests of clarity you are requested to clarify and demonstrate that the proposed grid connection under this Section 5 application does not contravene a condition and the terms of permission granted under reg. ref. 23/6099 / ABP-320298-24.

Response:

In response to the planning application (Ref. 23/6099 / ABP-320298-24), an extensive review of the superseded grant conditions (PL Ref: 23/6099) and the conditions set by An Bord Pleanála (ABP-320298-24) indicates that there are no conditions or restrictions applicable to the proposed development of the Ardnageehy – Ballyroe interconnector. The proposed development complies fully with the grant conditions outlined in ABP-320298-24.

To assess the viability of the proposed development, the potential impacts of noise and vibration, public roads and services, as well as the landscape and visual impact, will be thoroughly assessed. Additionally, best practice measures will be implemented to ensure that the proposed development does not negatively affect the surrounding environment or permitted solar projects in the vicinity.

Roads, Infrastructure, and Services

The majority of the interconnector will be installed on lands owned by Soleire Renewables SPV LTD, encompassing agricultural lands and pathways. Access to the site will be facilitated through public roads (L5527). The L5527 provides access to a limited number of properties. The Ardnageehy solar farm (Ref. 23/6099 / ABP-320298-24) will be accessed via the 3 access routes. (L1322), (L5527) while the Ballyroe-Fiddane interconnector (Ref. 22/5933) and the construction site will also utilize designated access routes (L5528).

The presence of construction vehicles associated with the proposed development will not cause congestion or traffic disruptions. As outlined in the Traffic Management Plans for both approved developments—Ardnageehy solar

farm (Ref. 23/6099 / ABP-320298-24) and Ballyroe-Fiddane interconnector (Ref. 22/5933)—traffic will be effectively managed to prevent congestion on all public roads. Construction vehicles will operate at regulated intervals, ensuring smooth traffic flow and minimal impact on public infrastructure.

This planned approach underscores the commitment to minimizing disruptions while prioritizing the efficient progression of the proposed development.

Noise and Vibration

The proposed route will undergo complete excavation, with additional removal of hedges and trees in areas where it intersects hedgerows and tree lines. Moreover, a trench will be added where the cable route crosses a local access road at ITM 552443.48, 618135.81. Noise generated during the project will be limited to construction activities, with no operational noise anticipated. Emissions of noise and vibration from human presence and vehicle movements associated with construction will be localized and of a short-term nature.

In addition, the Ardnageehy Solar Farm (Ref. 23/6099 / ABP-320298-24), which has already received approval, includes a noise and vibration management plan to mitigate noise from its construction phase. To minimize cumulative noise and vibration impacts, the proposed development will be scheduled during the summer months to prevent disruption to wintering species. This consideration is particularly important as Ballyroe Quarry Pond, a roosting site for Whooper Swans, lies within a 350-meter disturbance buffer.

Section 5.4 of the Appropriate Assessment (AA) report, titled "Screening of Relevant European Sites" (page 20), and evaluates the potential impact of the proposed development on the Blackwater Special Area of Conservation (SAC), which overlaps with the Ardnageehy Solar Farm (Ref. 23/6099 / ABP-320298-24). Based on the findings, the proposed development will not have any adverse effects on the Blackwater SAC or the Ardnageehy Solar Farm. Consequently, the proposed development will also avoid impacts on the Ballyroe-Fiddane Interconnector (Ref. 22/5933).

Landscape Visual Impact

The proposed project entails earthworks for the installation of an underground cable (UGC) route and transformer, which will establish a connection between the Ardnageehy (ITM: 552633, 618290) and Ballyroe (ITM: 552785, 617094) solar farm developments. Given that the proposed development involves an underground cable, it will not result in any visual impacts on the surrounding landscape. Consequently, the proposed interconnector will not cause significant impacts on the landscape or visual environment, either as a standalone development or in combination with the already consented solar farm (Ref. 23/6099 / ABP-320298-24) and interconnector (Ref. 22/5933).

Best practice measures have been outlined in Section 1(b) of this report and are to be implemented to ensure that any potential impacts of the proposed development are effectively managed. Furthermore, these measures aim to prevent any cumulative impacts on the surrounding landscape and nearby solar farm projects.

Based on the foregoing, it can be asserted that the proposed development will not result in any impact or contravene the conditions outlined for the already approved projects (Ref. 23/6099 / ABP-320298-24 and Ref. 22/5933).

3. In the interests of clarity, you are requested to clarify whether the route of the proposed cable will require the removal of any existing field boundaries and hedgerows. For clarity, drawings clearly demonstrating route alignment and existing field boundaries and hedgerows should be submitted.

Response:

The location of the proposed underground solar interconnector is predominantly characterized by Grassland (GA1 & BC1) habitat, bordered by a combination of Hedgerow (WL1) and Mature Treeline (WL2). As detailed in the project description in Section 3.2, page 14 of Appendix 1, hedgerow removal will be confined to the sections of the cable route where it is deemed necessary. The specific sections where hedgerow removal is required are identified in the attached planning drawings, provided in Appendix 2.

Appendix 2, specifically Planning Drawing 2, outlines the extent of hedgerow removal necessary to facilitate the underground cable installation.

Approximately 610 m² of hedgerow will be cleared to make provision for the development. Any removal of hedgerow and tree line will be undertaken with care, ensuring that these features are reinstated appropriately following the completion of works.

I trust that everything is in order for the planning authority to evaluate this application. Should you require any additional clarification, please feel free to reach out to me at any time

Richard Mahlalela

For and on behalf of:

Soleire Renewables SPV Limited

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VEON Forestry, Ecology & Environment

AA Screening for a proposed Ardnageehy-Ballyroe Cable Route

Compiled by Veon Ecology,
Aine O'Sullivan

On behalf of: ILOS Energy.

Completion Date: 21/02/25

Contents

Executive Summary

This report presents the outcome of a Screening of Appropriate Assessment (AA) for a proposed underground interconnector located in the townland of Ballinadrideen and Ballyroe County Cork.

This report details the results of field surveying and a desktop study which have informed this Screening for AA for the proposed development. The report assesses any potential impacts on EU designated sites.

This AA Screening Report examines whether any potential effects upon a Natura 2000 site will be significant and determines whether the AA process for the proposed development at Ballinadrideen County Cork alone and in combination with other developments in the area requires to proceed to a Stage 2 Appropriate Assessment.

Having taken into regards the zone of influenced presented by the site which includes hydrological and proximal pathways it was concluded that the project does not pose any significant effect to the surrounding Natura 2000 sites.

The primary habitats within the proposed development area comprise of grassland habitats. Which is relatively unsuitable habitat for the surrounding Natura 2000 QIs. Given the scale of the project and habitats present, species of conservation concern are unlikely to occur within the area of the works footprint. Further the short time scale of the works, underground nature of the works and with the main habitat, GA1 (Improved grassland), being found in abundance in the surrounding region any disturbance to local species will not be significant long-term impacts. EPA mapping of the site records that the upper section of the river Dromin, a tributary of the River Blackwater SAC, dissects the site however under further investigation this habitat was seen to have a lack of free-flowing water consisting of shallow interspaced smaller puddles of poor water quality within a flat landscape. Further, Horizontal Directional drilling (HDD) will allow for the cable to be placed underneath this habitat with no in stream works and minimal surface distribution. It concluded that the project works will not have any significant effects on this habitat as such the habitat was screened out as a pollution source pathway. It was therefor concluded that, taking into consideration reasonable scientific doubt, the project alone or in combinations to other plans and project does not have the potential to significantly affect surrounding Natura 2000 site and their subsequent conservation targets.

The contents of this Screening for AA, prepared by Veon Ecology are true and have been prepared with due regard to the Chartered Institute of Ecology and Environmental Management's (CIEEM) Code of Professional Conduct.

General Details

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Describe scope of contribution in preparing this report: Desktop Survey, Ecological Assessment, Screening, Finalising report, Revision.

Veon Ltd. Veon Ecology							
Revision	Description	Author:	Date	Reviewed By:	Date	Authorised by:	Date
1	Draft Report	AOS	02/08/24	DM			
2	Draft Report	AOS	14/11/24	DM	15/11/24	DP	15/11/24
3	Draft Report	AOS	21/02/25	DM	21/02/25	DP	13/03/25

Section 1: Introduction

Veon LTD. (Veon Ecology) has been appointed by Entust Ltd. To carry out a screening for Appropriate Assessment (AA) for a proposed development of an Ardnageehy-Ballyroe Cable Route.

The screening for appropriate assessment has been prepared to provide the competent authority, with the relevant scientific information to conduct the Appropriate Assessment (AA) in accordance with the requirement of Article 6(3) of the habitats Directive (Directive 92/43). This information will allow the competent national authorities (in this case Cork County Council). To determine, in view of best scientific knowledge, if the proposed project, individually or in combination with others plans and projects is likely to have a significant effect on a European site.

A screening for the Appropriate Assessment for the proposed project has been prepared and is provided in **section 5**. The screening assessment concluded as follows:

The small scale and timeframe of the works as well as the nature of the works of the works being done, underground with HDD, will mean there will be no significant long-term impacts on the surrounding habitat and species.

It can be concluded, in view of best scientific knowledge on the basis of objective information and in light of conservation objectives of the relevant European sites, that the proposed project (i.e. the underground interconnector as well as associated works), individually or in combination with other plans and project will not have a significant effect on a Natura 2000 site.

For ease of read the proposed development area i.e. the redline boundary provided by Entrust LTD will be referred to as 'the site' or 'development site'. Where a study area is mentioned note that this includes the redline boundary and immediate surrounding habitat in which studies for this report were carried out (see **Appendix 1** for mapped boundaries).

1.1 Legislative Background

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, better known as "The Habitats Directive", provides legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000.

Natura 2000 sites are defined under the Habitats Directive (Article 3) as a coherent European ecological network of special areas of conservation, composed of sites hosting the natural habitat types listed in Annex I and habitats of the species listed in Annex II, shall enable the natural habitat types and the species' habitats concerned to be maintained or, where appropriate, restored at a favourable conservation status in their natural range. In Ireland, these sites are designated as European Sites and include Special Protection Areas (SPAs), established under the EU Birds Directive (79/409/EEC, as codified by 2009/147/EC) for birds and Special Areas of Conservation (SACs), established under the Habitats Directive 92/43/EEC for habitats and species.

The Habitats Directive has been transposed into Irish law by Part XAB of the Planning and Development Act, 2000 - 2021 and the European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477/2011) as amended. Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to adversely affect the integrity of European Sites (Annex 1.1).

Article 6(3) establishes the requirement for Appropriate Assessment (AA):

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 subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.

Article 6(3) of the Habitats Directive, transposed into Irish Law relevant to this project includes Part XAB of the Planning and Development Act, 2000-2021 and the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended).

Natura 2000 sites in Ireland (herein referred to as European sites) that form part of the Natura 2000 network of protected sites include Special Areas of Conservation (SACs) designated due to their significant ecological importance for species and habitats protected under Annexes I and II respectively of the Habitats Directive, and Special Protected Areas (SPAs), designated for the protection of populations and habitats of bird species protected under the EU Birds Directive (Council Directive 2009/409/EEC). Features for which SACs and SPAs are designated are termed Qualifying Interests and Special Conservation Interests respectively. Collectively, Qualifying Interests and Special Conservation Interests are herein referred to as Qualifying Features.

Section 2: Methodology & Report Structure

Introduction to Methodology

The above regulations require that before consent for a project or development is given, a Screening for Appropriate Assessment of a project for which an application for consent is received (which is not directly connected with or necessary to the management of the site as a European Site), must be carried out by the relevant public authority to assess, in view of best scientific knowledge and in view of the conservation objectives of the site, if that project, individually or in combination with other plans or projects is likely to have a significant effect on the European site.

A desk study was performed on the site using accredited data bases (NPWS, NBDC, GSI, EPA, County Council) in order to access historical environmental records to get the basal information of the area in which the site is proposed. Further, field work consisting of investigation into the current flora and fauna as well as the collective habitats currently within the redline boundary and its immediate surrounding habitat (Study area) were also conducted in order to gather current data on the site. This basal environmental historical and current data was then collated into this report along with proposed project description. With the basal information assembled an accurate evaluation of the effects the project could have on its surrounding environment both by itself and in combination with plan and projects can be formed as well as the significance of these effects.

Report structure

The proposed development is described in detail in **Section 3** of this report. Following on from this the results of the desk and field surveys that were undertaken and presented in **Section 4** and **Appendix 2**, to provide the necessary details of the ecological baseline conditions of the site for the proposed development. The proposed operations of the project are considered in the context of potential effects on the baseline environment, with particular reference to the potential for adverse effect on the relevant European Sites.

Finally, a concluding statement is provided in **Section 8** of this report. This includes a summary of the results of the assessment along with a summary statement of the potential of adverse effects on the European Site (in light of the Conservation Objectives of the site as per Box 10 of EC, 2001).

2.1 Appropriate Assessment Methodology

The purpose of an Appropriate Assessment (AA) is to establish whether a particular plan or project is likely to have a significant effect on a Natura 2000 Site, either individually or in combination with other plans and/or projects. Natura 2000 sites in Ireland are European sites, including Special Protection Areas (SPAs), and Special Areas of Conservation (SACs).

The four distinct stages in the AA process are summarised diagrammatically in **Figure 1.1**. Stages 1-2 deal with the main requirements for assessment under Article 6(3). Stage 3 may be part of the Article 6(3) Assessment or may be a necessary precursor to Stage 4. Stage 4 is the main derogation step of Article 6(4).

Figure 1.1: Stages of Appropriate Assessment.

Stage 1: Screening for Appropriate Assessment.

Screening is the process that addresses and records the reasoning and conclusions in relation to the first two tests of Article 6(3):

Whether a plan or project is directly connected to or necessary for the management of the site, and whether a plan and/or project, alone or in combination with other plans and/or projects, is likely to have significant effects on a European site in view of its conservation objectives.

If the effects are deemed to be significant, potentially significant, or uncertain, or if the screening process becomes overly complicated, then the process must proceed to Stage 2 (AA). Screening should be undertaken without the inclusion of mitigation, unless potential impacts clearly can be avoided through the modification or redesign of the plan or project, in which case the screening process is repeated on the altered plan. The greatest level of evidence and justification will be needed in circumstances when the process ends at screening stage on grounds of no impact.

Stage 2: Appropriate Assessment (Natura Impact Statement).

The aim of Stage 2 of the AA process is to identify any adverse impacts that the plan or project might have on the integrity of relevant European sites. As part of the assessment, a key consideration is 'in combination' effects with other plans or projects. Where adverse impacts are identified, mitigation measures can be proposed that would avoid, reduce or remedy any such negative impacts and the plan or project should then be amended accordingly, thereby avoiding the need to progress to Stage 3.

This stage considers whether the plan or project, alone or in combination with other projects or plans, will have adverse effects on the integrity of a European site, and includes any mitigation measures necessary to avoid, reduce or offset negative effects. The proponent of the plan or project will be required to submit a Natura Impact

Statement, i.e. the report of a targeted professional scientific examination of the plan or project and the relevant European sites, to identify and characterise any possible implications for the site in view of the site's conservation objectives, taking account of in-combination effects. This should provide information to enable the public authority to carry out the AA.

Section 177T(1)(b) of the Planning and Development Act 2000 (as amended) provides that *"[a] Natura impact statement means a statement, for the purposes of Article 6 of the Habitats Directive of the implications of a proposed development, on its own or in combination with other plans or projects, for one or more than one European site, in view of the conservation objectives of the site or sites"*.

Section 177T(2) states that *"[w]ithout prejudice to the generality of subsection (1), […] a Natura impact statement, […], shall include a report of a scientific examination of evidence and data, carried out by competent persons to identify and classify any implications for one or more than one European site in view of the conservation objectives of the site or sites"*.

Section 177T(7)(*a*) states that *"[w]ithout prejudice to subsection (1) […] a Natura impact statement shall include all information prescribed by regulations under section 177AD"*.

Section 177T(*b*) states that *"[w]here appropriate, […] a Natura impact statement shall include such other information or data as the competent authority considers necessary to enable it to ascertain if the […] proposed development will not affect the integrity of the site"*.

Where appropriate, a Natura Impact Statement shall include, in addition:

i. The alternative solutions that have been considered and the reasons why they have not been adopted.
ii. The imperative reasons of overriding public interest that are being relied upon to indicate that the plan or project should proceed notwithstanding that it may adversely affect the integrity of a European site.
iii. The compensatory measures that are being proposed.

If the assessment is negative, i.e. adverse effects on the integrity of a site cannot be excluded, then the process must proceed to Stage 3, or the plan or project should be abandoned. The competent authority must make a determination to that effect before proceeding to the next stage.

Stage 3 includes the Assessment of Alternative Solutions: Should the Appropriate Assessment determine that adverse impacts are likely upon a Natura 2000 site, this stage examines alternative ways of implementing the project that, where possible, avoid these adverse impacts.

Stage 4 involves the assessment of where no alternative solutions exist and where adverse impacts remain: Where imperative reasons of overriding public interest (IROPI) exist, an assessment to consider whether compensatory measures will or will not effectively offset the damage to the Natura site will be necessary.

2.2 Assessment Approach

The approach taken in preparing this screening report is set out below and is broadly based on standard methods and best practice guidance, as listed below.

The nature of the likely interactions between the project and the European Site will depend upon the sensitivity of the European Site's qualifying features to potential impacts arising from the project; the current conservation status of the European Site and its qualifying features; and any likely changes to key environmental indicators (e.g. water quality) that underpin the conservation status of European Site(s) and their qualifying features, in combination with other projects and plans. The European Commission (2001) Guidelines outline the stages

involved in undertaking a Screening Assessment of a project that has the potential to have likely significant effects on European Sites.

The approach considered in preparation of this screening report and followed for this assessment are outlined below:

- Identify the Natura 2000 site(s), within the potential zone of influence of the proposed development
- Identify the features of interest of the Natura 2000 site(s) and review their conservation objectives.
- Assess whether there is potential for the proposed development to affect the features of interest of the relevant Natura 2000 site(s) based on information such as the vulnerabilities of the European site(s), proximity to the development site and the nature and scale of the works associated with the proposed development.
- Take into consideration the likelihood of potential impacts occurring based on professional judgement and the collated information.
- Identify the likelihood of significant effects on Natura 2000 sites occurring because of the proposed development.
- Take into consideration the likelihood of cumulative impacts arising from the proposed development in-combination with other projects and plans.

2.3 Desk Study

A desk study was carried out to collate the available information on the ecological environment with respect to Natura 2000 sites identified within the potential zone of influence of the proposed development.

The desktop study comprised a review of the following key datasets and information sources:

- Identification of European sites within the Zone of Influence (ZoI) of the Proposed Development area through the identification of potential pathways/links from the Proposed Development area and European sites and/or supporting habitats.
- Review of the National Parks and Wildlife Service (NPWS) site synopsis, Natura 2000 data forms and Conservation Objectives for European sites identified through potential pathways from the Proposed Development (https://www.npws.ie/protected-sites).
- Review of available literature and web data. This included a detailed review of the NPWS and National Biodiversity Data Centre (NBDC) websites including mapping and available reports for relevant sites and in particular Qualifying Interests and Special Conservation Interests described and their Conservation Objectives.
- Review of local environmental data through EPA maps and data sets.
- GIS Online mapping (http://dcenr.maps.arcgis.com; and EPA Mapping database (https://gis.epa.ie/EPAMaps/AAGeoTool).
- Review of Local County council development database https://eplanning.ie

In addition, aerial photography (Google Earth, Bing Maps) and mapping (Ordnance Survey of Ireland, Geological Survey of Ireland) were used to identify non-designated habitats such as rivers, woodlands, and hedgerows of local ecological importance.

2.4 Field study

A detailed phase one habitat survey was undertaken on the 11th of June 2024 by Aine O'Sullivan, ecologist at Veon Ltd. In this survey the base data on the local flora and fauna were taken with particular attention being drawn to protected species.

The habitat type and vegetation found within the site were mapped onto a survey map of the study area previously obtain from ArcGIS mapping and google satellite imagery. Any area that could not physically be surveyed were surveyed using binoculars. The habitats were given colour codes for ease of identification. Further the dominant species within each habitat was recorded with descriptive target notes. Target notes give succinct picture of the nature conservation interest of the site in regard to its land-use and management. Target notes consist primarily of points of note such as species composition, species of particular note (e.g. rare, protected & invasive) and where there is need for further surveying.

The results of the survey were collated and mapped using Microsoft suit and ArcGIS. See **Appendix 2** for habitat map.

2.5 Revision Summary

A revision of this report was completed by Veon Ecology ltd. as advised by Cork County Council to enable permissions through the planning authority. The official correspondence for the revision was sent to Soleire Renewables SPV on the 31/01/25. The following concerns were directed specifically to the Appropriate Assessment screening:

Item	Description	Action
1 a)	The main risk posed by the proposed development (alone) is disturbance/displacement impacts where construction activity takes place during the winter period when Whooper Swans are present in the area and where such disturbance such as noise or human activity occurs at a level that would illicit a response from the birds i.e. causing displacement from foraging and/or roost sites.	The disturbance /displacement of whooper swan has been revised in section **5.4 Screening for Relevant European site** with further reference in **Section 6.1 Identification of potential significant effects.**
1 a)	While the proposal alone may not lead to a likely significant decrease in the numbers or range of areas used by Whooper Swan during construction, the potential for in-combination effects cannot be excluded based on the information provided. As per the submitted report cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated within an area or location. The provided report would appear to not have had regard to all other solar	The accumulative effect of the project is discussed in **Section 7: In-Combination Effect**.

	infrastructure related projects in the area in its assessment, with no assessment on in-combination effects actually provided.	
1 b)	It is noted that the AA Screening has not had regard to mitigation measures, numerous references to the use of same are outlined within the Outline Construction Methodology report.	The industry standard construction measures implemented as part of the project design have been revised in section **3.2 Project description**.

2.6 Guidance and Legislation

This Screening for AA report has been prepared with regard to the relevant provisions of the EU Council Directive 92/43/EEC and Ireland's EU (Birds and Natural Habitats) Regulations 2011 (as amended). The methodology considered in preparation of this report and additional guidance and legislation followed for this assessment are outlined below:

- DoEHLG (2009, rev. 2010) Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government.
- European Commission (EC) (2018), 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.
- EC (2002) 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, Office for Official Publications of the European Communities, Luxembourg. European Commission.
- EC (2007a) Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC - Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission. European Commission.
- EC, (2007b), Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC. European Commission.
- EC (2013) Interpretation Manual of European Union Habitats. Version EUR 28. European Commission.
- EC (2021) Assessment of Plans and Projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC.
- Chartered Institute of Ecology and Environmental Management (CIEEM) Version 1.1 (September 2019), Guidelines for Ecological Impact Assessment in the UK and Ireland.
- NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 2: Habitat Assessments. Unpublished NPWS report.
- NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 3: Species Assessments. Unpublished NPWS report.
- Office of the Planning Regulator (OPR) (2021) Practice Note PN01 - Appropriate Assessment Screening for Development Management.
- The European Communities (Birds and Natural Habitats) Regulations 2011 as amended.
- The Planning and Development Act 2000-2022.
- The Planning and Development Regulations 2001-2022.

Section 3: Proposed Development

3.1 Project Location

The proposed development site is Located primarily within the townlands of Ballynadrideen and Ardnageehy with small section on the most southerly part of the site being in Ballyroe County Cork. It is centred around ITM grid reference; 552551, 617515.

The proposed interconnector between Ardnageehy (ITM – 552633, 618290) and Ballyroe (ITM – 552785, 617094) is approx. 1.4km in length. The proposed route commences within existing agricultural land, follows an agricultural path, then runs beneath the L5519-16 secondary roadway. Continuing through fields and along farm paths, the underground cable (UGC) crosses a small canal and stream before reaching its termination point at Ballyroe Solar Farm.

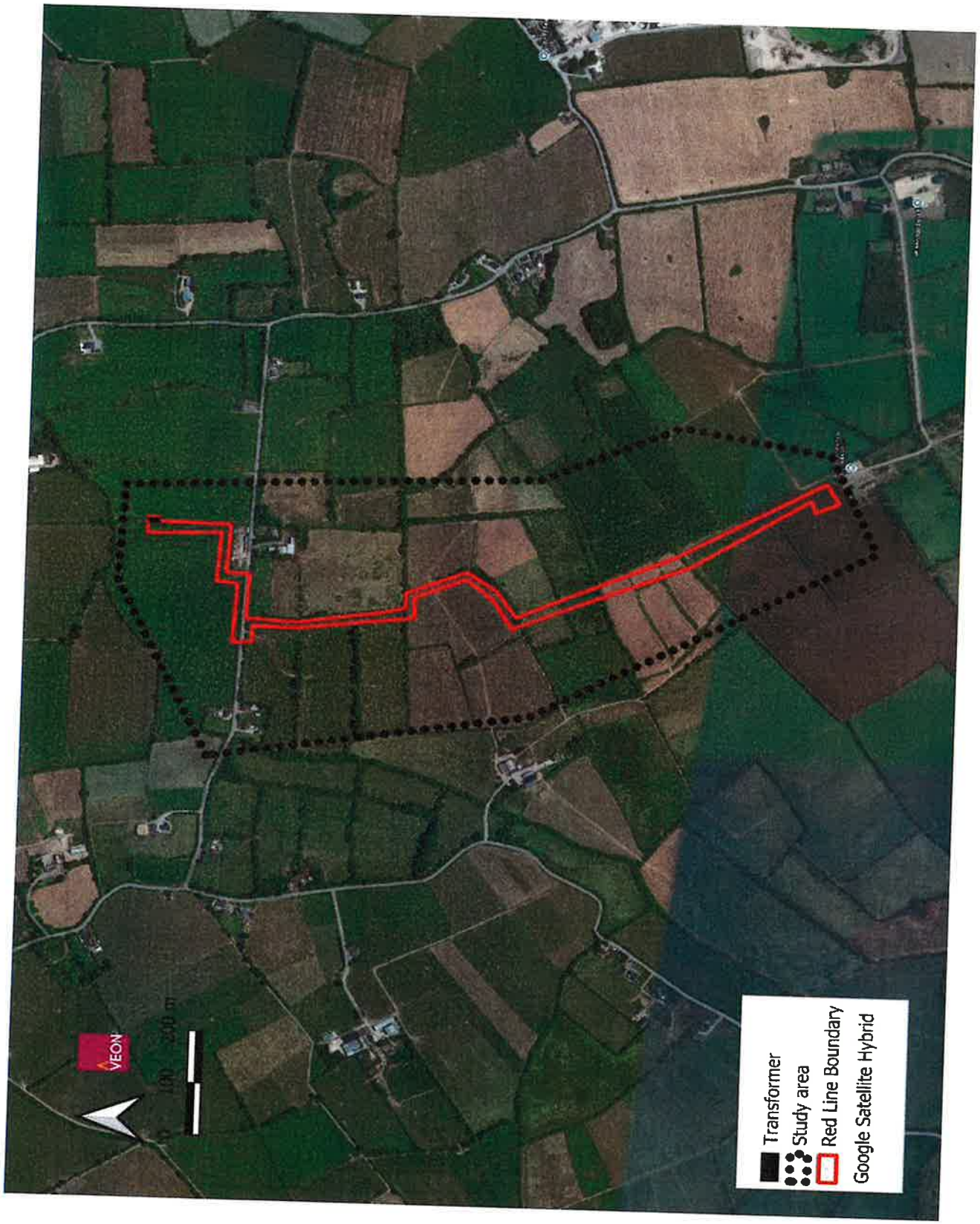
The location of the proposed underground solar interconnector consists predominantly of Grassland (GA1&BC1) habitat which are bordered by a mix of Hedgerow (WL1) and Matures Treeline (WL2). There is a mix of both pastoral and arable grassland with pastoral being the more predominant of the two. There is also a section of planted Broadleaved Woodland (WD1). There is one Lowland depositing stream that dissects the site (FW2) which is bordered by a Drainage ditch (FW4).

A map of the hydrological features in the vicinity of the proposed development site is presented in **Appendix 1**. There is one lowland depositing stream (Dromin (EPA CODE 18D300)) which dissects the proposed redline boundary which is the main hydrological feature on site. The site is hydrologically connected to, and in close proximity of, the Blackwater River SAC (002170). Under further investigation the section of the Dromin stream which dissects the site is its uppermost reaches of its course and consist of shallow interspaced puddles of poor water quality within a flat landscape. This habitat is further bordered by dense vegetation of hedgerows and treelines.

A local road connects both the Northern and southernly section of the site to the N20 which further connects the site to both Cork and Limerick city.

A detailed survey was undertaken on the 11th of June 2024 by Aine O'Sullivan, ecologist with Veon ltd. No 2. invasive species listed as Part 1 of the Third Schedule of S.I No. 477 of 2011, European communities (Birds and Natural Habitats) Regulations (2011) were historically recorded within 2km^2 distance of the site (NBDC2024). These were the Ruddy Duck and Jenkins spire snail. No invasive species was found during the site walkover.

Figure 3.1 Defined Redline and Study Area boundary

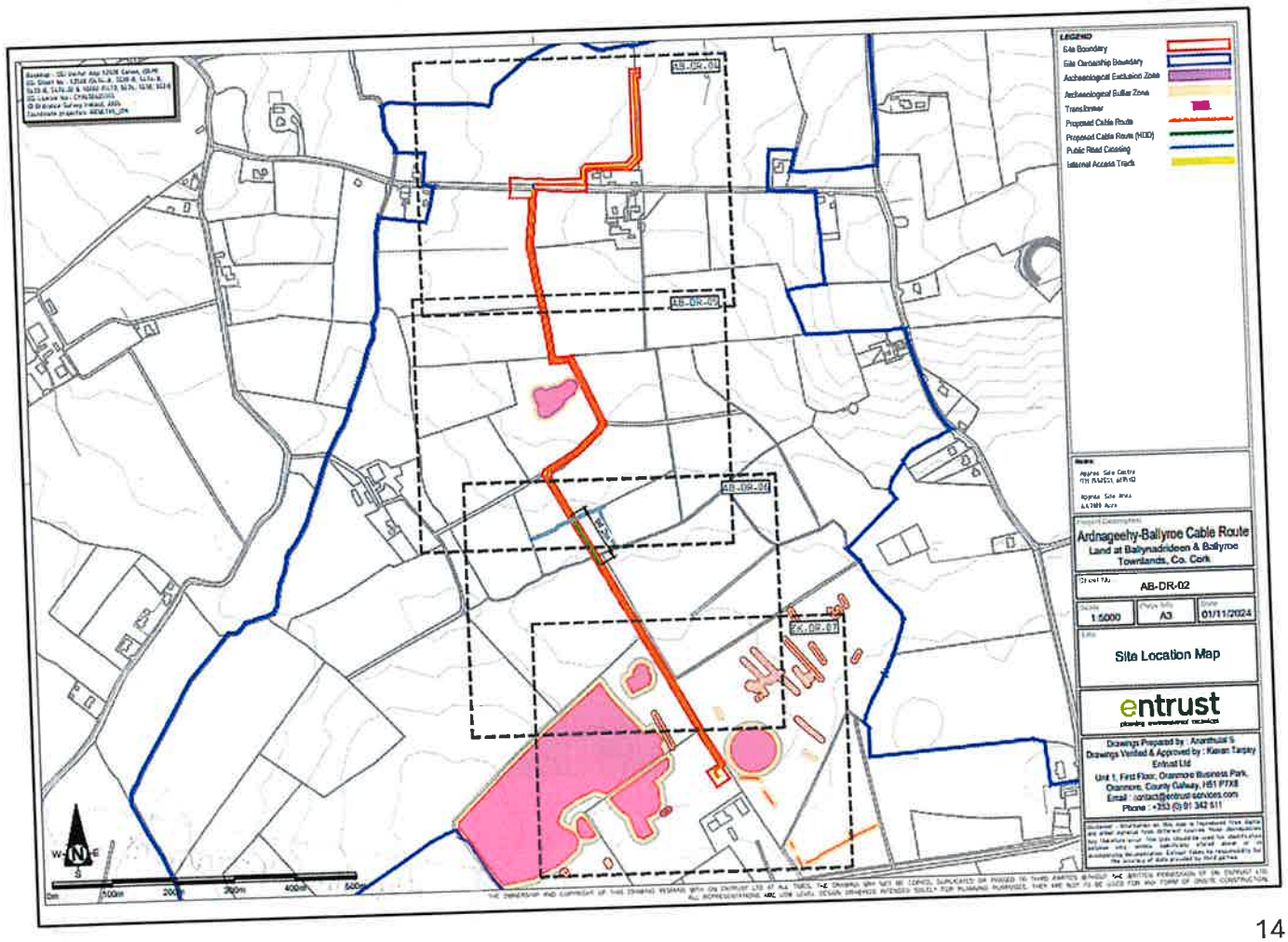


3.2 Project description

The project will consist of earth works in order to lay down a UGC route and transformer which will connect the Ardnageehy (ITM – 552633, 618290) and Ballyroe (ITM – 552785, 617094) solar farm developments. Works to be done include the addition of one trench where the cable route dissects a local access road at ITM 552443.48,618135.81. Excavation works will be done along the entirety of the proposed route with additional hedge/tree removal were the route crosses hedgerows/treelines. These will be carefully removed and reinstated once work is complete. Additionally Horizontal directional drilling (HDD) will be done where the cable route crosses the Dromin stream and associated drainage ditch. HDD has minimal surface disruption with no instream works for the installation of the cable. This project will be of a short time scale with a small footprint and will be in its majority underground in nature. See **Appendix 1** for proposed cable route as well as engineering references.

The proposed interconnector will consist of 3 No. 110mm diameter uPVC power cable ducts, 1 No. 110mm diameter uPVC communications duct, 1 No. 63mm diameter duct for earth continuity conductor. Cable ducts are typically installed in an open-cut style excavated trench (typical trench dimensions – 940mm wide by 1220mm deep). Trench dimensions can vary relative to the types of existing infrastructure and environmental constraints along the interconnector route (e.g. Canal / Stream crossing, Road crossings, existing Services, etc). The following provides a brief overview of the proposed interconnector infrastructure:

- The 3 No. cable ducts will accommodate 3 No. electrical cables.
- The communications duct will accommodate a fibre cable to allow communications between the solar farms



The following standard best practise construction measures will be implemented as part of the project design:

- Stockpiles of excavated material should be positioned a minimum of 50m away from surface water features. All stockpile locations should be subject to approval by the site manager and the relevant ecological/environment officers.
- Excavated material is typically used to reinstate the trench and any surplus material should be transported to a licensed disposal facility.
- Any hedgerows, earth embankments and grass areas should be carefully removed to allow for reinstatement on completion of trenching.
- Excavated material is typically used to reinstate the trench and any surplus material should be transported to a licensed disposal facility.
- No more than 100m of trench is typically open at any given time. Excavation of an additional 100m section should only proceed once reinstatement work has been substantially completed on the first section.
- All plant, machinery and equipment should be stored on site within a defined contractor construction compound area or stored within the works area during the construction works. Fuels should be stored in an appropriately bunded fuel bowser and oils/other chemicals should be stored in an appropriate double bunded site container within the contractor's compound.

Timing

A typical crew would be expected to complete approx. 100m of complete trench per day including excavation, cable duct installation and reinstatement.

It is expected that works will only be conducted during normal working hours – Monday to Friday 08:00 to 20:00 and Saturday 08:00 to 18:00, with no works on Sundays or Bank holidays except in exceptional circumstances in the event of an emergency. It is advised that the work be completed during summer periods.

With 100m of completed cable installation a day and a project length of 1.4km the total timeframe for the construction of the project including reinstations is relatively short.

3.3 Potentially effect Natura 2000 site

Natura 2000 sites in the vicinity of the proposed development and with a direct physical/hydrological connection to this development were checked for on the mapping system of the NPWS website http://webgis.npws.ie/npwsviewer/. In accordance with guidance from the Department of Environment, Heritage and Local Government (2009) a distance of 15km was used as a precautionary measure for identifying all potential impacts. A distance of 15km is currently recommended in the case of plans, and derives from UK guidance (Scott Wilson et al., 2006). For projects, the distance could be much less than 15km, and in some cases less than 100m, however this must be evaluated on a case-by-case basis with reference to the nature, size and location of the project, and the sensitivities of the ecological receptors, and the potential for in combination effects. It was found that this 15km distance was more than adequate for capturing all potentially significant impacts within the ZoI. Natura 2000 sites within 15km of the subject site are shown in **Appendix 1**.

The Natura 2000 sites within 15km of the proposed works include:

National Heritage Sites:

No National Heritage Sites within the 15km of the site.

Specially Protected Areas

- Kilcolman Bog (004095)

Specially Areas of Conservation

- Blackwater River (002170)
- Ballyhoura Mountains (002036)

Both the Ballyhoura Mountains SPA (002036) and Blackwater River SPA (002170) are hydrologically connected to the site.

The relevant Naura 2000 site(s) are discussed in more detail in **Section 5**.

3.4 Potentially Affected Habitats/Species

The area of potential impact during construction phase is taken as being the site of the proposed development to the downstream aquatic habitat. While the aquatic zone of potentially highest impact is from the location of a proposed development to 5km downstream (Escauriaza et. al., 2017), potential impacts on protected habitats and species in the entire downstream section of the adjoining watercourses are also considered.

No annex I Habitats are recorded onsite so there is no potential for direct impacts on the QI Annex Habitats for which the relevant Natura 2000 site(s) are designated. The possibility of impacts within 15km was considered. There is No. 1 European Site within 5km of the proposed development (i.e. River Blackwater SPA).

A number of nationally designated sites are also located within 15km of the proposed project site. While Natural Heritage Areas (NHA) and Proposed Natural Heritage Areas (pNHAs) are designated for nature conservation they are not included within the Natura 2000 network and are therefore outside of the scope of an Appropriate Assessment Screening.

3.5 Assessment of Likely Effects

This Screening Assessment determines whether the construction, operational and subsequent decommissioning phases of the proposed development, alone or in combination with other projects and plans, will have the potential to result in likely significant effects on the above relevant European Sites. The likely significant effects of the proposed works are outlined in **Table 2.1**.

Table 2.1: Summary of likely significant effects of the proposed development

Assessment Criteria Describe any likely direct, indirect, or secondary impacts of the project (either alone or in combination with other plans or projects) on the Relevant European Site(s):	
Size and Scale	The overall site wherein the proposed development works are to take place is approximately 4.47 acres in size. The projects work will done in a short time period and within a relatively small footprint. The works are further underground in nature for its majority as such the site will fully return to its original state once installation is completed with no significant permanent above ground structures other than the transformer and trench where the cable dissect the local road both of which are small in scale.
Land take	There are no Natura 2000 sites present within the site.
Distance of European Sites	The site is not located within any Special Areas of Conservation (SACs) or Special Areas of Protection (SPAs). There are no Annex habitats recorded within or immediately adjacent to the site of works. The site is bordered by Blackwater River (Cork/Waterford) SAC which is located 193.5m from the site.

	Due to the small footprint and timescale of the works being done as well as underground nature of the works the close proximal distance of the site to the Blackwater River (Cork/Waterford) will have no long-term significant impacts.
Transportation	During the construction phase of the proposed development delivery of machinery and material to site will be via the existing road network and access roadway.
Emissions	Small short term Construction works will be required for the proposed development plan. Emission to air will include temporary fine particulate matter associated with ongoing works and other construction practices. These are unlikely to go further than the site boundary. All works will be conducted during daylight hours
In Combination Effects	Cork County Council's planning website gives details on all proposed development applications, a review of the relevant planning applications was assessed and detailed below in **Section 7** of this report.
Describe any likely changes to the Relevant European Site(s) arising as a result of the following:	
Disturbance of key species	None of the species and/or habitats listed as QIs of the relevant European Sites were recorded on site during site walkover. The temporary small-scale and nature of the development as well sufficient alternative foraging habitat being seen in the site surroundings, there are no significant effects related to ex-situ foraging identified. EPA maps of the site show the uppermost section of the Dromin stream dissecting the site. When this section was further investigated, it was found to have no free-flowing water with no significant gradient along its length. The habitat is further bordered by dense vegetation further indicating the habitat as an unlikely pollution pathway. There will additionally be no in stream works with HDD. As such hydrological disturbance has been screened out. The standard implantation of standard pollution control practises for construction works outlined in **Section 3.2** further solidifies this.
Habitat or Species Fragmentation	The site is not part of any of the Natura 2000 sites nor does it provide any essential resources to Natura 2000 sites, thereby ruling out any direct habitat loss impacts.
Describe any likely impacts on the European Site(s) as a whole in terms of:	
Interference with key relationships that define the structure and function of the European Site(s)	No QIs from the surrounding Natura 2000 sites were recorded on site during a site walkover. More transient QIs such as birds may be found on site however the site does not have habitats that would be of significance to the listed QIs of the relevant European Sites with similar habitat composition being found throughout the region. Nor does it pose as a possible pollution source to downstream aquatic habitat in which the QIs inhabit. The relevant Natura 2000 sites also do not acquest any essential resources from the site. As such the site does not pose as a source of interference in key relationships of the Natura 2000 sites.
Describe from the above the elements of the project or plan or combination of elements, where the above impacts are likely to be significant or where the scale of magnitude of impacts is not known.	
Likely significant impacts/ unknow scale or magnitude of impact.	The relatively small footprint and timescale of the works will lead to minimal disturbance during the construction phase.

	The commission phase of the project will have majority underground components with the overground habitats reverting to their original state. As such it can be concluded that it is likely that there are no likely significant impacts on the surrounding Natura 2000 sites. Cork County Council's planning website gives details on all proposed development applications. A review of the relevant planning applications was assessed and detailed below in **Section 6** of this report.

Section 4: Existing Environmental

4.1 Existing Site Ecology

The habitats within the study area have been assessed, following a detailed desktop and field study, and were cross referenced with 'A Guide to Habitats in Ireland' (Fossitt, 2000). Photographs illustrating the key areas to which the proposed development are applicable are provided in **Appendix 3**.

The primary habitats within the proposed development area comprise of Pastoral (GA1) and arable grassland (BC1). These fields are lined by hedgerows (WL1) and Treelines (WL2). There is a small Lowland depositing river (stream) (FW2) dissecting the southerly section of the site. The final habitat seen on site was a planted Broadleaved Woodland (WD1) seen in the Southeast section of the site.

The most significant hydrological feature on the site is the River Dromin (18D30) as defined by EPA maps. The section of the Dromin that dissects the site is shallow with a lack of free-flowing water consisting of poor quality shallow interspaced puddles. There is also an associated drainage ditch which dissects the development site and leads into the Dromin. It is bordered by both hedgerows and Treelines which provide a dense vegetative cover.

The habitats within the site itself are not significant habitats for QI species and no QI habitat or species was found on site.

Section 5: Appropriate Assessment Screening

5.1 Overview of Potential Impacts

There are a number of elements associated with the proposed construction works that may give rise to direct and indirect impacts. The significance of these impacts depends on the scale of the impact as well as the ecological condition and the sensitivities of the qualifying interests. Elements of the proposed development that may give rise to impacts which have been considered with regards to potential likely significant effects to European sites are as follows:

- Release of sediment and pollutants which may be discharged into surface waters, particularly during high rainfall events.
- Movement of vehicles and machinery associated with construction works and the potential for spillages of oils, fuels or other pollutants which could be transported to the surface water system during rainfall events.

- Increased silt loading, which may stunt aquatic plant growth, limit dissolved oxygen capacity and overall reduce the ecological quality of watercourses, with the most critical period associated with low flow conditions.
- The introduction or spread of invasive alien species due to construction works.
- Disturbance to fauna (e.g. through noise from construction activity and/or human presence) resulting in the displacement of affected species.
- Accidental mortality of wildlife from construction machinery.

These potential impacts listed above are associated with the construction, and not the operational phase.

5.2 Determining the Likely Zone of Influence

In accordance with guidance from the Department of Environment, Heritage and Local Government (2009) a distance of 15km was used as a precautionary measure for identifying all potential impacts. A distance of 15km is currently recommended in the case of plans, and derives from UK guidance (Scott Wilson et al., 2006). For projects, the distance could be much less than 15km, as such this must be evaluated on a case-by-case basis with reference to the nature, size and location of the project, and the sensitivities of the ecological receptors, and the potential for in combination effects. It was found that a 15km distance was more than adequate for capturing all potentially significant impacts within the ZoI.

Using the source pathway-receptor model an examination of the potential effects of the proposed development was undertaken (alone and in-combination with other plans and projects) to identify what European sites, and which of their Qualifying Interests or Special Conservation Interest species were potentially at risk. This examination was used to determine the Zone of Influence (ZoI) for the Proposed Development.

It is vital that an assessment of potential pathways is undertaken to assess potential impact links between the receptor (European sites) and source (proposed ground investigations) to establish the risk of any likely significant effects.

With regards to potential habitat degradation effects associated with the release of sediment and other pollutants to surface water, the ZoI of the proposed development is considered to include receiving water bodies in close proximity to, or downstream of, the proposed development site.

The distance downstream is associated with the current biological condition of the accepting water body and its capacity to accept and assimilate sediment and other pollutants. The distance downstream is also associated with the sensitivity of the Qualifying Interests of the European Site which may be hydrologically connected to the proposed development site.

Noise from activities has the potential to cause disturbance to resting, foraging and commuting Qualifying Interest and Special Conservation Interest species. With regards to disturbance effects, the potential ZoI is commonly considered to be in the local vicinity (within 300m) of the proposed development unless there is evidence to suggest an extension of this disturbance buffer (significant populations of particular sensitive species noted in the area) is needed. The proposed works are anticipated to generate relatively low levels of noise and only during permitted hours. In general, machinery will be designed to ensure that the maximum noise level 10m outside the site boundary does not exceed an equivalent continuous sound level beyond what is recommended in the BSI British Standards (BS5228-1:2009+A1:2014). It should be noted, no night works will be carried out. Further the timescale and footprint of the project is relatively short with an abundance of alternative habitat it the surroundings as such the disturbance to species in the immediate surrounding habitat is considered minimal.

Where the proposed development site does not have the potential to impact on the qualifying Annex II species of the EU Habitats Directive or Annex I species of the EU Birds Directive of a European Site or if the terrestrial qualifying habitats of the European sites occur at a remote distance from the proposed works site, (i.e. buffered from the proposed development site), then these European Sites are not considered to be within the Zol of the proposed development.

5.3 Identification of Relevant European Sites

The source-pathway-receptor (S-P-R) conceptual model was used to identify a list of 'relevant' European sites (i.e. those which could be potentially affected by the Proposed Development). This conceptual model is a standard tool in environmental assessment (OPR, 2021). In order for an effect to occur, all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism means there is no likelihood for the effect to occur. In the context of the Proposed Development, the model comprises:

- Source (s) – e.g. Sediment run-off from proposed development works.
- Pathway (s) – e.g. Rivers and drains connecting to a European site.
- Receptor (s) – e.g. Special Conservation Interests (SCI) or Qualifying Interests (QI).

There are currently No. 3 European sites within 15km of the Proposed Development. These include Blackwater River SAC (002170), Ballyhaura Mountains SAC (002036) and Kilcolman Bog SPA (004095).

Kilcolman Bog SPA has no pathways (physical or hydrological connections which could act as a route for potential direct impacts) to the proposed development. Ballyhaura Mountains SAC is hydrologically connected upstream to the site so as such is screened out as a viable receptor site. The Blackwater SAC is the only Natura 2000 site which is connected to the site by a hydrological pathway via the Dromin (18D30). However, the section of the Dromin river which dissects the site is in its uppermost reaches of the course and when investigated was found to consist of poor quality interspaced shallow puddles with a lack of any free-flowing water. This habitat was further covered by dense vegetation. There was also a lack of any significant gradient along its length. Horizontal directional drilling will be done in this habitat even with the lack of free-flowing water creating minimal surface disturbance and no instream works. As such this potential hydrological pathway was deemed an unviable.

5.4 Screening of relevant European Sites

Potential impacts and their significance, if any, within the Relevant European sites are considered below. Impacts are considered in light of the Conservation Objectives/Special Conservation Interests for which these European sites are designated.

Table 4.1: Screening assessment of the potential effects arising from the proposed development using SPR model

Site Code	Site Name	Distance To (m)	Qualifying Interests (*denotes a priority habitat)	Assessment
002170	Blackwater River (Cork/Waterford) SAC	193.5	Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Perennial vegetation of stony banks [1220] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]	The Blackwater SAC is the only Natura 2000 site which is connected to the site by a hydrological pathway via the Dromin (18D30). However, the section of the Dromin river which dissects the site is in its uppermost reaches of its course and when investigated was found to consist of poor quality interspaced shallow puddles with a lack of any free-flowing water. This

			Mediterranean salt meadows (Juncetalia maritimi) [1410] Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] Margaritifera margaritifera (Freshwater Pearl Mussel) [1029] Austropotamobius pallipes (White-clawed Crayfish) [1092] Petromyzon marinus (Sea Lamprey) [1095] Lampetra planeri (Brook Lamprey) [1096] Lampetra fluviatilis (River Lamprey) [1099] Alosa fallax fallax (Twaite Shad) [1103] Salmo salar (Salmon) [1106] Lutra lutra (Otter) [1355] Trichomanes speciosum (Killarney Fern) [1421]	habitat was further covered by dense vegetation. Further characteristics such as a lack of any significant gradient along its length further promotes it as an unlikely pollution source pathway. Horizontal directional drilling (HDD) will be done underneath this habitat even with the lack of free-flowing water creating minimal surface disturbance and no instream works with the cable gong underneath the habitat. As such this potential hydrological pathway was deemed as an unviable pollution source pathway. The SAC surrounds the site from the South, West and East. In its closest proximity the SAC is located approximately 193.5m from the site. The development site does not support habitats of significance for the listed QIs (Species or habitat) nor where they recorded on site. Further the SAC does not rely on the site for essential resources. Due to the small footprint, timescale and nature of the works, along with plentiful alternative habitat within the site surroundings, disturbance to local terrestrial habitats/species is considered minimal. As such, the proposed development does not have the potential to affect the Blackwater River (Cork/Waterford) SAC QIs and its targets. Therefore, it can be screened out for potential impacts
002036	Ballyhoura Mountains SAC	6428.6	Northern Atlantic wet heaths with Erica tetralix [4010] European dry heaths [4030] Blanket bogs (* if active bog) [7130]	The SAC is located both upstream and up slope of this habitat and as such though it is hydrologically connected to the site, the site does not form a viable pollution source pathway. This European Site is located entirely outside the proposed development site. At its nearest the designated site is c. 6.4km northwest of the proposed developments site. There is no viable hydrological connectivity between the site and this European site. Based on this rationale, Ballyhoura Mountains SAC has been screened out for potential impacts
004095	Kilcolman Bog SPA	7897.4	Whooper Swan (Cygnus cygnus) [A038] Teal (Anas crecca) [A052] Shoveler (Anas clypeata) [A056] Wetland and Waterbirds [A999]	This European Site is located entirely outside the proposed development site. At its nearest the designated site is c. 7.9 km south-east of the proposed developments site. There is no hydrological connectivity between the site and this European site. The habitats seen on site are deemed unsuitable for the SPAs QIs. Whooper swan is known to frequent the surrounding region however the habitat on sight would not be significant habitat to the species a further look at previous reports on whooper swan activity in the region supports this conclusion with whooper swan flightpaths and colonies only being recorded south of the

				site with no overlap. Within the locality of the project significant flock sizes have been noted roosting in Ballyroe Quary pond. Ballyroe Quary pond is within the 350m disturbance buffer at 222m (Goodship, N.M and Furness, R.W., 2022). If the suggestion of the construction work to be completed in the summer period is adhered to the work will have no effect on these wintering species. In addition if the work was to be completed during the winter months the linear nature of the works which runs directly north of the site, with the timeframe provide for the installing of the cable (100m of cable per day), would indicate that at most the work would be in the disturbance distance for a period of one day as such this disturbance effect would not be considered as one of continued significance to the species. Significant Whooper swan roost have been noted within the area with Kilcolman Bog and the Awbeg Floodplain with the sites being a known frequently used flight path with ex-situ foraging. Both of these roost sites are south of the proposed project as such the site does not fall into theses flightpaths. Further neither site is within the advised disturbance zone for whooper swans of 350m (See Further **Appendices – whooper swan activity map by Entrust LTD**). Based on this rationale, Kilcolman Bog SAC has been screened out for potential impacts.

The Hydrology map in the Appendices is taken from the EPA website https://gis.epa.ie/EPAMaps/AAGeoTool. The watercourse(s) are labelled along with directional flow (See Appendix 1). Where the flow of the watercourses is away from or does not flow into European sites mentioned, no Qualifying Interests have been recorded within 10km of the site and/or there is no hydrological connection to the European sites, these sites have been screened out. European sites (SPA/SAC) downstream with direct hydrological connections, or any European sites within 15km where QIs have been recorded on or within 10km of site have been screened in.*

Section 6: Assessment of Potential Impacts

The available information on the relevant Natura 2000 sites, was reviewed to establish whether the proposed development site is likely to have a significant effect on any European Site. The potential for impacts on the features of interest is identified using information collated from the desk study in conjunction with the ecological appraisal data (Field study). The likelihood of impacts occurring are established in light of the type and scale of the project, the location of the project with respect to the Natura 2000 sites and the features of interest and conservation objectives of the relevant Natura 2000 sites. The assessment was carried out following the source-pathway-receptor model. The potential impacts are summarised into the following categories for screening process.

- Direct impacts which refer to habitat loss or fragmentation arising from possible land-take requirements for development. Direct impacts can be as a result of a change in land use or management (e.g. the removal of agricultural practices which prevent scrub encroachment).
- Indirect and secondary impacts do not have a straight-line route between source and receptor. As a result, it is often difficult to ensure that all the possible indirect impacts of the plan or development, in combination with other plans and projects are established.
- Indirect and secondary impacts can occur when a development alters the hydrology of a catchment area, which in turn affects the movement of groundwater to a site and the qualifying interests that rely on the maintenance of water levels.
- Deterioration in water quality can occur as an indirect consequence of a development, which in turn changes the aquatic environment and reduces its capacity to support certain plants and animals.
- Disturbance to fauna can occur directly through the loss of habitat (e.g. potential bat roosts) or indirectly through noise, vibration and increased activity associated with construction and operation.
- Collision risk during the operational phase could potentially impact on bird species.

Site-Specific Conservation Objectives (SSCOs) have been prepared for a number of European sites. These detailed SSCOs aim to define favourable conservation condition for the qualifying habitats and species at that site by setting targets for appropriate attributes which define the character habitat. The maintenance of the favourable condition for these habitats and species at the site level will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a species can be described as being achieved when:

'Population data on the species concerned indicate that it is maintaining itself, and the natural range of the species is neither being reduced or likely to be reduced for the foreseeable future, and there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.'

Favourable conservation status of a habitat can be described as being achieved when:

'Its natural range, and area it covers within that range, is stable or increasing, and the ecological factors that 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'.

A Generic Conservation Objective for a SAC is as follows:

To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.

A Generic Conservation Objective for a SPA is as follows:

To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.

6.1 Identification of Potential Significant Effects

Potential impacts, both direct and indirect, as a result of the proposed development were identified in the previous section and summarised below. The potential for cumulative impacts to occur and likelihood of effects being significant are also discussed below.

Direct Impacts

The construction phase of the proposed development will not result in any direct impacts to the relevant European Sites. Only one Natura 2000 site is within direct proximity to the site, Blackwater River (Cork/Waterford) SAC

(002170), though this is within the local vicinity of the site (193.5m) subjecting it to possible disturbance (namely noise, light and human presence) the relatively small footprint, timescale and nature of the works would make any disturbance minor and short term and with no significant long term effects.

The proposed development will require localised earthworks primarily in pastoral (GA1) and arable grassland (BC1). The internal boundaries within the site are of low to moderate value for nesting and roosting for passerine birds which were recorded during the field study. There will be limited removal of hedgerows and treelines as part of the proposed development. Where hedgerow and treeline are removed it will be done so in way which allows for careful reinstation once works are complete. The proposed construction works will temporarily make the site relatively unattractive for many of the small passerine species however this will be short term with the abundance of similar habitat to that within the development site in the surrounding area mitigating any impacts as a result of disturbance or displacement. As the interconnector will be underground there no potential for bird collision

No Natura 2000 site is within the sites boundaries nor relies on the sites for essential resources as such the proposed development will not result in any loss of habitat or fragmentation of habitats which form part of the relevant European Sites.

Indirect Impacts

The sites main hydrologically features of the site is the Dromin stream (18D30) and associated drainage ditch which dissects the site at ITM 552528.09,617517.72. and 552466.83,617667.48 respectively. This site was investigated as a potential hydrological pathway between the site and the Blackwater River (Cork/Waterford) SAC (002170). The characteristic of the habitat as well as nature of the works being done deemed this potential pollution source pathway as unviable (See **table 4.1** for more detail). The site shares the same bedrock limestone aquifer as the SAC (see **Appendix 1**). However, the subsoil of the site and its immediate surroundings is of low to moderate permeability (Shale & Sandstone Till (Numarian)) with the groundwater vulnerability of the region also classified as low to moderate (GSI/maps.ie). In conclusion, the most notable hydrological connectivity between the site and a Natura 2000 site is the Dromin stream and associated drainage ditch which is deem as an unviable pathway.

IUCN red listed waterfowl species such as Eurasian Curlew (*Numerius Arquata)* and Northern Lapwing (*Vanellus vanellus)* have been recorded within 2km^2 of the site. There were no habitats that would be deemed suitable for these protected species within the site. Significant Whooper swan roost have been noted within the area with Kilcolman Bog and the Awbeg Floodplain being a known frequently used flight path with ex-situ foraging. Both of these roost sites are south of the proposed project as such the site does not fall into theses flightpaths. Further neither site is within the advised disturbance zone for whooper swans of 350m (Goodship, N.M and Furness, R.W., 2022). Ballyroe Quarry which is within the disturbance zone at 222m is another site seen to have had significant flock number of Whooper Swans. If the planned construction work takes place in the summer months as advised there will be no effect on these winter visitors. In addition if the work was to be completed during the winter months the linear nature of the works which runs directly north of the site, with the timeframe provide for the installing of the cable (100m of cable per day), would indicate that at most the work would be in the disturbance distance for a period of one day as such this disturbance effect would not be considered as one of significance to the species.

To summarize, the site is unlikely to have direct or indirect impacts on Natura 2000s sites and their QIs.

Section 7: In- Combination and Cumulative Effects

During screening, the assessment of the likelihood of potentially significant effects should be done of the plan or project, either alone or in combination with other projects or plans. The 'in combination' screening requires the identification of other plans and projects that can have potential effects on the same Natura 2000 sites and then assessing their capacity to cause significant effects when considered together with the plan or project under assessment. If this analysis cannot reach definitive conclusions, it should at least identify any other relevant plans and projects that should be scrutinised in more detail during the appropriate assessment.

EC (2021) guidance on assessing cumulative effects at the screening stage advises that:

- The in-combination provision concerns other plans or projects that have been already completed, approved but uncompleted, or proposed (i.e. for which an application for approval or consent has been submitted).
- All types of plans or projects that could, in combination with the plan or project under consideration, have a significant effect, should be included during the assessment.
- The assessment of such cumulative impacts is often less detailed at the screening stage than in the appropriate assessment.
- There is still a need to identify all other plans or projects that could give rise to cumulative impacts with the plan or project in question. and,
- If this analysis cannot reach definitive conclusions, it should at least identify any other relevant plans and projects that should be scrutinised in more detail during the appropriate assessment
- EC (2021). Assessment of Plans and Projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC. (2021/C 437/01). Official Journal of the European Union, European Commission.

A search of the Cork County Council planning enquiry system (https://www.eplanning.ie), and the EIA portal was carried out on the 30th of June 2024 and the 20th of February 2025. Finalised applications lodged within the vicinity of the proposed development within the last 7 years were examined. Planning applications within the last 7 years in the locality of the proposed development site consisted primarily of applications for alterations and extensions to existing buildings, along with the construction of small-scale developments (See **Table 6.1**).

Table 6.1

Planning reference	Proposal	Location	Characteristics of the potential interactions between the projects; sources and pathways	Are significant incombination effects likely
Ballyroe Solar Farm (Planning Reference No. 204041) Decision date 16/02/21	Solar PV energy development (102.76 ha)	Townlands of Ballyroe, Dromin, Ballynadrideen Ardnageehy, Rathnacally and Clashganniv in Ballyhea Charleville, Co. Cork	Solar PV farm is hydrologically and proximally connected to the site. A NIS was submitted with the planning application for the projected in furtherance to an AA screening. The conclusion of these reports were that as long as proper mitigation measures are adhered to there will be no significant effect from the proposed development on the Blackwater River (Cork/Waterford) SAC. Further as part of the projects design land is being transformed into a wildlife sanctuary including areas	No

			designated specifically for whooper swan as such it is predicted to have a net gain.	
Fiddane Solar Farm (Planning Reference No. 236099) Decision date 02/07/24	Solar PV energy development (92.75 ha)	Fiddane, Cooliney Coolcaum, Ballynoran, Ballynadrideen Ardnageehy, Charleville Co. Cork	Solar PV farm is hydrologically and proximally connected to the Blackwater River (Cork/Waterford). A NIS was submitted with the planning application for the projected in furtherance to an AA screening. The conclusion of these reports were that as long as proper mitigation measures are adhered to there will be no significant effect from the proposed development on the Blackwater River (Cork/Waterford) SAC. A BMP was completed for this site which will help not only in maintaining good environmental standards but improve net biodiversity within the site.	No
Coolcaum Solar Farm (Planning Reference No. 225460 & 225681) Decision date 19/06/23	Solar PV energy development (42.6ha)	Coolcaum Churchtown Mallow Co.Cork	Solar Pv farm is connected hydrologically to the site. However, a robust mitigation measure is lined out in the site NIS, so it is unlikely to have significant in combination effect with the proposed development.	No
B&R Wind Limited (Planning Reference No. 175292) Decision date 26/01/2018	Works to connect the permitted Boolard Wind Farm (Reg. Refs. 12/5997 and 15/5521/PL.04.245560) to the existing Charleville 110kv ESBN substation	Boolard, Shinanagh, Clyderragh, Cloghanughera, Killaree, Ardmore, Kiltass, Milltown, Garrynagranoge, Ballypierce, Clashganniv, Rathnacally, Charleville, Co Cork.	The site is hydrologically connected to the Blackwater SAC through the Oakfront river. An Appropriate Assessment Screening in relation to the potential effects of the proposed development on European Sites was submitted with the application. In completing the screening exercise, the Board adopted the report of the Inspector and concluded that, by itself or in combination with other development in the vicinity, the proposed development would not be likely to have a significant effect on any European Site in view of the site's conservation objectives.	No
Charleville Solar Farm (Planning Reference No. 175799 and ABP 308846-20) Decision date 26/01/2018	Development of a 67.8-hectare Solar PV Farm	Fiddane Ballyhea Co. Cork	A Screening for Appropriate Assessment and Natura Impact Statement was carried out. The NIS rigorously inspected the effects the development could have on Natura 2000 site and came to the following conclusion: *The NIS contains information which the competent authority, may consider in making its own complete, precise and definitive findings and conclusions and upon which it can determine that all reasonable scientific doubt has been removed as to the effects of the proposed project on*	No

			the integrity of the relevant European sites. In the light of the conclusions of the assessment which it shall conduct on the implications for the European sites concerned, the competent authority is enabled to ascertain that the proposed project will not adversely affect the integrity of any of the European sites concerned. At the time of writing this report this application was refused by Cork County Council, however an appeal against the decision has been submitted to An Bord Pleanála.	
Ballyhea Asset Holdings Ltd. (154659) Decision date 29/01/2018	Sand and gravel quarry with an extraction area of approximately 1.7ha and all associated ancillary development works	Ballyroe Ballyhea Charleville Co. Cork	A Natura Impact Statement was prepared for this proposed development, considering impacts to the receiving environment and prescribing water quality and surface water mitigation measures to protect the nearby Awbeg River watercourse and the nearby areas of the Blackwater River (Cork/Waterford) SAC.	No
Coolcaum interconnector (225933) Decision date 15/06/23	Installation of two 33kV electricity grid interconnector with a combined length of 2217m of underground cable and 1146 of overhead line to connect the Fiddane (pl.ref 17/05799 & ABP-308846-20) to the consented but not built Ballyroe solar farm (pl/ref. 20/04041)	The Townlands of Fiddane, Cooliney, Ballynoran, Coolcaum & Ballyroe, Charleville, Co.Cork.	A robust Natura Impact Statement was provided which took into consideration the the streams on sites connection the Awbeg river and mitigated according. The mitigations are robust as such if implemented it is not foreseen that the projet will have an incombination effect. Further the NIS has mention of possible biodiversity enhancement measures.	No
Proposed M20 Road Project	Limerick City and County Council, in partnership with Cork County Council, Cork City Council, Transport Infrastructure Ireland (TII) and the Department of Transport (DoT) are developing the N/M20 Cork to Limerick Project. The assessment undertaken in Phase 1 identified the preferred road-based scenario as being broadly within the N20 corridor via Charleville and Mallow. T	Along the N20 road	Potential for in-combination effects as part of this scheme will be located within the Blackwater River (Cork/Waterford) SAC. However, this proposed project will be subject to the Appropriate Assessment process and should be cognisant of significant negative effects to European Sites within the receiving environment, particularly the Blackwater River (Cork/Waterford) SAC.	No

The solar Developments in the surrounding region will likely be staggered and the N/M20 Road project as of yet has not had any definitive commencement date.

Further in review of concerns identified by Cork County Council on the cumulative effect of the surrounding solar farm developments a further investigation into the submitted documents by these projects shows robust standard mitigations measures with further areas of these projects dedicated solely to biodiversity net gain with Ballyroe solar farm having designated a section of the site solely to the enhancement of the Awbeg area for Whooper Swans.

Section 8: Screening Determination

This report to inform screening for appropriate assessment of the proposed development of an Ardnageehy-Ballyroe Cable Route describes and considers the potential for likely significant effects on Natura 2000 sites within 15 km. There are currently No. 3 European sites within 15km of the Proposed Development. These include Blackwater River SAC (002170), Ballyhaura Mountains SAC (002036) and Kilcolman Bog SPA (004095).

Kilcolman Bog SPA has no pathways (physical or hydrological connections which could act as a route for potential direct impacts) to the proposed development. Ballyhaura Mountains SAC is hydrologically connected upstream to the site so as such is screened out as a viable receptor site. The Blackwater SAC is the only Natura 2000 site which is connected to the site by a via a potential hydrological pathway via the Dromin (18D30). This habitats characteristics combined with the nature of the works, in this case HDD, make this pathway unviable as a pollution source pathway.

The development site does not provide habitats of significance for the listed QIs (Species or habitat) to the surrounding Natura 2000 sites with similar habitat composition being seen in much of the surrounding region. No QIs were recorded during site walkover within the study area. Though concern has been raised for the disturbance of Whooper Swans who are known to frequent the surrounding region the time frame of the works as well as likely staggering of surrounding solar farm projects within the region would indicate if any disturbance was to occur to the species it would not be deemed as not significant.

There is sufficient information presented in this report to consider, with reasonable scientific certainty, that the proposed development, individually or in combination with other plans or projects, is not likely to significantly affect the surrounding European (Natura 2000) sites.

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Section 10: Appendices

Appendix 1 Maps and Figures

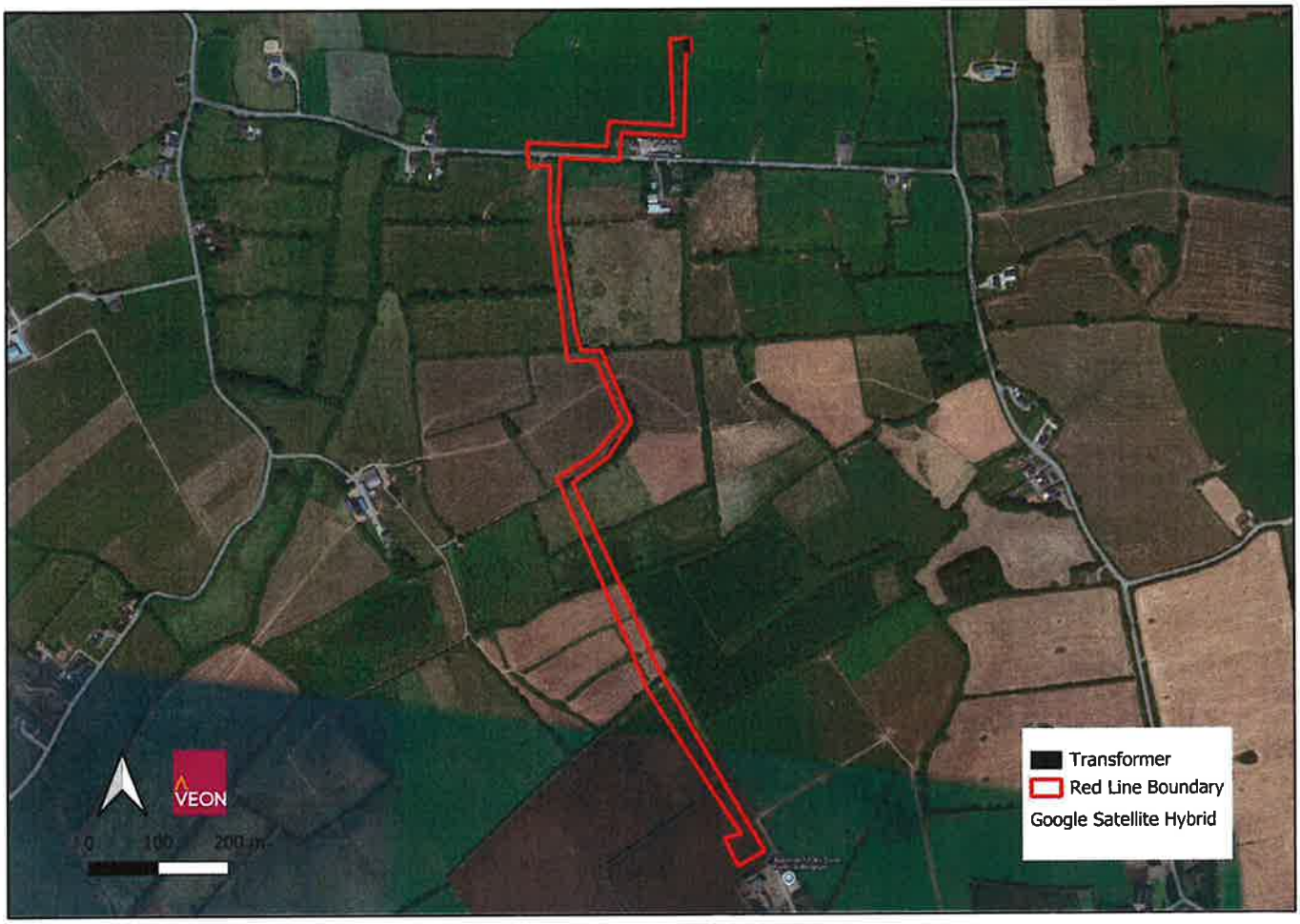


Figure 10.1 Red line Boundary

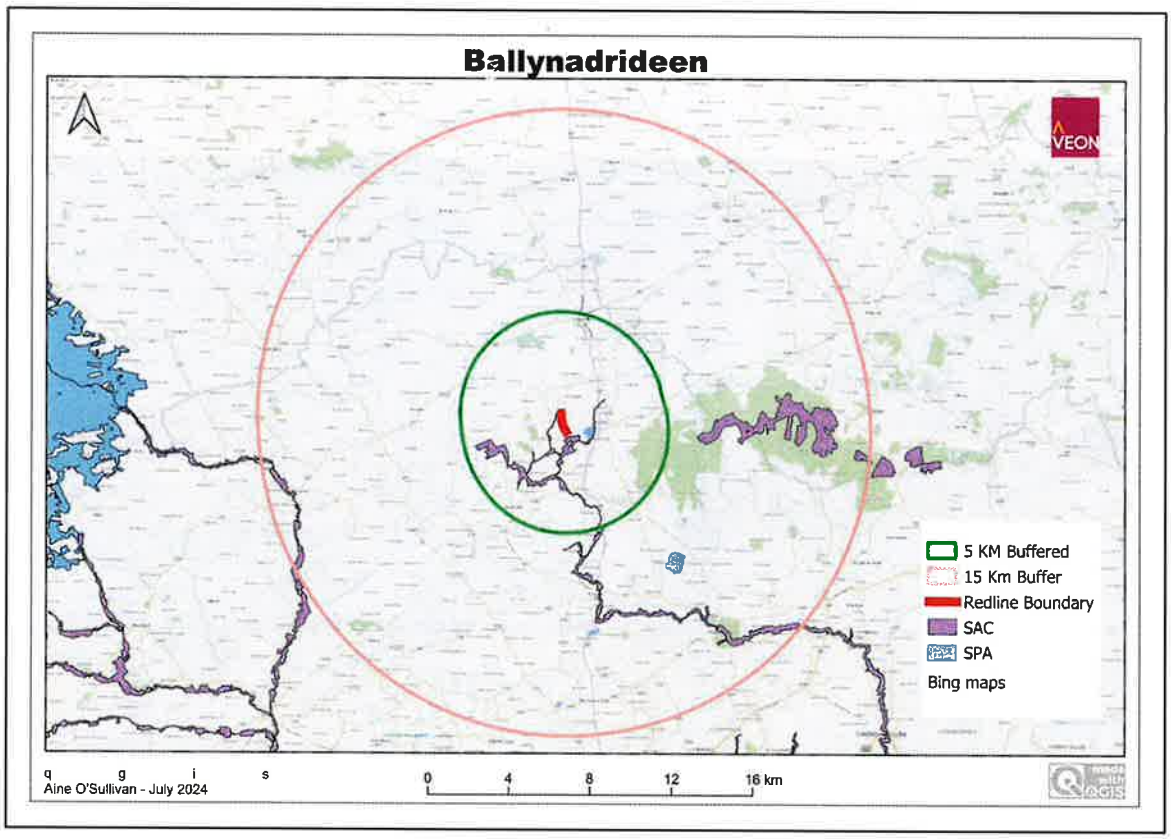


Figure 10.2 Natura 2000 sites within 15KM of the site

Figure 10.3 Labelled Natura 2000 sites within 15km of the site

Figure 10.4 Dromin stream and associated Drainage ditch

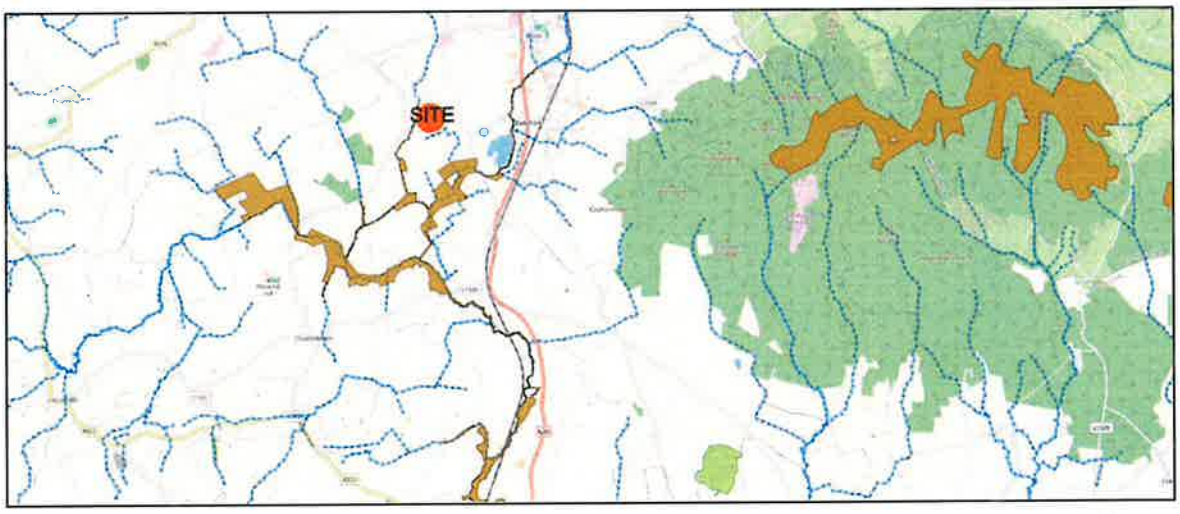


Figure 10.5 River flow directions with relevant SACs and SPAs

Past Flood Event Local Area Summary Report

OPW

Report Produced: 29/7/2024 14:51

This Past Flood Event Summary Report summarises all past flood events within 2.5 kilometres of the map centre.

This report has been downloaded from www.floodinfo.ie (the "Website"). The users should take account of the restrictions and limitations relating to the content and use of the Website that are explained in the Terms and Conditions. It is a condition of use of the Website that you agree to be bound by the disclaimer and other terms and conditions set out on the Website and to the privacy policy on the Website.

Map Legend

- Single Flood Event
- Recurring Flood Event
- Past Flood Event Extents
- Drainage Districts Benefited Lands*
- Land Commission Benefited Lands*
- Arterial Drainage Schemes Benefited Lands*

* Important: These maps do not indicate flood hazard or flood extent. Their purpose and scope is explained on Floodinfo.ie

1 Results

	Name (Flood_ID)	Start Date	Event Location
1.	Ballyhea, Buttevant Recurring (ID-2378)	n/a	Approximate Point

Additional Information: Reports (2) Press Archive (0)

Figure 10.6 Flood data

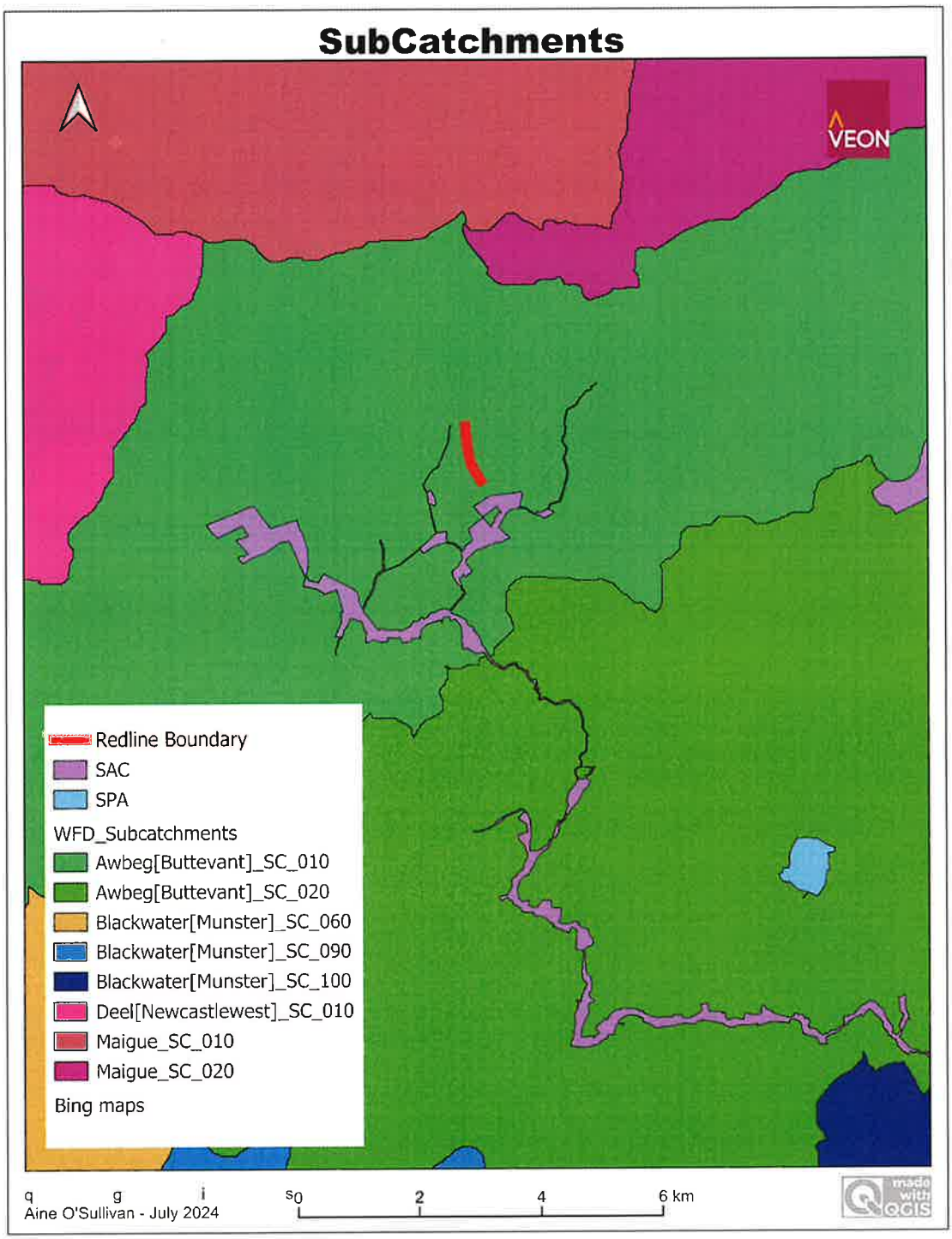


Figure 10.7 Regional SubCatchments

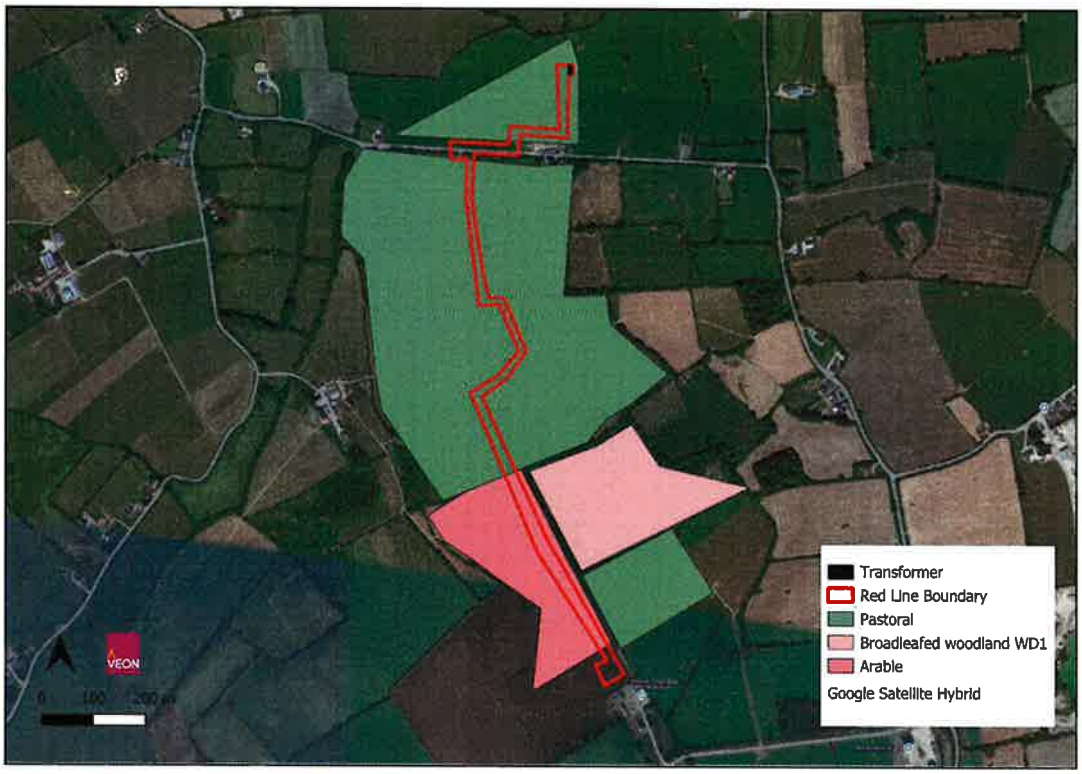


Figure 10.8 Habitat Map of study area

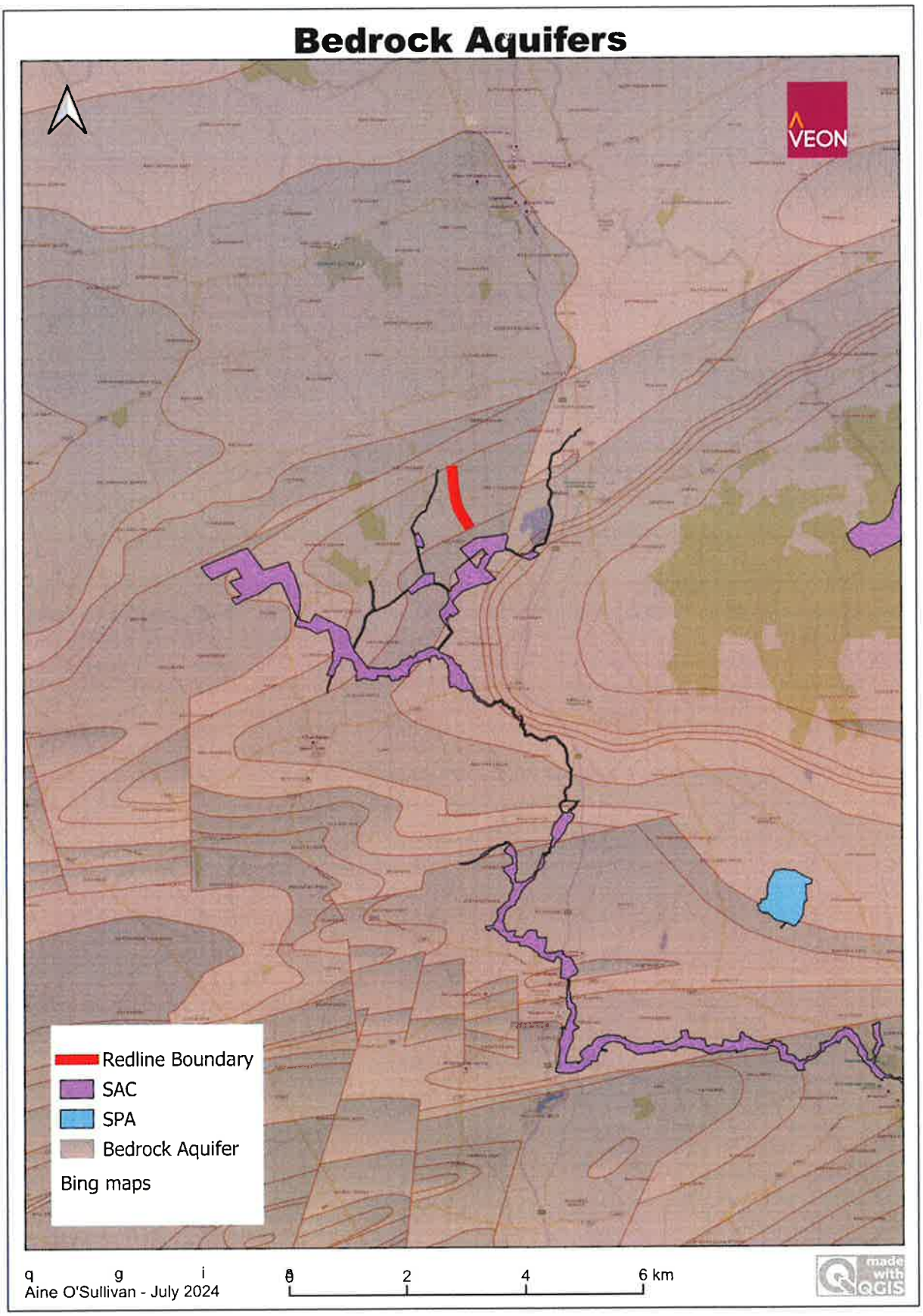
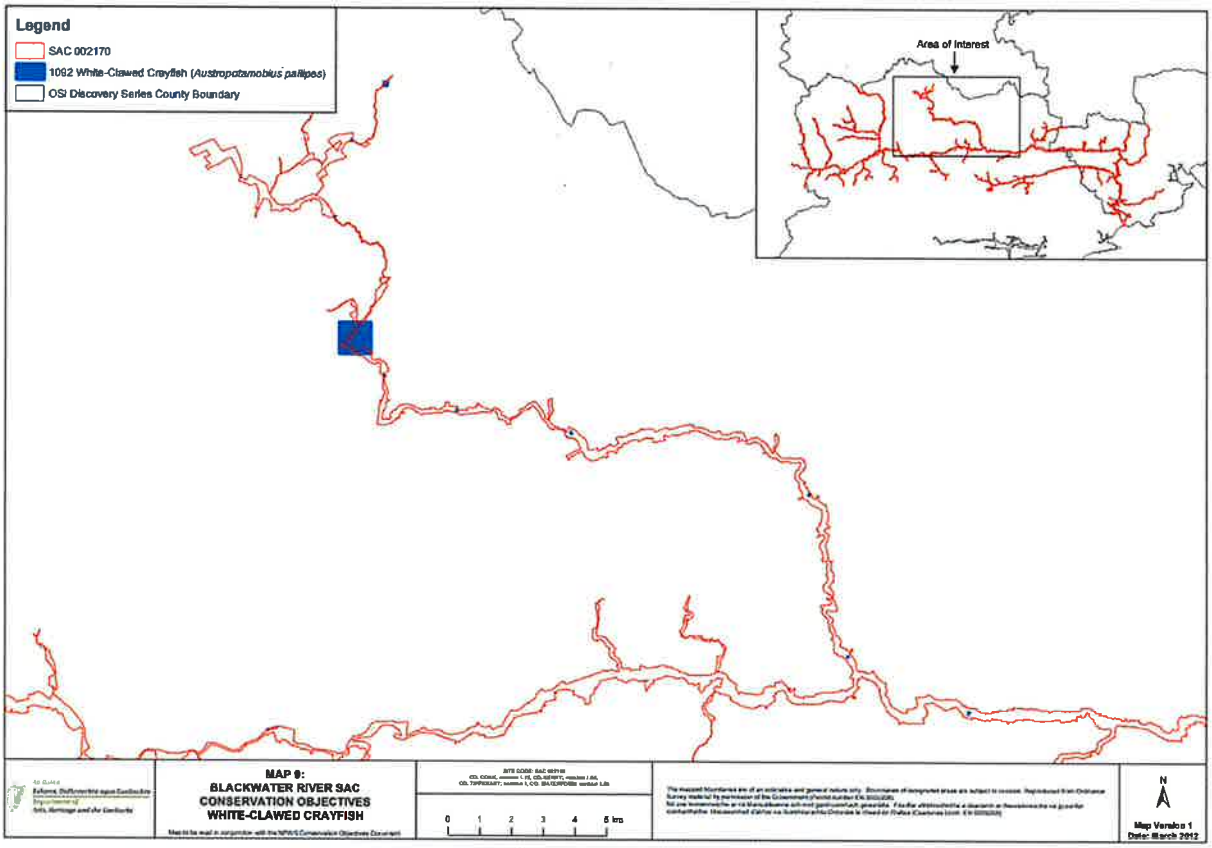
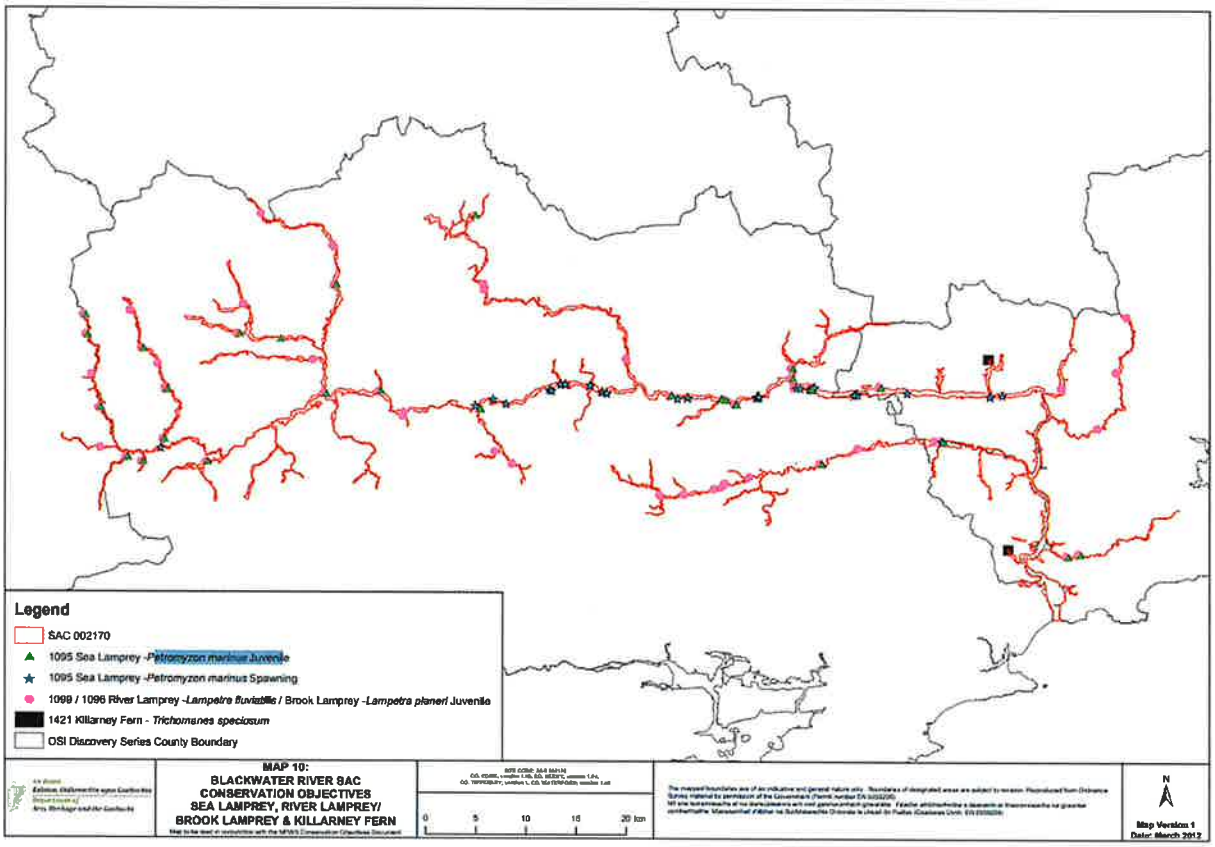


Figure 10.9 Local Bedrock Aquifers



10.10 NPWS White-clawed Crayfish historical recorded distribution



10.11 NPWS Juvenile Sea Lamprey Distribution

Appendix 2 Ecological Appraisal

1.Introduction

This report has been prepared to inform a Screening for Appropriate Assessment (AA) undertaken by Veon Ecology. A detailed desk survey was undertaken on the 29th of July 2024 by Aine O'Sullivan B.Sc. (Hons) in ecology and Environmental Biology at University College Cork. The proposed development site is located within the townland of Ballinadrideen County Cork. It is centred around ITM grid reference: 552551, 617515. An ecological data search for the survey site and the surrounding area was reviewed through the NPWS, EPA, NBDC and biodiversity Ireland Data bases. In addition, aerial mapping and satellite surveys were reviewed to identify any features of interest within and surrounding the survey site (e.g. large ponds).

2. Site Overview

The location of the proposed underground solar interconnector consists predominantly of Grassland habitat. The sight is not directly connected to any Natura 2000 site but is hydrologically connected the Blackwater River (Cork/Waterford) SAC (002170) through the Dromin (18D30) stream and is within close proximity of the SAC at 193.5m. There are two other Natura 2000 sites located within 15km of the site, Ballyhoura Mountains (002036) and Kilcolman Bog SPA (004095), neither of these have a viable hydrological pathway from the proposed development site.

The habitats within the study area have been assessed, following a detailed desktop study, and were cross referenced with 'A Guide to Habitats in Ireland' (Fossitt, 2000). Photographs illustrating the key areas to which the proposed development are applicable are provided in **Appendix 3.** The primary habitats within the proposed development area comprise of Pastoral (GA1) and arable grassland (BC1) fields. These fields are lined by hedgerows (WL1) and Treelines (WL2). There is a small Lowland depositing river (stream) (FW2) dissecting the southerly section of the site and a planted Broadleaved Woodland (WD1) in the south easterly section of the site. There is also a drainage ditch (FW4) which runs into the river Dromin.

Given the scale of the project and habitats present, species of conservation concern are unlikely to occur within the area of the works footprint and immediately adjacent. However, given the proximity of the site to the River Blackwater SAC they will be seen in the surrounding area.

The most significant hydrological feature in the vicinity of the proposed development site is the Dromin (18D30) which runs into the Awbeg river (18A05) and as such the Blackwater River (Cork/Waterford) SAC. The upper section of the Dromin is the part of the Dromin course which dissects site. This section has no free-flowing water. It consists of shallow interspaced puddles of low water quality and has little to no gradient in its length.

No invasive plant species listed in Part 1 of the Third Schedule of S.I No. 477 of 2011, European Communities (Birds and Natural Habitats) Regulations (2011) were recorded within the 2km^2 grid square wherein the proposed development site is located (NBDC, 2023). Though the Jenkins Spire Snail (*Potamopyrgus antipodarum*) and Ruddy Duck (*Oxyura jamaicensis)* have been historically reported in the locality.

Habitat and Vegetation Description

The habitats identified within the survey area are outlined below:

- Pastoral grassland (GA1)
- Arable Grassland (BC1)
- Treeline (WL2)
- Depositing Lowland River (FW2)
- Hedgerow (WL1)
- Drainage Ditch (FW4)

The features of these habitats and associated micro-habitats are described below with their suitability for biodiversity conservation within the context of the project. Photographs of the individual macro-habitats identified within the survey site are included for illustration purposes in **Appendix 3**.

Pastoral Grassland (GA1)

The site is compromised predominantly of this habitat. It consists mostly of Dairy of Beef farming pastoral fields. The fields are border by Hedgerows (WL1) and Treelines (WL2). The main vegetation was perennial rhy (*Lolium perenne*), White clover (*Trifolium repens*), Docks (*Rumex*), Renunculus. This grassland is of relatively of low biodiverse value. As such is defined as low value, locally important.

Arable Grassland (BC1)

Arable grassland was the second most prominent habitat on site. The main vegetation seen in this habitat were Barley (*Hordeum vulgare*). The field tend to be larger than the pastoral fields with more managed and gapped hedgerows. Due to its monocrop nature this grassland is of relatively of low biodiverse value. As such is defined as low value, locally important.

Treelines (WL1)

The treeline found on site are mature semi-managed treelines. They consist of broadleaved trees such as Ash (*Fraxinus excelsior*), Elder (*Sambucus nigra*), Elm (*Ulmus procera*), Beech (*Fagus sylvatica*), Sycamore (*Acer pseudoplatanus*), Hawthorn (Crataegus *monogyna*), Blackthorn (*Prunus spinosa*), Crab apple (*Malus sylvestris L. Mill*) Pussy willow (*Salix cinerea L.*). With an understory of immature and stunted trees as well as Gorse (*Ulex europaeus*), Ivy (*sp. Hedera*), Nettle (*Urtica dioica*), Thistles (*Cirsium palustre),* Cleavers (*Galium aparine*) and Black berry (*Rubus fruticosus*). Mature treelines offer a lot of resource for local species including shelter, foraging ground, pathways, and roost and nesting sites as such it is considered of high biodiversity value. However most have been historically managed and can be found in much of the surrounding area. As such is defined as moderate value, locally important.

Depositing Lowland River (FW2)

The Dromin river as defined by EPA mapping is the only waterbody running through the proposed development site. This upper most section of the course consists of shallow pools with an absence of free-flowing water. The water here is of poor water quality with little to no gradient along its length creating stagnant pools. It is bordered by both Treelines and Hedgerows which provide a dense vegetation cover. It may be suitable for smaller amphibians but is unsuitable for any fish species. The main vegetation was Ivy (*sp. Hedera*) and Ferns (*Blechnum spicant*). Though the habitat is unsuitable for most riverain species it could act as an important pathway for species

such as Otter (*Lutra lutra*) which has been historically recorded within 2km^2 of the site. Due to the lack of biodiversity in which this habitat characteristics promotes this habitat can be classified as of Low biodiversity value. As such this habitat is defined as low value locally important.

Hedgerow (WL1)

The hedgerows are predominantly dense tall mature hedgerows. Thin more gappier Hedgerows are more commonly seen in the arable fields. The vegetation consists of solitary trees in combination with gorse, Ivy, Nettle, Thistles, Cleavers and Blackberry, Bramble and stunted trees. The stunted trees usually consisted of Hawthorn. Hedgerows provide many amenities for the local wildlife including shelter, foraging ground, pathways, and roost and nesting sites as such it is considered of high biodiversity value. However most have been historically managed and can be found in much of the surrounding area; As such is defined as moderate value, locally important.

Drainage Ditch (FW4)

One drainage ditch dissects the site before joining the Dromin stream, The vegetation comprised of mostly Ivy and Bramble. This habitat would be considered of low biodiversity value. As such this habitat is defined as low value locally important.

Ecological Appraisal and Species Recorded

As part of this report the relevant historic records from the National Biodiversity Data Centre (NBDC) were accessed and the findings included as part of the overall biodiversity summary of the site.

Volant and Non-Volant Mammals

Historic NBDC records for protected volant and non-volant mammals were reviewed within the 10km^2 (R51) and 2km^2 (R51I) grid squares surrounding the proposed development site and tabulated below in Further Appendices.

Bat Habitat Appraisal

Historic records of bats were recorded within the 10km^2 grid square on which the site is located. The habitat suitability index for 'All bats' and for each individual species of bat is presented below. The overall suitability of the area for bat activity was relatively moderate (26.11). The area is deemed as moderate for bat activity with no building present within the redline boundary that could pose as a larger roost site with suitable small roost habitats surrounding the survey area through mature treelines, thus it cannot be ruled out that bats may use the site for foraging and/or commuting through the site or along its boundaries, particularly along the hedgerows and treelines or for smaller roost sites.

Previous bat survey conducted by the Veon Ecology in the surrounding areas of Fiddane, Cooliney, Ballynoran, Coolcaum and Ballyroe concluded that the bat activity in these surrounding areas was low.

Suitability index for different bat species:		
Common Name	Scientific Name	Suitability Score
Soprano pipistrelle	*Pipistrellus pygmaeus*	42
Brown long-eared bat	*Plecotus auritus*	36
Common pipistrelle	*Pipistrellus pipistrellus*	44
Lesser horseshoe bat	*Rhinolophus hipposideros*	1
Leisler's bat	*Nyctalus leisleri*	37
Whiskered bat	*Myotis mystacinus*	18
Daubenton's bat	*Myotis daubentonii*	27

Nathusius' pipistrelle	*Pipistrellus nathusii*	2
Natterer's bat	*Myotis nattereri*	28
Total Score for All Bat Species		26.11

Table 9.1

Eurasian Badger (*Meles meles*)

Badgers were recorded within the 10km^2 grid square on which the site is located. Due to the unsuitability of the habitats surrounding the survey site and lack of any substantial evidence such as snuffle hole and latrines it is unlikely that there is a set located in the area. There are also no historical records of Badger sets been seen within the sight or its immediate surroundings. However, it cannot be ruled out that these species may use the site for passageway between areas.

Otter (*Lutra lutra*)

Otters were recorded within the 10km^2 and 2km^2 grid square in which the site is located. Due to the unsuitability of the habitats within the survey site, it is unlikely that there are Otter sets within the site. They may use the site for passageway between areas with the densely vegetated Dromin habitat providing suitably shelter route for traverse rather than foraging/dwelling.

Red Fox (*Vulpes vulpes*)

Red Fox has been recorded within the NBDC 10km^2 grid squares R51 where the proposed site is located (NBDC, 2023). A vixen was noted during a walkover survey to the southern edge of the site. A den was also noted at 552556.7,617470.6 in the roots of a mature tree (See **Appendix 3**).

Irish Hare (*Lepus timidus hibernicus*)

Irish Hare has been recorded within the NBDC 10km^2 of the sight none were observed during the site survey. Irish hare is a common occurrence on agriculture lands; therefore, it is likely that the species regularly uses the site and the surrounding areas. As there is equally suitable area readily available in the surrounding habitat it is unlikely that the local species will be affected.

Other non-volant mammals

Pygmy Shrew (*Sorex minutus*), Red Squirrel (*Scirus vulgares*) and West European Hedgehog (*Erinaceus europaeus*) were also historically recorded in proposed development. Hedgerows, treelines and the broadleaved woodland do provide possible habitats for these species. As the project will be minimally disturbing these habitats and due to its small scale, it is unlikely to have any significant and long-term effects on these species.

Amphibians

The lowland depositing stream habitat seen on site provides a possibly suitable habitat for Amphibian and lizards. This habitat has poor water quality and would likely be used as a transitional habitat rather than as a domicile. No lizards have historically been recorded within the NBDC 2km^2 of the sight. The Common frog was the only species to have been recorded within the NBDC 10km^2.

Birds/Avifauna

Bird activity within the proposed development site and its surrounding environs was typical of the habitat assemblages present i.e., areas comprised of improved grassland, linear hedgerow habitats and drainage channels. The highest level of bird activity was associated with habitats affording suitable cover, i.e., hedgerows and adjacent linear treelines. The open areas of improved agricultural grassland, which makes up much of the proposed

development footprint, are largely unsuitable for nesting birds, habitats such as these and their associate fauna are commonly used by hunting raptors such as Buzzards.

Species protected under the EU Birds Directive (2009/147/EC) and/or listed as a species of concern on the Birds of Conservation Concern in Ireland (BoCCI) list have been recorded within the 2km^2 grid squares. These include Black-headed Gull (*Larus ridibundus*), Common Coot (*Fulica atra*), Common Goldeneye (*Bucephala clangula),* Common Kestrel (*Falco tinnunculus*), Common Kingfisher (*Alcedo atthis*), Common Pochard *(Aythya ferina*), Common Sandpiper (*Actitis hypoleucos*), Eurasian Curlew (*Numenius arquata)* and Whooper Swan (*Cygnus cygnus*). No habitat on site would be considered one of significance to these species with similar habitat making up the majority of the surrounding landscape.

Bird species recorded during the Phase 1 Walkover survey included Buzzard (*Buteo buteo),* Siskin (*Spinus spinus),* Willow warbler *(Phylloscopus trochilus),* Chaffinch (*Fringilla coelebs),* Robin (*Erithacus rubecula*), Wood pigeon (*Columba palumbus*), Wren (*Troglodytes troglodytes*), Chiff chaff (*Phylloscopus collybita*) and Goldcrest (*Regulus regulus*).

Protected birds recorded in the NBDC 2km^2 grid squares which may utilise the site, wider site, or adjacent habitats are listed below in **Further Appendices.**

Freshwater Aquatic Fauna

The proposed development site is located within the Munster Blackwater Margaritifera SAC Catchment. Freshwater Pearl Mussel (*Margaritifera margaritifera*) has not been recorded within the 10km^2 or 2km^2 grid squares (NBDC, 2023).

White-clawed Crayfish (*Austropotamobius pallipes*) have been recorded within the 2km^2 grid squares (NBDC, 2023). An Aquatic Report was completed as part of the application for the proposed Coolcaum Solar Farm on the Rathnacally stream in August 2022 by members of Veon Ecology (Veon Ltd). This survey recorded no White-clawed Crayfish or Freshwater Pearl Mussel, both qualifying interests of the Blackwater River (Cork/Waterford) SAC (002170). NPWS has recorded the species within 5km of the proposed development (See **Appendix 1**).

The main channel of the Blackwater River is an established Salmonid Water designated under the European Communities (Quality of Salmonid Waters) Regulations of 1988 (S.I. No. 293 of 1988), with some of its tributaries important for salmon spawning and nursery. Atlantic Salmon (*Salmo salar*) require EPA Class A water: Q values Q4 to Q5 to thrive (Curtis *et al.*, 2009). Neither the water quality, nor the habitat type found in the watercourses to be crossed by the proposed interconnector route are suitable for Atlantic salmon reproduction. While there is some suitable instream habitat for salmon spawning and nursery in the Awbeg river, the current biological water quality there is also unsuitable. A salmon parr was caught in a kick sample taken in the nearby Awbeg river in June 2019, when water quality was better.

Adult Sea Lamprey (*Petromyzon marinus*), Brook Lamprey (*Lampetra planeri*) and River Lamprey (*Lampetra fluviatilis*) have not been recorded within the 10km^2 and 2km^2 grid squares (NBDC). Juvenile sea Lamprey have been recorded within 5km^2 of the site (NPWS) (See **Appendix 1**).

The most significant hydrological feature on site is the River Dromin as defined by EPA maps. The uppermost course of this river is what seen on sight. The Section of the Dromin river does not have any free-flowing water it consists of shallow stagnant puddles of poor water quality consisting primarily of mud. This section of the river Dromin has little to no gradient. These unfavourable characteristics make it an unsuitable habitat for the above listed QIs.

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Further Appendices

Bird species recorded in 2km²	
Species Name	Designations/Conservation Status
Black-billed Magpie (Pica pica)	
Black-headed Gull (Larus ridibundus)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Blue Tit (Cyanistes caeruleus)	
Chaffinch (Fringilla coelebs)	
Common Blackbird (Turdus merula)	
Common Bullfinch (Pyrrhula pyrrhula)	
Common Coot (Fulica atra)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Goldeneye (Bucephala clangula)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Kestrel (Falco tinnunculus)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Kingfisher (Alcedo atthis)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Moorhen (Gallinula chloropus)	
Common Pochard (Aythya ferina)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List

Common Redshank (Tringa totanus)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Common Sandpiper (Actitis hypoleucos)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Snipe (Gallinago gallinago)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section III Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Starling (Sturnus vulgaris)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Dunlin (Calidris alpina)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Eurasian Curlew (Numenius arquata)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Eurasian Jackdaw (Corvus monedula)	
Eurasian Teal (Anas crecca)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Eurasian Wigeon (Anas penelope)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
European Robin (Erithacus rubecula)	
Fieldfare (Turdus pilaris)	
Great Cormorant (Phalacrocorax carbo)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List

Great Crested Grebe (Podiceps cristatus)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Great Tit (Parus major)	
Green Sandpiper (Tringa ochropus)	
Grey Heron (Ardea cinerea)	
Grey Wagtail (Motacilla cinerea)	
Hedge Accentor (Prunella modularis)	
Hooded Crow (Corvus cornix)	
House Sparrow (Passer domesticus)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Lesser Black-backed Gull (Larus fuscus)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Little Grebe (Tachybaptus ruficollis)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Mallard (Anas platyrhynchos)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section I Bird Species
Mute Swan (Cygnus olor)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Northern Lapwing (Vanellus vanellus)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Northern Shoveler (Anas clypeata)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section III Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Redwing (Turdus iliacus)	
Rook (Corvus frugilegus)	

Ruddy Duck (Oxyura jamaicensis)	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> EU Regulation No. 1143/2014 || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Song Thrush (Turdus philomelos)	
Tufted Duck (Aythya fuligula)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
White Wagtail (Motacilla alba)	
Whooper Swan (Cygnus cygnus)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Winter Wren (Troglodytes troglodytes)	

Protected Mammal species recorded in 10km^2		
Common Name	**Scientific Name**	**Designations/Conservation Status**
Brown Long-eared Bat	*(Plecotus auritus)*	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Eurasian Badger	*(Meles meles)*	Protected Species: Wildlife Acts
Eurasian Pygmy Shrew	*(Sorex minutus)*	Protected Species: Wildlife Acts
Eurasian Red Squirrel	*(Sciurus vulgaris)*	Protected Species: Wildlife Acts
European Otter	*(Lutra lutra)*	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex II || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Fallow Deer	*(Dama dama)*	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland) || Protected Species: Wildlife Acts
Lesser Noctule	*(Nyctalus leisleri)*	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
West European Hedgehog	*(Erinaceus europaeus)*	Protected Species: Wildlife Acts

Protected Mammal species recorded in 2km^2	
European Otter (Lutra lutra)	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex II || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts

Protected Amphibian species recorded in 10km^2

Common Name	Scientific Name	Designations/Conservation Status
Common Frog	*(Rana temporaria)*	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex V || Protected Species: Wildlife Acts

Table 9.1: Protected freshwater species recorded in 2km² grid surrounding the site (NBDC, 2023).

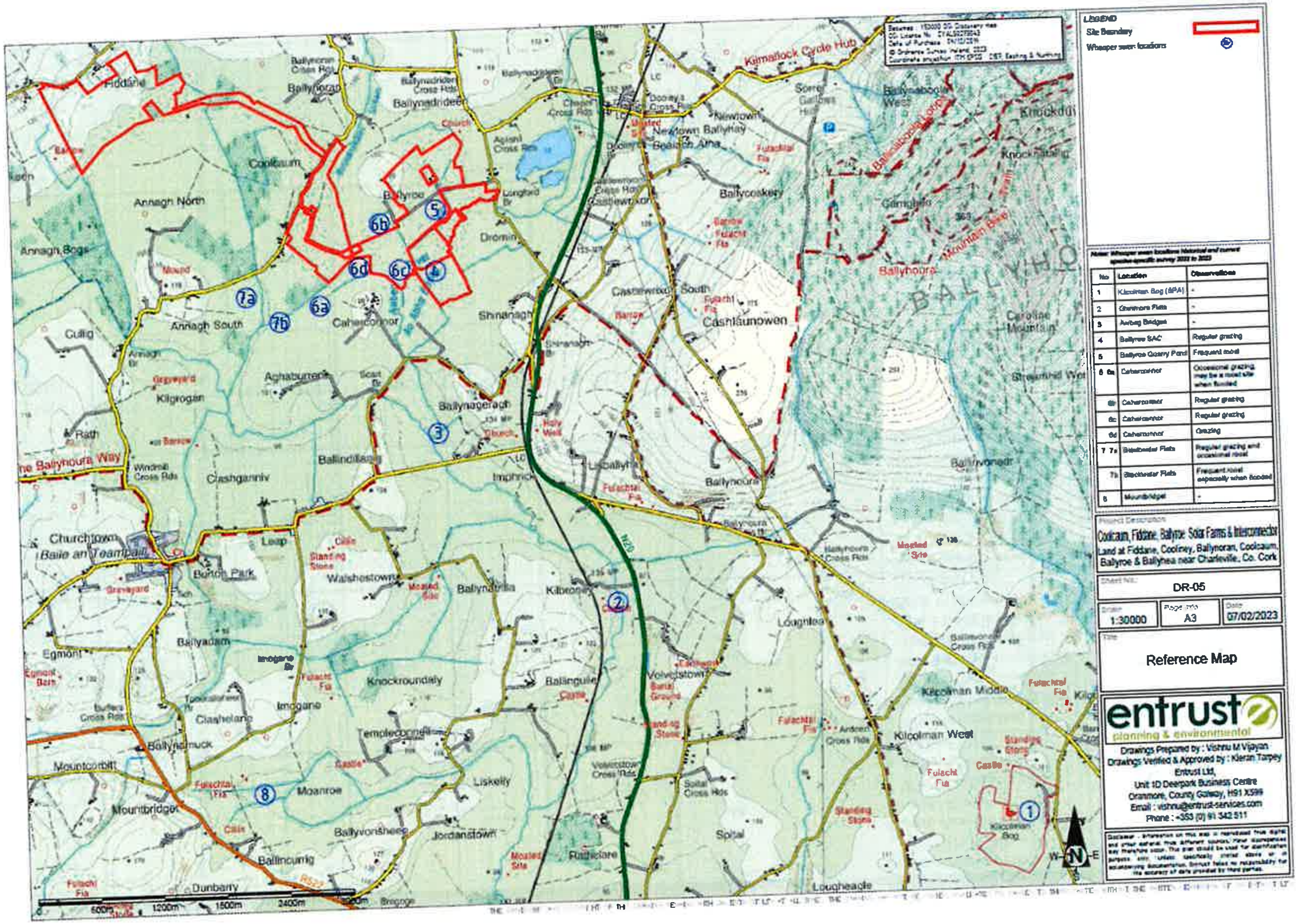
Protected Freshwater species recorded in 2km²		
Common Name	**Scientific Name**	**Designations/Conservation Status**
Freshwater White-clawed Crayfish	*(Austropotamobius pallipes)*	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex II || Protected Species: EU Habitats Directive >> Annex V || Protected Species: Wildlife Acts

Wintering Whooper Swan Survey 2022/ 2023											
Survey Date and Period	Duration	Mountbridge†	Kilcolman	Glanmore Flats	Awbeg Bridges	Caherconnor	Blackwater Flats	Ballyroe Quarry	Comments	Flightlines	Other birds
22/10/2022	16:00						18				
23/10/2022	06:30-13:15	None					39*		*39 Whooper swans on the north bank. Remained to roost	None	200 Lapwing at Blackwater Flats
25/10/2022	15:20			2			42		Dawn at Blackwater Flats, Whooper Swan left roost and flew across to graze on the north side of the Awbeg river.	1 Mute Swan flew downstream at low altitude <10m	21 Greylag, 1 Mute Swan, Curlew, Lapwing, Mallard, Teal, Heron
25/10/2022	16:30	None									
07/11/2022	09:45						42*		*42 Whooper Swan on the north bank. Remained to roost	None	1 Mute Swan, 10 Greylag
17/11/2022	09:05-17:00	None	None		12		19*		*BW Flats: 19 Whooper swan grazing on north bank, remained in the area to roost after dusk, Awbeg Br 2 flocks of 6 at different locations		
18/11/2022	3rd party report	None	6	None	None		None	None	No swans at any of the regular sites		
25/11/2022	07:25						Present		Pre-dawn and partly hidden, no count		
25/11/2022	07:51						2			2 in low flight to north shore to graze	
25/11/2022	07:55						9			9 took-off to West and turn in low flight to East	
25/11/2022	07:57						9			9 took-off to West and turn in low flight to East	4 Greylag low flight downstream
25/11/2022	08:00						4			short low flight to south bank	
25/11/2022	08:04						4		Short flight from fields on the south bank to grazing on the north side of the river		
25/11/2022	08:13						8		Flew east	Destination unknown but possibly to	6 Greylag fly WSW

Wintering Whooper Swan Survey 2022/ 2023											
Survey Date and Period	Duration	Mountbridget	Kilcolman	Glanmore Flats	Awbeg Bridges	Caherconnor	Blackwater Flats	Ballyroe Quarry	Comments	Flightlines	Other birds
										Caherconnor grazing area	
25/11/2022	08:19						4		Flew east	Destination unknown but possibly to Caherconnor grazing area	
25/11/2022	08:21						7		Flight east	Destination unknown but possibly to Caherconnor grazing area	
25/11/2022	08:28						6		Flight east	Destination unknown but possibly to Caherconnor grazing area	
25/11/2022	09:16								Total count of 53 Whooper Swans at Blackwater Flats for November 25th, 2022.		15 Greylag flew southwest downstream
25/11/2022	09:30-15:00	None	None	None	None						
09/12/2022	15:00	3							Disturbance at Mountbridget site by slurry spreader		
09/12/2022	15:13						None		Not flooded. Deployed Audio recorder		
12/12/2022	13:30			None					Not flooded		
12/12/2022	14:00						None		Dense fog, no visibility. Retrieved Audio recorder		
16/12/2022	3rd party report		7								
19/12/2022	14:00-20:00	None		None	None		None		Audio recorder deployed		
19/12/2022	3rd party report		2				75				
20/12/2022	13:30-19:00		20+			c.30	26	99	Roost flights from Caherconnor to Ballyhea 16:50 to 17:30.	Caherconnor fields to Ballyhea	Greylag: c.200 at Kilcolman, 1 at Blackwater Flats, 73 to roost Ballyroe

Wintering Whooper Swan Survey 2022/ 2023											
Survey Date and Period	Duration	Mountbridget	Kilcolman	Glanmore Flats	Awbeg Bridges	Caherconnor	Blackwater Flats	Ballyroe Quarry	Comments	Flightlines	Other birds
									Whooper Swan counts at Caherconnor and Blackwater Flats for not make up the roost count at Ballyhea. Some Whooper Swan arrived from the south-east after dark.		Quarries; Curlew: 46 Ballyroe Quarry
23/12/2022	14:00-18:30	12	47				70		Audio recorder retrieved		Greylag: 54 Mountbridget, 45 Blackwater Flats. Mute Swan: 1 Blackwater Flats
28/12/2022	14:00-20:30	20				94+	Roost flock		Some Whooper Swan arrived at Blackwater Flats roost after dark. Audio recorder deployed	Caherconnor to Blackwater Flats	Greylag: 112 Mountbridget,
02/01/2023	14:00-20:00		None	None	None	34	Roost flock	19	c.20 Whooper swan arrived at Blackwater Flats to roost after dark. Audio recorder deployed	Flightlines: F1 19 WS to roost at Ballyroe Quarry; F2 not witnessed but birds were audible at Blackwater Flats after dark	
06/01/2023	12:00-19:00	51+		None	None	None	79	Roost	Note flight to roost flew over the southern section of the Coolcaum site	Flew to roost (49 birds) at Ballyroe Quarry overflew the southern section of Coolcaum site	
16/01/2023	11:00-18:00	8+		2	76	None	19		Mountbridget swans partly out of view. 2 at Glanmore Flats were Mute Swans. Audio Recorders deployed.		Greylag: 25 at Mountbridget, Blackwater Flats 118, Awbeg Br 76.
25/01/2023	11:00-17:30	None	55+	None	None	64+	None		Whooper swan grazing in 'new" fields at Caherconnor, 2 Mute Swan at Awbeg Br. Audio recorders recovered		No Geese at any of the sites checked

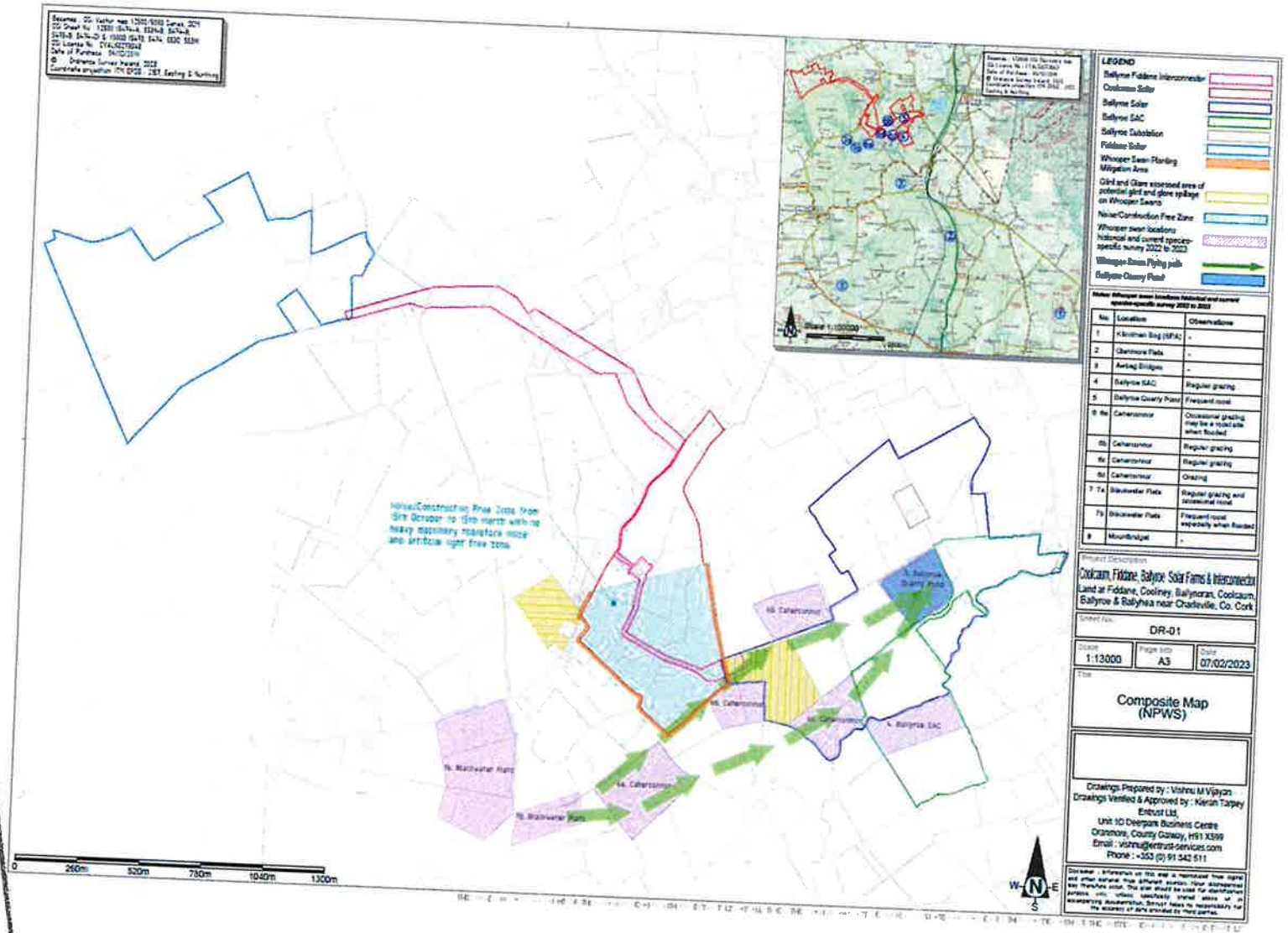
Wintering Whooper Swan Survey 2022/ 2023											
Survey Date and Period	Duration	Mountbridget	Kilcolman	Glanmore Flats	Awbeg Bridges	Caherconnor	Blackwater Flats	Ballyroe Quarry	Comments	Flightlines	Other birds
30/01/2023	13:00-18:30	5	c.50	None	None	None	44		Dusk watch at Kilcolman 17:30-18:20. Whooper swan flew inwards to roost, all arrivals from West. Audio recorder deployed near the Fiddane OHL	Groups of 8 to 25 arrived from the west and northwest after sunset	Up to 100 Greylags arrived from East into Kilcolman after sunset
09/02/2023	11:00-16:30	None	21+	None	None	48	None		Whooper swans at Caherconnor grazing in field 10 ('new' field, see map file). Audio recorder checked. At Kilcolman, min. 3 birds in distant fields to the south, 18 in Kilcolman pond.	Eleven birds departed Kilcolman south-eastwards in two groups after sunset	c 50 Greylags arrived at Kilcolman after sunset (too dark to get an accurate count)
15/02/2023	15:00-21:00	None	61	None	None		None	34+	No swans at Kilcolman on arrival. 17:50-19:00 swans flew in from West in groups of 9-12. Ballyroe count after dark were roosting birds (inaccurate count)	All flightlines appear to be from West	
20/02/2023	13:00-20:00	36	11**/c.102	None	None	24	66		**Kilcolman min 11 Whooper swan in fields to the south. Roost watch at dusk 18:00-19:00 - 66 Whooper swan arrived from south.	Flightline approach to Kilcolman was from the south. This may have been only the final approach	25 Greylag at Blackwater Flats, c.100 at Kilcolman
25/02/2023		55	<10*			125	none	Roost 125	Large herd at Caherconnor. Kilcolman count at 21:00 (dark) few swans, only 6 seen with thermal imager but no vision at longer range. Recorder retrieved	Caherconnor birds flew to Ballyroe Quarry pond after sunset	



LEGEND
Site Boundary
Whooper swan locations
Kilmallock Cycle Hub
Fiddane
Coolcaum
Ballyroe
Annagh North
Annagh Bogs
Annagh South
Caherconnor
Aghaburren
Ballynagearagh
Kilgrogan
The Ballyhoura Way
Ballindillanig
Churchtown
Baile an Teampaill
Burton Park
Walshestown
Ballynatrilla
Kilbroney
Ballyadam
Knockroundaly
Imogane
Clashelane
Templeconnell
Ballynamuck
Mountcorbitt
Mountbridge
Moanroe
Liskelly
Ballyvonshee
Jordanstown
Ballincurrig
Dunbarry
Newtown
Ballycoskery
Castlewrixon South
Cashlaunowen
Shinanagh
Dromin
Ballyhoura
Imphrick
Loughtee
Ballinguile
Velvetstown
Kilcolman Middle
Kilcolman West
Kilcolman Bog
Rathclare
Spital
Lougheacle
Ballyhoura Mountain Bike Trail
Carrigeen Mountain
Streamhill West
Knockdui
N20
R522
600m 1200m 1800m 2400m
Project Description
Coolcaum, Fiddane, Ballyroe Solar Farms & Interconnector
Land at Fiddane, Coolney, Ballynoran, Coolcaum, Ballyroe & Ballynea near Charleville, Co. Cork
Sheet No.: DR-05
Scale: 1:30000
Page size: A3
Date: 07/02/2023
Title: Reference Map
entrust planning & environmental
Drawings Prepared by : Vishnu M Vijayan
Drawings Verified & Approved by : Kieran Tarpey
Entrust Ltd,
Unit 1D Deerpark Business Centre
Oranmore, County Galway, H91 X599
Email : vishnu@entrust-services.com
Phone : +353 (0) 91 342 511

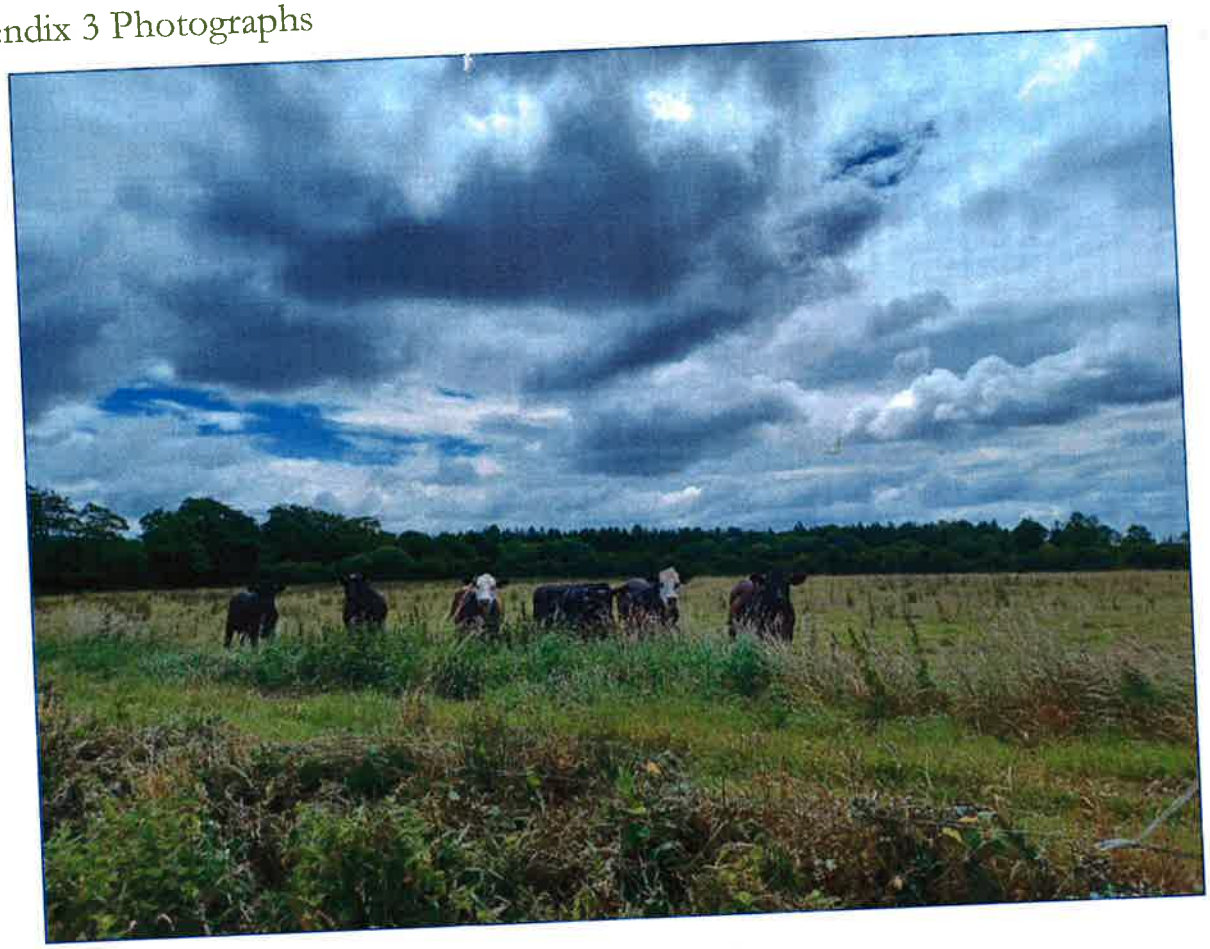
Note: Whooper swan locations historical and current species-specific survey 2022 to 2023

No	Location	Observations
1	Kilcolman Bog (SPA)	-
2	Garrymore Flats	-
3	Awbeg Bridges	-
4	Ballyroe SAC	Regular grazing
5	Ballyroe Quarry Pond	Frequent roost
6 6a	Caherconnor	Occasional grazing may be a roost site when flooded
6b	Caherconnor	Regular grazing
6c	Caherconnor	Regular grazing
6d	Caherconnor	Grazing
7 7a	Blackwater Flats	Regular grazing and occasional roost
7b	Blackwater Flats	Frequent roost especially when flooded
8	Mountbridge	-

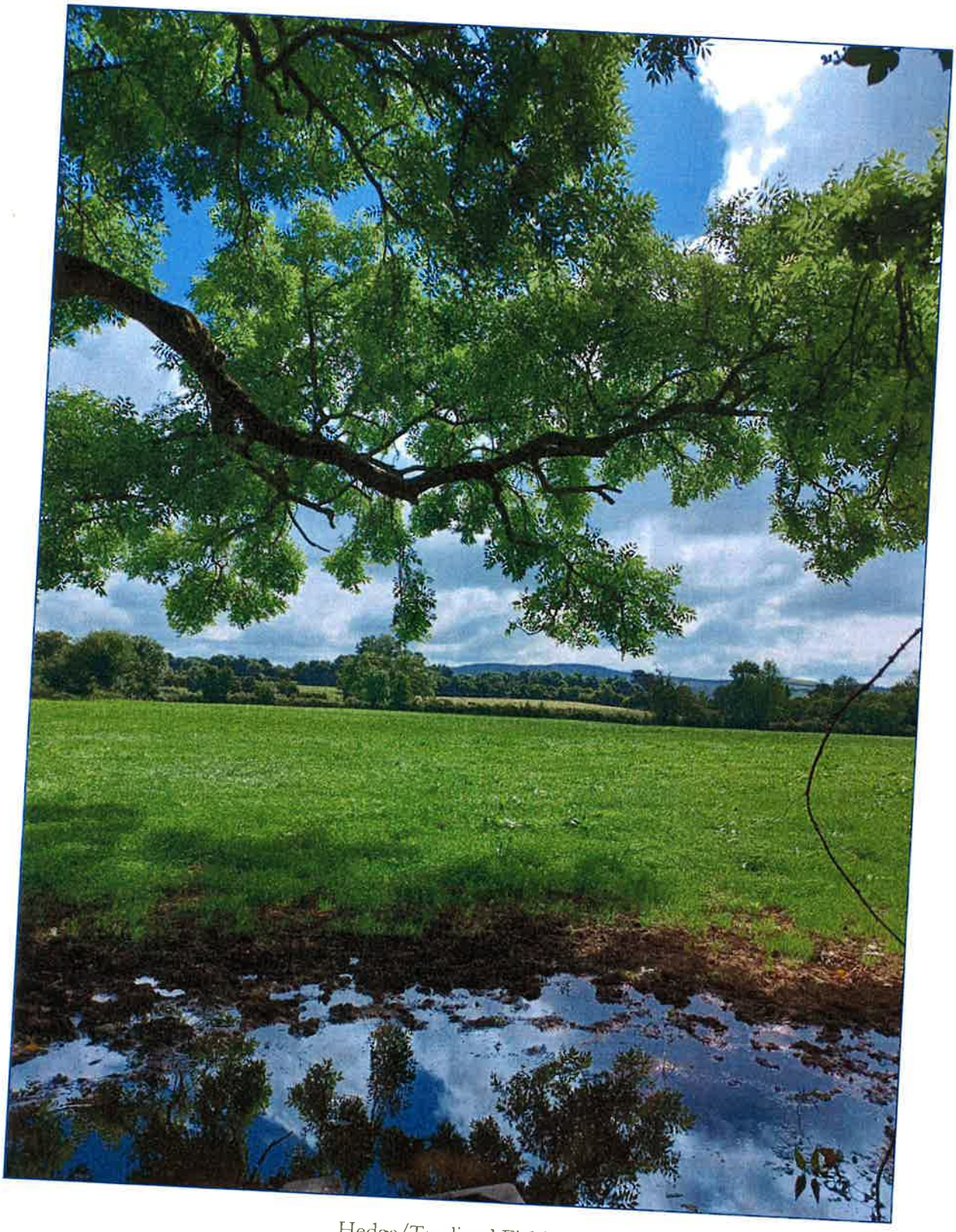


Whooper Swan Flight Path

Appendix 3 Photographs

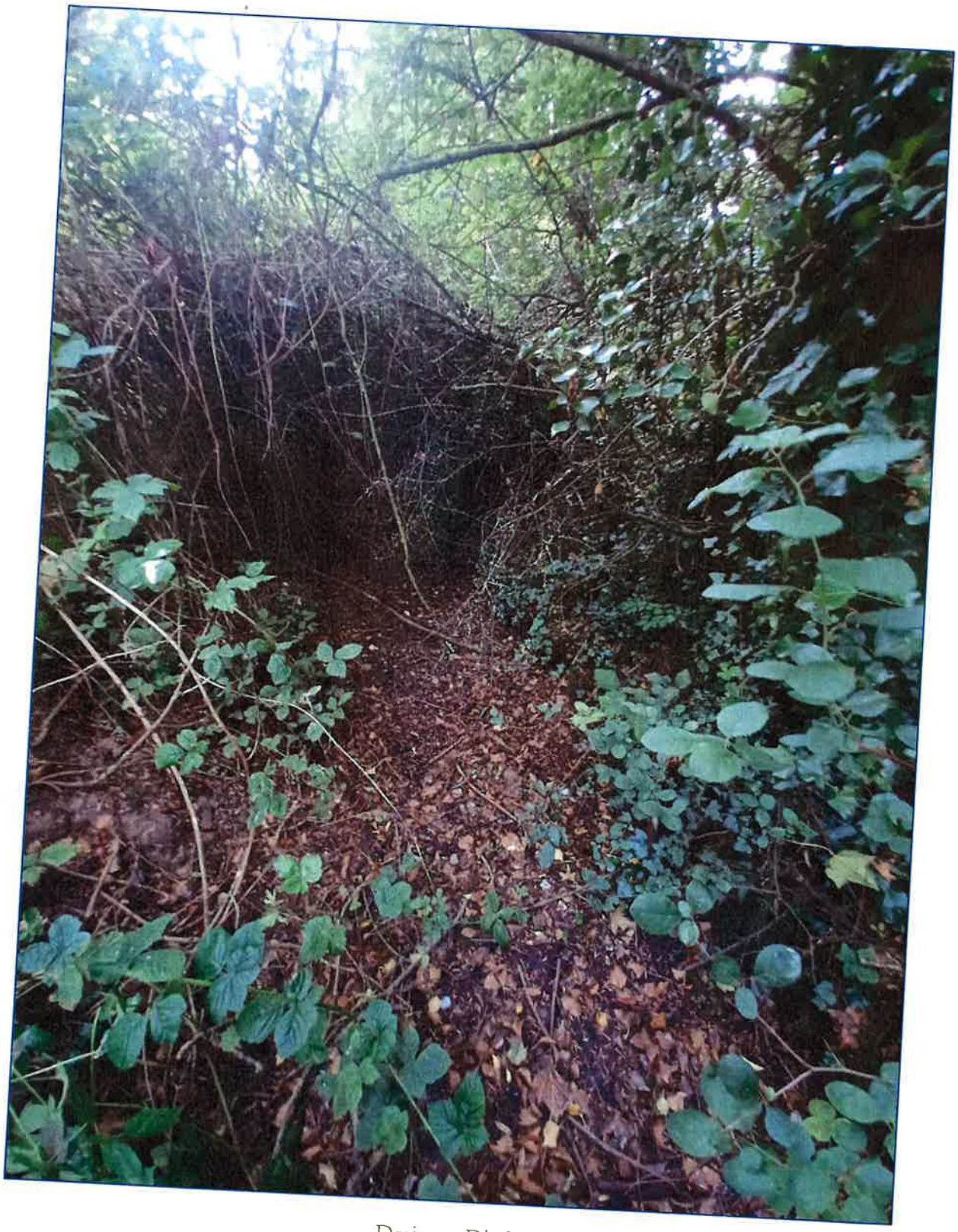


Pastoral Grassland



Hedge/Treelined Fields

Arable Grassland

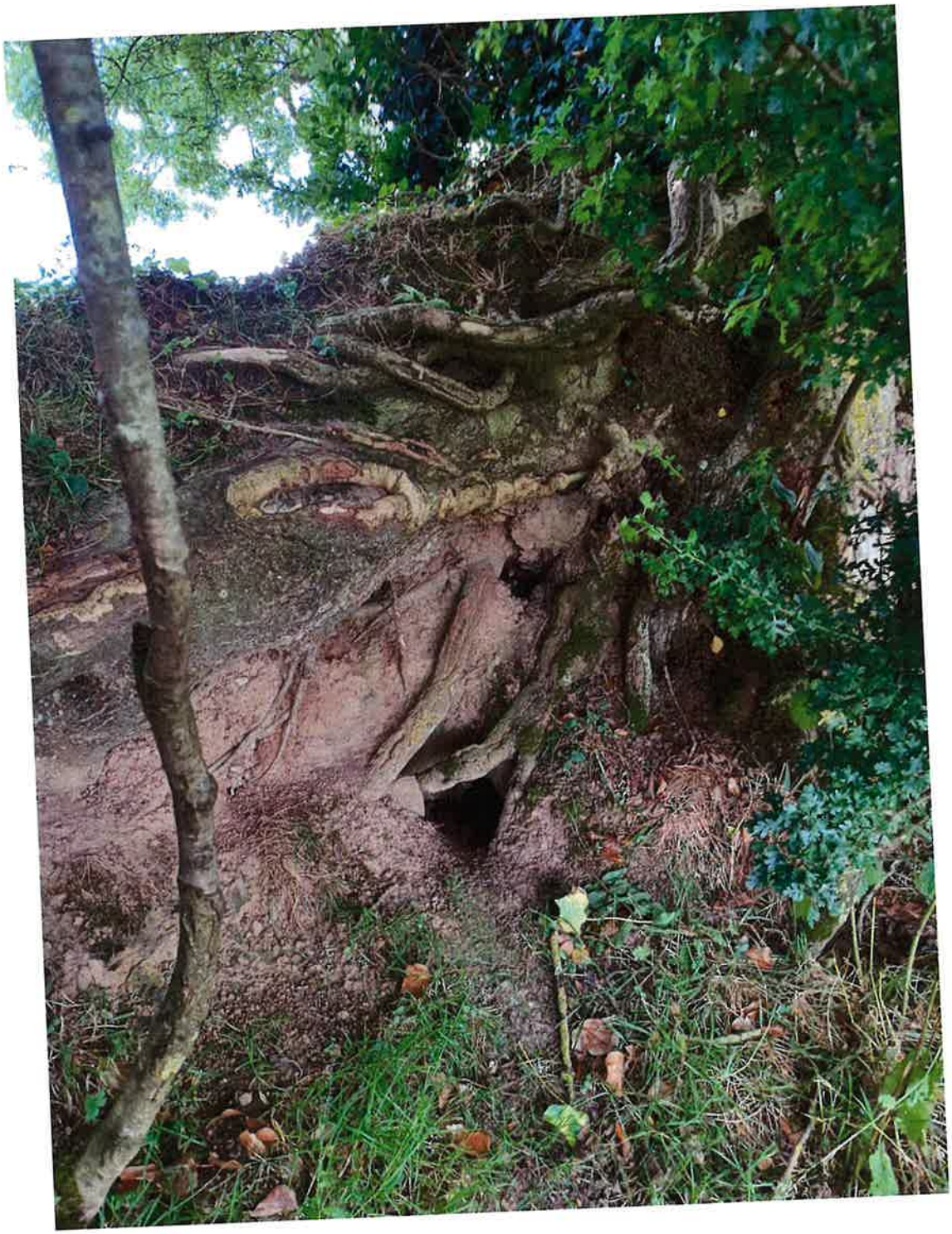


Drainage Ditch

Hedgerow

Planted woodland

Lowland river ditch



Fox Den

Basemap : OSi Vector map 1:2500 Series, (DLM)
OSi Sheet No : 1:2500 (5474-A, 5539-B, 5474-B, 5473-B, 5474-D) & 1:5000 (5473, 5474, 5538, 5539)
OSi Licence No : CYAL50405555

Coordinate projection: IRENET95_ITM

LEGEND

- Site Boundary
- Site Ownership Boundary
- Archaeological Exclusion Zone
- Archaeological Buffer Zone
- Transformer
- Proposed Cable Route
- Proposed Cable Route (HDD)
- Public Road Crossing
- Internal Access Track
- Ditch/Drain/River
- Cable route proposed in ref. 23/6099/ABP-320298-24
- Hedgerow Removal Area
- Trees

W E N S

0 225m 450m 675m 900m 1125m

Notes:

Approx. Site Centre
ITM (552551, 617515)
Approx. Site Area : 4.47189 Acre
Approx. Hedgerow Removal Area : 610sqm

Project Description
Ardnageehy-Ballyroe Cable Route
Land at Ballynadrideen & Ballyroe Townlands, Co. Cork

Sheet No.: AB-DR-01

Scale	Page Info	Date
1:10560	A3	06/03/2025

Title
Site Location Map

entrust
planning. environmental. technical.

Drawings Prepared by : Ananthulal S
Drawings Verified & Approved by : Kieran Tarpey
Entrust Ltd
Unit 1, First Floor, Oranmore Business Park,
Oranmore, County Galway, H91 P7X8
Email : contact@entrust-services.com
Phone : +353 (0) 91 342 511

Basemap : OSi Vector map 1:2500 Series, (DLM)
OSi Sheet No : 1:2500 (5474-A, 5539-B, 5474-B, 5473-B, 5474-D) & 1:5000 (5473, 5474, 5538, 5539)
OSi Licence No : CYAL50405555

Coordinate projection: IRENET95_ITM

AB-DR-03

AB-DR-04

94.2m

W N E S

0m 100m 200m 300m 400m 500m

LEGEND

- Site Boundary
- Site Ownership Boundary
- Archaeological Exclusion Zone
- Archaeological Buffer Zone
- Transformer
- Proposed Cable Route
- Proposed Cable Route (HDD)
- Public Road Crossing
- Internal Access Track
- Ditch/Drain/River
- Cable route proposed in ref. 23/6099/ABP-320298-24
- Hedgerow Removal Area
- Trees

Notes:

Approx. Site Centre
ITM (552551, 617515)
Approx. Site Area : 4.47189 Acre
Approx. Hedgerow Removal Area : 610sqm

Project Description
Ardnageehy-Ballyroe Cable Route
Land at Ballynadrideen & Ballyroe Townlands, Co. Cork

Sheet No.
AB-DR-02

Scale	Page Info	Date
1:5000	A3	06/03/2025

Title
Cable Route Map

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planning environmental. technical.

Drawings Prepared by : Ananthulal S
Drawings Verified & Approved by : Kieran Tarpey
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OSi Sheet No : 1:2500 (5474-A, 5539-B, 5474-B, 5473-B, 5474-D) & 1:5000 (5473, 5474, 5538, 5539)
OSi Licence No : CYAL50405555

Coordinate projection: IRENET95_ITM

102m ASL
AB-DR-05
Public Road Crossing
101m ASL
AB-DR-07
6.4m
AB-DR-06
AB-DR-08
101m ASL
AB-DR-09

W N E S

0m 50m 100m 150m 200m 250m

LEGEND

- Site Boundary
- Site Ownership Boundary
- Archaeological Exclusion Zone
- Archaeological Buffer Zone
- Transformer
- Proposed Cable Route
- Proposed Cable Route (HDD)
- Public Road Crossing
- Internal Access Track
- Ditch/Drain/River
- Cable route proposed in ref. 23/6099/ABP-320298-24
- Hedgerow Removal Area
- Trees

Notes:

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ITM (552551, 617515)
Approx. Site Area : 4.47189 Acre
Approx. Hedgerow Removal Area : 610sqm

Project Description
Ardnageehy-Ballyroe Cable Route
Land at Ballynadrideen & Ballyroe Townlands, Co. Cork

Sheet No.: AB-DR-03

Scale	Page Info	Date
1:2500	A3	06/03/2025

Title
Cable Route Map: Section 1

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Drawings Prepared by : Ananthulal S
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OSi Licence No : CYAL50405555

Coordinate projection: IRENET95_ITM

AB-DR-10
99m ASL
14.1m
97m ASL
94.2m
AB-DR-11
AB-DR-12
10m
AB-DR-13
10m
94m ASL
AB-DR-14

W N E S

0m 50m 100m 150m 200m 250m

LEGEND

- Site Boundary
- Site Ownership Boundary
- Archaeological Exclusion Zone
- Archaeological Buffer Zone
- Transformer
- Proposed Cable Route
- Proposed Cable Route (HDD)
- Public Road Crossing
- Internal Access Track
- Ditch/Drain/River
- Cable route proposed in ref. 23/6099/ABP-320298-24
- Hedgerow Removal Area
- Trees

Planning Department
18 MAR 2025
Cork County Council
County Hall
Cork.

Notes:

Approx. Site Centre
ITM (552551, 617515)
Approx. Site Area : 4.47189 Acre
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Project Description
Ardnageehy-Ballyroe Cable Route
Land at Ballynadrideen & Ballyroe Townlands, Co. Cork

Sheet No.: AB-DR-04

Scale	Page Info	Date
1:2500	A3	06/03/2025

Title
Cable Route Map: Section 2

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Drawings Prepared by : Ananthulal S
Drawings Verified & Approved by : Kieran Tarpey
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Basemap : OSi 1:5000 OSi Rural Place map
OSi Sheet No : 4110, 4111, 4168, 4169, 4170
OSi Licence No : CYAL50405555
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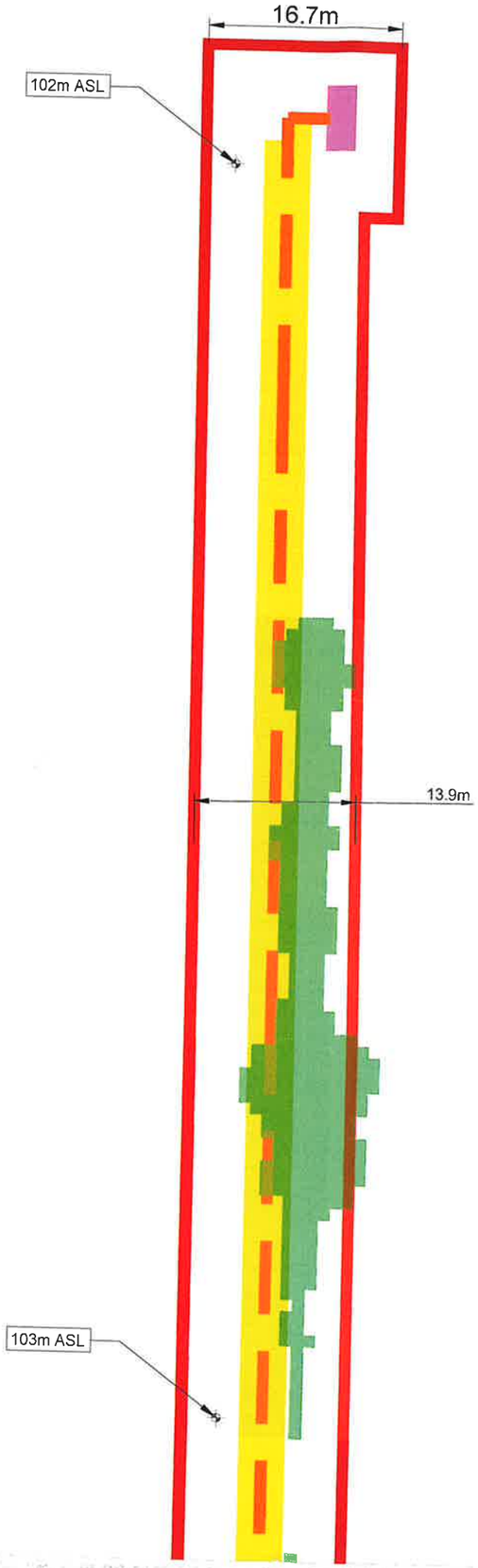
Coordinate projection: IRENET95_ITM



0m 10m 20m 30m 40m 50m

LEGEND

- Site Boundary
- Site Ownership Boundary
- Archaeological Exclusion Zone
- Archaeological Buffer Zone
- Transformer
- Proposed Cable Route
- Proposed Cable Route (HDD)
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- Cable route proposed in ref. 23/6099/ABP-320298-24
- Hedgerow Removal Area
- Trees

Planning Department
18 MAR 2025
Cork County Council
County Hall
Cork.

Notes:

Approx. Site Centre
ITM (552551, 617515)
Approx. Site Area : 4.47189 Acre
Approx. Hedgerow Removal Area : 610sqm

Project Description
Ardnageehy-Ballyroe Cable Route
Land at Ballynadrideen & Ballyroe Townlands, Co. Cork

Sheet No.: AB-DR-05

Scale	Page Info	Date
1:500	A3	06/03/2025

Title
Cable Layout Plan

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Drawings Prepared by : Ananthulal S
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W N E S

Basemap : OSi 1:5000 OSi Rural Place map
OSi Sheet No : 4110, 4111, 4168, 4169, 4170
OSi Licence No : CYAL50405555

Coordinate projection: IRENET95_ITM

104m ASL

10.6m

20m

101m ASL

Included in a previous application ref. 23/6099/ABP-320298-24; not part of the current development, shown for reference

0m 10m 20m 30m 40m 50m

W N E S

LEGEND

- Site Boundary
- Site Ownership Boundary
- Archaeological Exclusion Zone
- Archaeological Buffer Zone
- Transformer
- Proposed Cable Route
- Proposed Cable Route (HDD)
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- Cable route proposed in ref. 23/6099/ABP-320298-24
- Hedgerow Removal Area
- Trees

Notes:

Approx. Site Centre
ITM (552551, 617515)
Approx. Site Area : 4.47189 Acre
Approx. Hedgerow Removal Area : 610sqm

Project Description
Ardnageehy-Ballyroe Cable Route
Land at Ballynadrideen & Ballyroe Townlands, Co. Cork

Sheet No.: AB-DR-06

Scale	Page Info	Date
1:500	A3	06/03/2025

Title
Cable Layout Plan

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Drawings Prepared by : Ananthulal S
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Basemap : OSi 1:5000 OSi Rural Place map
OSi Sheet No : 4110, 4111, 4168, 4169, 4170
OSi Licence No : CYAL50405555

Coordinate projection: IRENET95_ITM

LEGEND

- Site Boundary
- Site Ownership Boundary
- Archaeological Exclusion Zone
- Archaeological Buffer Zone
- Transformer
- Proposed Cable Route
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- Hedgerow Removal Area
- Trees

Planning Department
18 MAR 2025
Cork County Council
County Hall
Cork.

Notes:

Approx. Site Centre
ITM (552551, 617515)
Approx. Site Area : 4.47189 Acre
Approx. Hedgerow Removal Area : 610sqm

Project Description
Ardnageehy-Ballyroe Cable Route
Land at Ballynadrideen & Ballyroe Townlands, Co. Cork

Sheet No.: AB-DR-07

Scale	Page Info	Date
1:500	A3	06/03/2025

Title
Cable Layout Plan

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Basemap : OSi 1:5000 OSi Rural Place map
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OSi Licence No : CYAL50405555

Coordinate projection: IRENET95_ITM

LEGEND

- Site Boundary
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- Archaeological Exclusion Zone
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- Trees

Notes:

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Approx. Hedgerow Removal Area : 610sqm

Project Description
Ardnageehy-Ballyroe Cable Route
Land at Ballynadrideen & Ballyroe Townlands, Co. Cork

Sheet No.
AB-DR-08

Scale	Page Info	Date
1:500	A3	06/03/2025

Title
Cable Layout Plan

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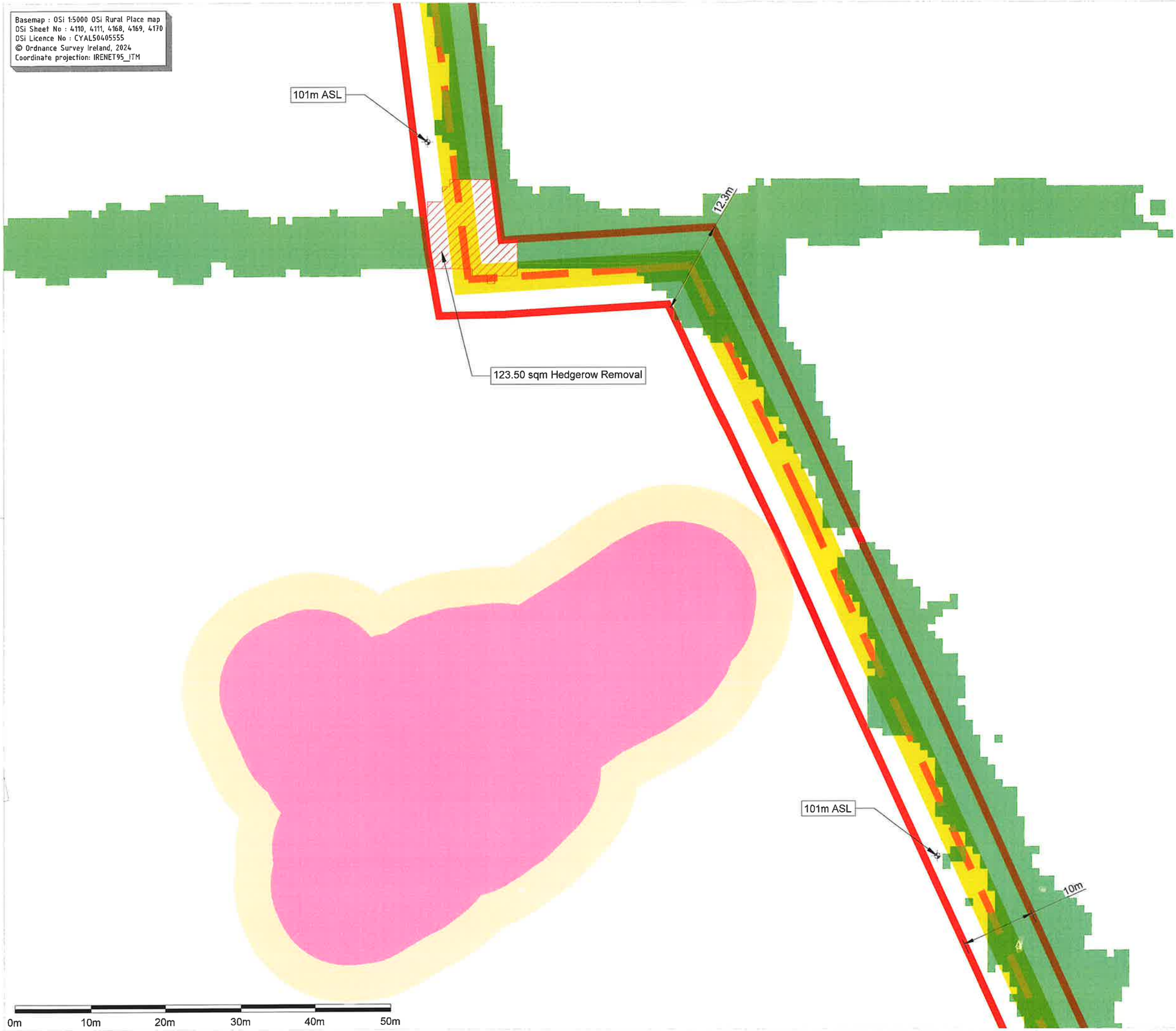
W N E S

Basemap : OSi 1:5000 OSi Rural Place map
OSi Sheet No : 4110, 4111, 4168, 4169, 4170
OSi Licence No : CYAL50405555

Coordinate projection: IRENET95_ITM



LEGEND

- Site Boundary
- Site Ownership Boundary
- Archaeological Exclusion Zone
- Archaeological Buffer Zone
- Transformer
- Proposed Cable Route
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- Trees

Notes:

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ITM (552551, 617515)
Approx. Site Area : 4.47189 Acre
Approx. Hedgerow Removal Area : 610sqm

Project Description
Ardnageehy-Ballyroe Cable Route
Land at Ballynadrideen & Ballyroe Townlands, Co. Cork

Sheet No : AB-DR-09

Scale	Page Info	Date
1:500	A3	06/03/2025

Title
Cable Layout Plan

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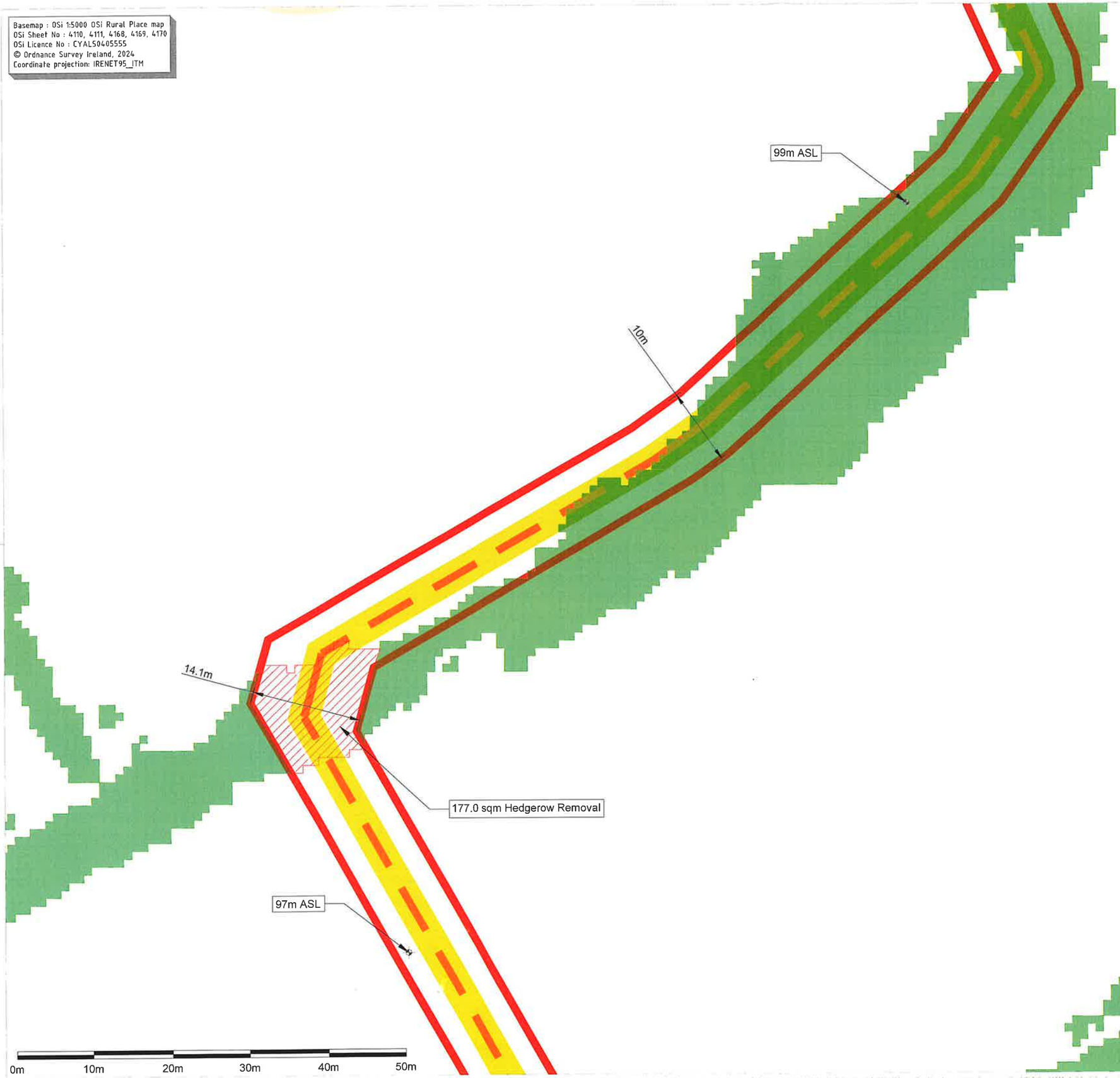
Basemap : OSi 1:5000 OSi Rural Place map
OSi Sheet No : 4110, 4111, 4168, 4169, 4170
OSi Licence No : CYAL50405555

Coordinate projection: IRENET95_ITM



LEGEND

- Site Boundary
- Site Ownership Boundary
- Archaeological Exclusion Zone
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- Proposed Cable Route
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- Cable route proposed in ref. 23/6099/ABP-320298-24
- Hedgerow Removal Area
- Trees

Notes:

Approx. Site Centre
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Approx. Hedgerow Removal Area : 610sqm

Project Description
Ardnageehy-Ballyroe Cable Route
Land at Ballynadrideen & Ballyroe Townlands, Co. Cork

Sheet No.: AB-DR-10

Scale	Page Info	Date
1:500	A3	06/03/2025

Title
Cable Layout Plan

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Basemap : OSi 1:5000 OSi Rural Place map
OSi Sheet No : 4110, 4111, 4168, 4169, 4170
OSi Licence No : CYAL50405555

Coordinate projection: IRENET95_ITM

98m ASL

10m

HDD

97m ASL

94.2m

10m

0m 10m 20m 30m 40m 50m

N E S W

LEGEND

- Site Boundary
- Site Ownership Boundary
- Archaeological Exclusion Zone
- Archaeological Buffer Zone
- Transformer
- Proposed Cable Route
- Proposed Cable Route (HDD)
- Public Road Crossing
- Internal Access Track
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- Cable route proposed in ref. 23/6099/ABP-320298-24
- Hedgerow Removal Area
- Trees

Notes:

Approx. Site Centre
ITM (552551, 617515)
Approx. Site Area : 4.47189 Acre
Approx. Hedgerow Removal Area : 610sqm

Project Description
Ardnageehy-Ballyroe Cable Route
Land at Ballynadrideen & Ballyroe Townlands, Co. Cork

Sheet No.: AB-DR-11

Scale	Page Info	Date
1:500	A3	06/03/2025

Title
Cable Layout Plan

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planning. environmental. technical.

Drawings Prepared by : Ananthulal S
Drawings Verified & Approved by : Kieran Tarpey
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Basemap : OSi 1:5000 OSi Rural Place map
OSi Sheet No : 4110, 4111, 4168, 4169, 4170
OSi Licence No : CYAL50405555

Coordinate projection: IRENET95_ITM

LEGEND

- Site Boundary
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- Archaeological Exclusion Zone
- Archaeological Buffer Zone
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- Trees

Notes:

Approx. Site Centre
ITM (552551, 617515)
Approx. Site Area : 4.47189 Acre
Approx. Hedgerow Removal Area : 610sqm

Project Description
Ardnageehy-Ballyroe Cable Route
Land at Ballynadrideen & Ballyroe Townlands, Co. Cork

Sheet No.
AB-DR-12

Scale	Page Info	Date
1:500	A3	06/03/2025

Title
Cable Layout Plan

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Drawings Prepared by : Ananthulal S
Drawings Verified & Approved by : Kieran Tarpey
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Basemap : OSi 1:5000 OSi Rural Place map
OSi Sheet No : 4110, 4111, 4168, 4169, 4170
OSi Licence No : CYAL50405555

Coordinate projection: IRENET95_ITM

98m ASL

10m

98m ASL

0m 10m 20m 30m 40m 50m

W N E S

LEGEND

- Site Boundary
- Site Ownership Boundary
- Archaeological Exclusion Zone
- Archaeological Buffer Zone
- Transformer
- Proposed Cable Route
- Proposed Cable Route (HDD)
- Public Road Crossing
- Internal Access Track
- Ditch/Drain/River
- Cable route proposed in ref. 23/6099/ABP-320298-24
- Hedgerow Removal Area
- Trees

Notes:

Approx. Site Centre
ITM (552551, 617515)
Approx. Site Area : 4.47189 Acre
Approx. Hedgerow Removal Area : 610sqm

Project Description
Ardnageehy-Ballyroe Cable Route
Land at Ballynadrideen & Ballyroe Townlands, Co. Cork

Sheet No.
AB-DR-13

Scale	Page Info	Date
1:500	A3	06/03/2025

Title
Cable Layout Plan

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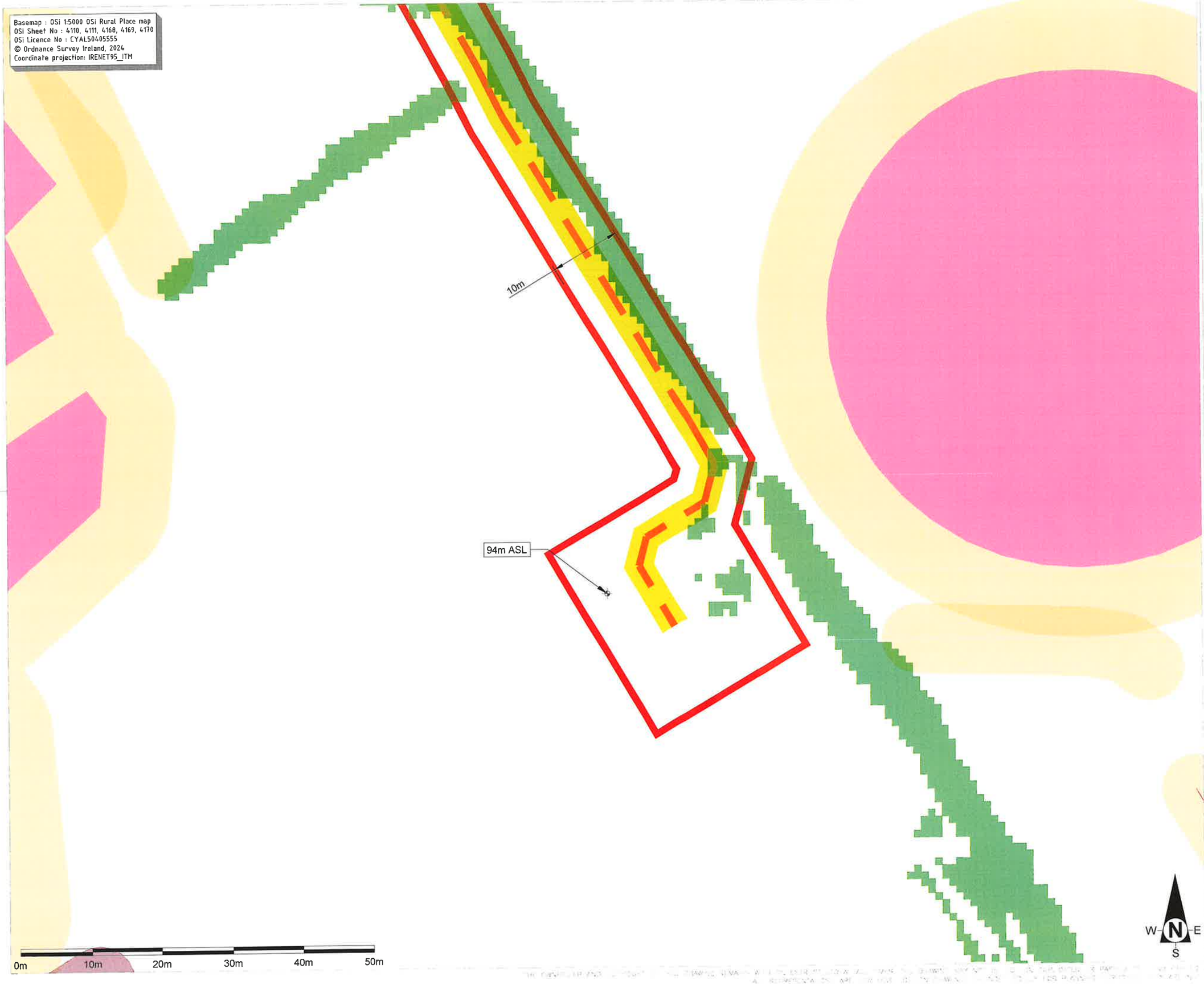
Basemap : OSi 1:5000 OSi Rural Place map
OSi Sheet No : 4110, 4111, 4168, 4169, 4170
OSi Licence No : CYAL50405555

Coordinate projection: IRENET95_ITM



LEGEND

- Site Boundary
- Site Ownership Boundary
- Archaeological Exclusion Zone
- Archaeological Buffer Zone
- Transformer
- Proposed Cable Route
- Proposed Cable Route (HDD)
- Public Road Crossing
- Internal Access Track
- Ditch/Drain/River
- Cable route proposed in ref. 23/6099/ABP-320298-24
- Hedgerow Removal Area
- Trees

Planning Department
18 MAR 2025
Cork County Council
County Hall
Cork.

Notes:

Approx. Site Centre
ITM (552551, 617515)
Approx. Site Area : 4.47189 Acre
Approx. Hedgerow Removal Area : 610sqm

Project Description
Ardnageehy-Ballyroe Cable Route
Land at Ballynadrideen & Ballyroe Townlands, Co. Cork

Sheet No.: AB-DR-14

Scale	Page Info	Date
1:500	A3	06/03/2025

Title
Cable Layout Plan

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Drawings Prepared by : Ananthulal S
Drawings Verified & Approved by : Kieran Tarpey
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Comhairle Contae Chorcaí
Cork County Council

Pleanáil agus Forbairt,
Halla an Chontae,
Bóthar Charraig Ruacháin,
Corcaigh T12 R2NC.
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R-phost: planninginfo@corkcoco.ie
Suíomh Gréasáin: www.corkcoco.ie
Planning & Development,
County Hall,
Carrigrohane Road, Cork T12 R2NC.
Tel (021) 4276891
Email: planninginfo@corkcoco.ie
Web: www.corkcoco.ie

Soleire Renewables SPV Limited,
C/O Richard Mahlalela,
Entrust Ltd.,
Unit 1 First Floor,
Oranmore Business Park,
Oranmore,
Co. Galway.
H91 P7X8

31st January, 2025

Our Ref.: D/201/25

Re: Declaration of Exempted Development under Section 5 of The Planning and Development Act 2000 – 2010.

Whether the construction of 33 kV underground cabling to facilitate a connection between Ardnageehy Solar Farm and a 110 kV Ballyroe Substation SID in the townlands of Ballynadrideen and Ballyroe is or is not development and is or is not exempted development.

Dear Sir,

I refer to your application for a Declaration of Exemption in relation to the above.

It is considered that the information submitted with the Section 5 Declaration application is insufficient to enable the Planning Authority to make a determination. You are therefore requested to submit the following further information :

1. Appropriate Assessment

The Planning Authority note the submitted details including the Outline Construction Method Statement and Appropriate Assessment Screening Report. Having regard to the de-exemption under Article 9(1)(a)(viiB) of the Planning and Development Regulations 2001 (as amended) and Section 4(4) of the Planning and Development Act 2000 (as amended), you are required to submit information in relation to the following to enable a determination:

(a) You have submitted an Appropriate Assessment Screening Report which report notes that Whooper Swan, a species of conservation interest of the Kilcolman Bog SPA (004095), are known to frequent the surrounding region. With regard to Whooper swan and the Kilcolman Bog SPA (004095), likely significant effects have been screened out on the basis that the habitat on site would not be significant habitat to the species. Additionally, as the interconnector will be underground there therefore will be no potential for bird collision.

It is noted that survey work undertaken on your behalf for other solar infrastructure developments in the wider area of the site, and separately by the National Parks and Wildlife Service have indicated a strong that ex-situ connectivity between the Awbeg floodplain area and Kilcolman Bog SPA, with movements of Whooper Swans recorded between the two areas over the winter period.

Located south of the proposal site are regularly used areas by Whooper Swans with flock sizes recorded exceeding the 100-mark on a number of occasions. Of significance is the presence of a regular roost site at Ballyroe quarry pond (within 350m of the proposed development).

The main risk posed by the proposed development (alone) is disturbance/displacement impacts where construction activity takes place during the winter period when Whooper Swans are present in the area and where such disturbance such as noise or human activity occurs at a level that would illicit a response from the birds i.e. causing displacement from foraging and/or roost sites.

While the proposal alone may not lead to a likely significant decrease in the numbers or range of areas used by Whooper Swan during construction, the potential for in-combination effects cannot be excluded based on the information provided. As per the submitted report cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated within an area or location. The provided report would appear to not have had regard to all other solar infrastructure related projects in the area in its assessment, with no assessment on in-combination effects actually provided.

Therefore, you are requested to provide a more robust AA Screening report. The likely most critical aspect in respect to the disturbance / displacement effects will be the timing of the works.

(b) Furthermore, it is noted that the AA Screening has not had regard to mitigation measures, numerous references to the use of same are outlined within the Outline Construction Methodology report, with specific mention to measures detailed within accompanying EIAR and NIS reports. You are requested to revise the submitted Section 5 documents to ensure that the content of all documents is consistent with no conflicting statements.

2. Article 9(1)(a)(i)

Permission Reg. Ref. 23/6099 / ABP-320298-24 included an underground grid connection to connect with the previously consented electricity grid interconnector (reg. ref. 22/5933). In the interests of clarity you are requested to clarify and demonstrate that the proposed grid connection under this Section 5 application does not contravene a condition and the terms of permission granted under reg. ref. 23/6099 / ABP-320298-24.

3. Hedgerow/Field Boundary Removal

In the interests of clarity, you are requested to clarify whether the route of the proposed cable will require the removal of any existing field boundaries and hedgerows. For clarity, drawings clearly demonstrating route alignment and existing field boundaries and hedgerows should be submitted.

Yours faithfully,

A. Carrigy

ANGELA CARRIGY,
ASO PLANNING DEPARTMENT.

In order to process your query, it may be necessary for Cork County Council to collect Personal information from you. Such information will be processed in line with our privacy statement which is available to view at https://www.corkcoco.ie/privacy-statement-cork-county-council

Comhairle Contae Chorcaí
Cork County Council

Planning and Development Directorate
Section 5 – Application for Declaration of Exemption Certificate

---

Ref: D/205/25 – Section 5 Declaration

Name: Soleire Renewables SPV Limited

Development: Whether the construction of 33 kV underground cabling to facilitate a connection between Ardnageehy Solar Farm and a 110 kV Ballyroe Substation SID in the townlands of Ballynadrideen & Ballyroe is exempted development?

Site Location/Address: Townlands of Ballynadridenn and Ballyroe, Charleville, Co. Cork

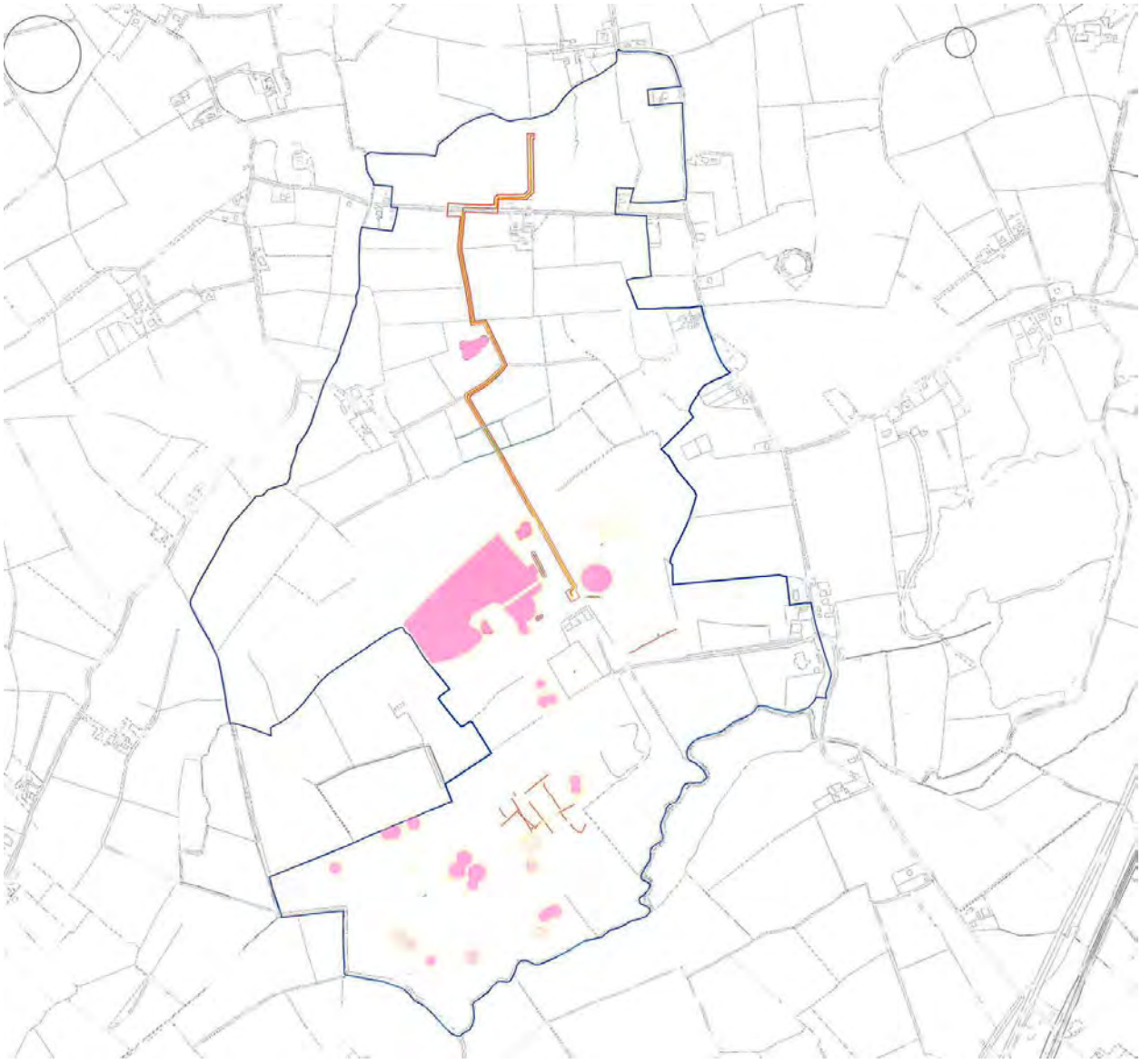


Fig.1: Submitted Site Location Map

Relevant Planning History:

23/6099 / ABP-320298-24 - Soleire Renewables SPV Limited – The development will consist of an application for a 10-year planning permission for the construction of, and 40-year operation and subsequent decommissioning of, a development consisting of a 92.75-hectare solar farm and underground grid connection route (red line boundary). The underground grid connection route will run underneath private lands and L5527, L5528 and L5529 public roads for 1km where it will connect the proposed development to the previously consented electricity grid interconnector (Cork County Council Pl. Ref 22/5933). The solar farm comprises of four separate land parcels divided by local roads. The proposed solar farm will consist of a series of ground mounted solar photovoltaic (PV) panels, mounted on steel support structures and in some areas concrete shoes to protect possible underground archaeological features, together with electrical transformation enclosures, underground cabling, temporary construction compounds, the use of existing farm access tracks, existing site entrances, widening of 1 No. existing site entrance, inverters, CCTV poles and cameras, deer type security/boundary fencing with some areas of boundary development on concrete shoes to further protect possible underground archaeological features, landscaping and biodiversity measures and all associated ancillary development works, for the purpose of generating renewable energy electricity and transmitting it. A Natura Impact Statement will also be submitted to the Planning authority with this application – Conditional.

ABP-314431-22 - Soleire Renewables SPV Limited - The construction of a 110KV 'Single Bay Tail Fed' Substation, 110kv Underground Grid Connection and all associated site works – Granted.

20/4041 - Soleire Renewables SPV Limited - A 10 year planning permission for the development of a 102.76 hectare solar PV farm and 3.425 kilometre underground electricity grid connection (0.34 hectares) giving a total combined area for both the solar farm and underground grid connection of 103.1 hectares. The proposed solar farm will consist of the installation of a 40 year operation and subsequent decommissioning of a series of ground mounted solar photovoltaic (PV) panels, mounted on steel support structures, together with 1 single storey ESB control room, 12 electrical transformation enclosures, underground cabling, inverters, CCTV poles and cameras, deer type security fencing, existing site entrance from the L5529 road, access tracks, hardstanding area, landscaping and biodiversity measures and all associated ancillary development works, for the purpose of generating renewable energy electricity. The proposed solar farm is located in the townlands of Ballyroe and Dromin, Ballyhea, Charleville, County Cork. The proposed underground electricity grid connection is to be installed entirely under public roads from the proposed solar farm at Ballyroe to Charleville 110kV ESB substation, which passes through the townlands of Ballyroe, Ballynadrideen, Ardnageehy, Rathnacally and Clashganniv in Ballyhea, Charleville, County Cork. A Natura Impact Statement will be submitted to the planning authority with this application – Conditional.

Question subject of the Section 5:

On the basis of the information submitted the question to be addressed under this request is as follows:

Whether the construction of 33 kV underground cabling to facilitate a connection between Ardnageehy Solar Farm and a 110 kV Ballyroe Substation SID in the townlands of Ballynadrideen & Ballyroe is exempted development?

Legislative Context:

Planning and Development Act 2000 (as amended)

Section 3(1) of the Act states 'development' means:

"In this Act, except where the context otherwise requires, "development" means— (a) the carrying out of any works in, on, over or under land, or the making of any material change in the use of any land or structures situated on land, or (b) development within the meaning of Part XXI (inserted by section 171 of the Maritime Area Planning Act 2021)"

Section 2 of the Act defines 'works' as:

"works" includes any act or operation of construction, excavation, demolition, extension, alteration, repair or renewal and, in relation to a protected structure or proposed protected structure, includes any act or operation involving the application or removal of plaster, paint, wallpaper, tiles or other material to or from the surfaces of the interior or exterior of a structure

Section 4 of the Act, as amended, sets out the types of works that while considered 'development', can be considered 'exempted development' for the purposes of the Act.

Section 4 (4) of the Act, as amended, states as follows:-
4 (4) Notwithstanding paragraphs (a), (i), (ia) and (l) of subsection (1) and any regulations under subsection (2), development shall not be exempted development if an environmental impact assessment or an appropriate assessment of the development is required.

Planning and Development Regulations 2001 (as amended)

Article 6 states:- (1) Subject to Article 9, development of a class specified in column 1 part 1 of schedule 2 shall be exempted development for the purposes of the Act, provided that such development complies with the conditions and limitations specified in column 2 of the said part 1 opposite the mention of that class in the said column 1.

Article 9 sets out that development to which article 6 relates shall not be exempted development if the carrying out of such development would conflict with certain criteria.

Article 10 (1) Changes of Use of the Planning and Development Regulations 2001 (as amended) outlines that the classes of use specified in Schedule 2, shall be exempted development for the purposes of the Act, if the works carried out are exempted development.

Internal Consultees:

Ecology Unit – Require Further Information.

County Archaeologist – Report Awaited.

Area Engineer – Report Awaited.

Assessment:

- *"Is or is not development?"*

Section 2(1) of the Planning and Development Act 2000, (as amended) states that:

""works" includes any act or operation of construction, excavation, demolition, extension, alteration, repair or renewal and …."

Section 3(1) of the Planning and Development Act 2000, (as amended) states that under the Act:

""development" means, except where the context otherwise requires, the carrying out of any works on, in, over or under land or the making of any material change in the use of any structures or other land".

Having regard to the nature of the proposed works (i.e. the construction of 33 kV underground cabling to facilitate a connection between Ardnageehy Solar Farm and a 110 kV Ballyroe Substation SID), and the broad definition of works set out in Section 2(1) and 3(1) of the Act it is considered that the proposed development does constitute development for planning purposes. The second element of the question therefore is whether the proposal is or is not exempted development.

- *"Is or is not exempted development?"*

The focus of the question is therefore whether the development "*is or is not exempted development".*

Having regard to the Planning and Development Act 2000, (as amended) and the regulations made thereunder, the relevant class of development is Part 1, Schedule 2, Class 26 of the Planning and Development Regulations (2001), as amended. Class 26 refers to:

"The carrying out by any undertaker authorised to provide an electricity service of development consisting of the laying of underground mains, pipes, cables or other apparatus for the purposes of the undertaking"

The said development (i.e. the laying of cables underground for an electricity grid connection) is considered to fall within the scope of Class 26.

The submitted information states that the works are to be carried out by Soleire Renewable SPV Limited, having obtained authorization to generate and construct directly from the Commission for Enreggy Regulation in advance of construction commencement is categorised as an electricity undertaker as defined in the Electricity Supply Act, 1927.

Class 26, Schedule2, Part 1 of the Planning and Development Regulations 2001 (as amended) provides an exemption for

The focus of the question is therefore whether the development "*is or is not exempted development".*

Having regard to the Planning and Development Act 2000, (as amended) and the regulations made thereunder, the relevant class of development is Part 1, Schedule 2, Class 26 of the Planning and Development Regulations (2001), as amended. Class 26 refers to:

"The carrying out by any undertaker authorised to provide an electricity service of development consisting of the laying of underground mains, pipes, cables or other apparatus for the purposes of the undertaking"

The said development (i.e. the laying of cables underground for an electricity grid connection) is considered to fall within the scope of Class 26.

In terms of the "undertaker authorised", having regard to definitions in the Planning and Development Act 2000 (as amended), in the Planning and Development Regulations 2001 (as amended) and in the Electricity Regulation Act 1999, it is considered that Soleire Renewable SPV Limited, whom are authorised under the Planning Acts to construct solar farm developments (which is a project for the provision of electricity) fall within the category of an "undertaker authorised" and it is considered that the development falls within the scope of Class 26.

Therefore, it is considered that these works are ordinarily exempted development unless restricted by Section 4(4) of the PDA or Article 9 of the Regulations.

Restrictions on Exempted Development under Article 9(1)

Under Article 9(1) development to which Article 6 relates shall not be exempted development;

(a) if the carrying out of such development would:

(i) contravene a condition attached to a permission under the Act or be inconsistent with any use specified in a permission under the Act,
(ii) consist of or comprise the formation, laying out or material widening of a means of access to a public road the surfaced carriageway of which exceeds 4 metres in width,
(iii) endanger public safety by reason of traffic hazard or obstruction of road users,
(iiia) endanger public safety by reason of hazardous glint and/or glare for the operation of airports, aerodromes or aircraft,
(iv) except in the case of a porch to which class 7 specified in column 1 of Part 1 of Schedule 2 applies and which complies with the conditions and limitations specified in column 2 of the said Part 1 opposite the mention of that class in the said column 1, comprise the construction, erection, extension or renewal of a building on any street so as to bring forward the building, or any part of the building, beyond the front wall of the building on either side thereof or beyond a line determined as the building line in a development plan for the area or, pending the variation of a development plan or the making of a new development plan, in the draft variation of the development plan or the draft development plan,
(v) consist of or comprise the carrying out under a public road of works other than a connection to a wired broadcast relay service, sewer, water main, gas main or electricity supply line or cable, or any works to which class 25, 26 or 31 (a) specified in column 1 of Part 1 of Schedule 2 applies,
(vi) interfere with the character of a landscape, or a view or prospect of special amenity value or special interest, the preservation of which is an objective of a development plan for the area in which the development is proposed or, pending the variation of a development plan or the making of a new development plan, in the draft variation of the development plan or the draft development plan,
(vii) consist of or comprise the excavation, alteration or demolition (other than peat extraction) of places, caves, sites, features or other objects of archaeological, geological, historical, scientific or ecological interest, the preservation, conservation or protection of which is an objective of a development plan or local area plan for the area in which the development is proposed or, pending the variation of a development plan or local area plan, or the making of a new development plan or local area plan, in the draft variation of the development plan or the local area plan or the draft development plan or draft local area plan,
(viiA) consist of or comprise the excavation, alteration or demolition of any archaeological monument included in the Record of Monuments and Places, pursuant to section 12 (1) of the National Monuments (Amendment) Act 1994, save that this provision shall not apply to any excavation or any works, pursuant to and in accordance with a consent granted under section 14 or a licence granted under section 26 of the National Monuments Act 1930 (No. 2 of 1930) as amended,
(viiB) comprise development in relation to which a planning authority or An Bord Pleanála is the competent authority in relation to appropriate assessment and the development would require an appropriate assessment because it would be likely to have a significant effect on the integrity of a European site,
(viii) consist of or comprise the extension, alteration, repair or renewal of an unauthorised structure or a structure the use of which is an unauthorised use,
(ix) consist of the demolition or such alteration of a building or other structure as would preclude or restrict the continuance of an existing use of a building or other structure where it is an objective of the planning authority to ensure that the building or other structure would remain available for such use and such objective has been specified in a development plan for the area or, pending the variation of a development plan or the making of a new development plan, in the draft variation of the development plan or the draft development plan,
(x) consist of the fencing or enclosure of any land habitually open to or used by the public during the 10 years preceding such fencing or enclosure for recreational purposes or as a means of access

to any seashore, mountain, lakeshore, riverbank or other place of natural beauty or recreational utility,
(xi) obstruct any public right of way,
(xii) further to the provisions of section 82 of the Act, consist of or comprise the carrying out of works to the exterior of a structure, where the structure concerned is located within an architectural conservation area or an area specified as an architectural conservation area in a development plan for the area or, pending the variation of a development plan or the making of a new development plan, in the draft variation of the development plan or the draft development plan and the development would materially affect the character of the area,

Assessment of Restrictions on Exempted Development under Article 9(1)

With regard to article 9 (1)(a)(i) and whether the development would contravene a condition attached to a permission under the Act (i.e. ABP-314431-22 for 110KV substation or ABP-320298-24 for consented Ardnageehy Solar Farm), the development proposed does not appear to contravene a condition. However, it is noted that permission reg. ref. 23/6099 / ABP-320298-24 included an underground grid connection to connect with the previously consented electricity grid interconnector (reg. ref. 22/5933). In the interests of clarity the applicant should be requested to clarify and demonstrate that the proposed grid connection under this Section 5 application does not contravene a condition and the terms of permission granted under reg. ref. 23/6099 / ABP-320298-24.

No report has been received from the Area Engineer. In view of article 9 (1)(a)(i) the proposal is unlikely to endanger public safety by reason of traffic hazard or obstruction of road users. Road licences and traffic management measures and procedures will be required for works.

In terms of Article 9(1)(a)(viiB) as discussed below the Ecology unit require further information to complete the assessment.

Appropriate Assessment (AA) & Environmental Impact Assessment (EIA)

Notwithstanding any exemptions within the regulations, Section 4(4) of the Act states that:

"development shall not be exempted development if an environmental impact assessment or an appropriate assessment of the development is required".

In terms of Appropriate Assessment, the report of the Ecology unit is noted (see appendix). Further information is required in this regard.

With regard to EIA, from a preliminary examination the project is unlikely to require EIA. In light of projects for the restructuring of rural landholdings, and general clarity regarding the development route the applicant should be requested to clarify whether the route of the proposed cable will require the removal of any existing field boundaries and hedgerows.

Conclusion/Recommendation:

Defer for further information in relation to the following items:

1. Appropriate Assessment

   The Planning Authority note the submitted details including the Outline Construction Method Statement and Appropriate Assessment Screening Report. Having to the de-exemption under Article 9(1)(a)(viiB) of the Planning and Development Regulations 2001 (as amended) and Section 4(4) of the Planning and Development Act 2000 (as amended), the applicant is required to submit information in relation to the following to enable a determination:

(a) The applicant has submitted Appropriate Assessment Screening Report which report notes that Whooper Swan, a species of conservation interest of the Kilcolman Bog SPA (004095), are known to frequent the surrounding region. With regard to Whooper swan and the Kilcolman Bog SPA (004095), likely significant effects have been screened out on the basis that the habitat on site would not be significant habitat to the species. Additionally, as the interconnector will be underground there therefore will be no potential for bird collision.

It is noted that survey work undertaken on behalf of the Applicant for other solar infrastructure developments in the wider area of the site, and separately by the National Parks and Wildlife Service have indicated a strong that ex-situ connectivity between the Awbeg floodplain area and Kilcolman Bog SPA, with movements of Whooper Swans recorded between the two areas over the winter period.

Located south of the proposal site are regularly used areas by Whooper Swans with flock sizes recorded exceeding the 100-mark on a number of occasions. Of significance is the presence of a regular roost site at Ballyroe quarry pond (within 350m of the proposed development).

The main risk posed by the proposed development (alone) is disturbance/displacement impacts where construction activity takes place during the winter period when Whooper Swans are present in the area and where such disturbance such as noise or human activity occurs at a level that would illicit a response from the birds i.e. causing displacement from foraging and/or roost sites.

While the proposal alone may not lead to a likely significant decrease in the numbers or range of areas used by Whooper Swan during construction, the potential for in-combination effects cannot be excluded based on the information provided. As per the submitted report cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated within an area or location. The provided report would appear to not have had regard to all other solar infrastructure related projects in the area in its assessment, with no assessment on in-combination effects actually provided.

Therefore, it you are requested to provide a more robust AA Screening report. The likely most critical aspect in respect to the disturbance / displacement effects will be the timing of the works.

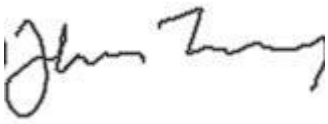
(b) Furthermore, it is noted that the AA Screening has not had regard to mitigation measures, numerous references to the use of same are outlined within the Outline Construction Methodology report, with specific mention to measures detailed within accompanying EIAR and NIS reports. The applicant is requested to revise their submitted Section 5 documents to ensure that the content of all documents is consistent with no conflicting statements.

2. <u>Article 9(1)(a)(i)</u>

Permission reg. ref. 23/6099 / ABP-320298-24 included an underground grid connection to connect with the previously consented electricity grid interconnector (reg. ref. 22/5933). In the interests of clarity the applicant is requested to clarify and demonstrate that the proposed grid connection under this Section 5 application does not contravene a condition and the terms of permission granted under reg. ref. 23/6099 / ABP-320298-24.

3. <u>Hedgerow/Field Boundary Removal</u>

In the interests of clarity, the applicant is requested to clarify whether the route of the proposed cable will require the removal of any existing field boundaries and hedgerows. For clarity, drawings clearly demonstrating route alignment and existing field boundaries and hedgerows should be submitted.



_____
J. Tierney
Executive Planner
30/01/2025

L Ahern
A/Senior Executive Planner
31/01/2025

Appendix 1: Ecology Unit Report (29/01/2025)

Ref. D201/25 - Section 5 Declaration of Exemption for a 33kV underground cabling to facilitate a grid connection for a previously consented solar farm at Ardnageehy (Pl. Ref. Cork Co. Co. 230699 & ABP-320298-24) to a previously consented 110kV substation at Ballyroe (Pl. Ref. ABP-314431-22), at Ballynadrideen & Ballyroe Townlands, Co. Cork.

The subject Section 5 Declaration application has been referred to this Ecology Office to confirm whether the proposal would likely trigger any relevant Ecological Restrictions on Exemptions under Article 9 of the Planning and Development Regulations 2001 (as amended). This report should be read in conjunction with the application material received.

The submitted section 5 declaration application queries whether the construction of a 1.83km 33kV underground cabling to facilitate a grid connection for a previously consented solar farm at Ardnageehy (Pl. Ref. Cork Co. Co. 230699 & ABP-320298-24) to a previously consented 110kV substation at Ballyroe (Pl. Ref. ABP-314431-22) falls within the category of exempted development as set out under the Planning and Development Act 2000 (as amended).

Project Details: The proposed development involves the installation of a 33 kV underground cable for a distance of 1.83km to facilitate the grid connection between the Ardnageehy Solar Farm and the Ballyroe substation SID which were previously granted planning permission. The proposed grid connection will consist of approximately 1.83km of an underground cable, with the proposed route commencing within existing agricultural land, following an agricultural path, then running beneath the L5519-16 secondary roadway. The route then again continues through fields and along farm paths, before reaching its termination point at Ballyroe Substation. The approximate minimum width of the redline boundary is 10m with a total development area of 1.8097 Ha/4.4719 Acres.

There will be a requirement for the underground cable to cross a small canal and stream. It is proposed use Horizontal Direct Drilling (HDD) for a length of 94.25m to pass under both the canal and stream. It is stated HDD may also be required for crossing a public road for 6.4m.

Additionally, it will be necessary to conduct pre-construction trial pits at specific locations along the cabling route to assess ground conditions and thermal resistivity.

An Outline Construction Method Statement and Appropriate Assessment Screening Report including habitat survey have been submitted in support of the Section 5 application.

Site Context and Location: The proposed development site is situated within an agricultural landscape some 7km south of the Cork / Limerick border, c.2km west of the N20 Road and approximately 3.5km southwest of Charleville Town.

The site is located within the upper Awbeg River catchment, which lies within the Munster Blackwater Catchment. The watercourses flowing adjacent to and within the proposed development site drain to the Awbeg River. The main hydrology features within/adjacent to the site is the 1st order watercourse the Dromin Stream which is traversed by the cable route. The Dromin Stream forms a direct hydrological linkage between the site and the Awbeg River which occurs some 1.5km downstream of the crossing point. According to the SFRA produced for the 2022 CDP, the proposed development is not located within a flood zone.

Article 9 Restrictions Assessment: Development to which Article 6 of the Planning and Development Regulations 2001 (as amended) relates shall not be exempted development for the purposes of the Act should any Article 9 restrictions apply.

I have reviewed the proposal having regard to the Article 9(1)(a)(viiB) on restrictions on Article 6 exemptions as detailed in columns 1 and 2 of Table 1 below.

Table 1: Article (1)(a)(viiB) – Appropriate Assessment related

Relevant Provisions	Detailed Provisions
Article 9 (1)(a)(viiB)	comprise development in relation to which a planning authority or An Bord Pleanála is the competent authority in relation to appropriate assessment and the development would require an appropriate assessment because it would be likely to have a significant effect on the integrity of a European site,

The applicant has submitted Appropriate Assessment Screening Report which states that both the Ballyhoura Mountains SAC (002036) and Blackwater River SAC (002170) are hydrologically connected to the site. Furthermore, the report notes that Whooper Swan, a species of conservation interest of the Kilcolman Bog SPA (004095), are known frequent the surrounding region.

With respect to the aforementioned Special Areas of Conservation, the report notes that while a hydrological link can be established, having regard to scale of the proposal, nature of the Domin Stream (lack of free-flowing water and highly vegetated) and the use to Horizontal directional drilling (HDD) to circumvent the watercourse, the potential hydrological pathway has been deemed as an unviable pollution source pathway. Furthermore, the potential for disturbance impacts to qualifying species has been excluded on the basis of the small footprint, timescale and nature of the works, lack habitats of significance to support qualifying species along with plentiful alternative habitat within the site surroundings. Therefore, both the Ballyhoura Mountains SAC and Blackwater River SAC have been screened out. I would concur with this assessment and conclusion.

With regard to Whooper swan and the Kilcolman Bog SPA (004095), likely significant effects have been screened out on the basis that the habitat on site would not be significant habitat to the species. Additionally, as the interconnector will be underground there therefore will be no potential for bird collision.

I note that survey work undertaken on behalf of the Applicant for other solar infrastructure developments in the wider area of the site, and separately by the National Parks and Wildlife Service have indicated a strong that ex-situ connectivity between the Awbeg floodplain area and Kilcolman Bog SPA, with movements of Whooper Swans recorded between the two areas over the winter period.

Located south of the proposal site are regularly used areas by Whooper Swans with flock sizes recorded exceeding the 100-mark on a number of occasions. Of significance is the presence of a regular roost site at Ballyroe quarry pond (within 350m of the proposed development).

The main risk posed by the proposed development (alone) is disturbance/displacement impacts where construction activity takes place during the winter period when Whooper Swans are present in the area and where such disturbance such as noise or human activity occurs at a level that would illicit a response from the birds i.e. causing displacement from foraging and/or roost sites.

While I am satisfied that the proposal alone would not lead to a likely significant decrease in the numbers or range of areas used by Whooper Swan during construction, the potential for in-combination effects cannot be excluded based on the information provided. As per the submitted report cumulative effects can result from individually insignificant but collectively significant actions

taking place over a period of time or concentrated within an area or location. The provided report would appear to not have had regard to all other solar infrastructure related projects in the area in its assessment, with no assessment on in-combination effects actually provided. Therefore, it is my recommendation that the applicant be requested to provide a more robust AA Screening report.

The likely most critical aspect in respect to the disturbance / displacement effects will be the timing of the works. Should the construction period be done so outside the October-April timeframe, in which Whooper Swans are present, then the proposal would not likely act in-combination with other projects in the area.

Furthermore, while I note that the AA Screening has not had regard to mitigation measures, numerous references to the use of same are outlined within the Outline Construction Methodology report, with specific mention to measures detailed within accompanying EIAR and NIS reports. The applicant should be requested to revise their submitted Section 5 documents providing a more joint up approach. If it is deemed mitigation measures are required to avoid likely significant effects to European Designated Sites, accordingly a de-exemption would apply under Article 9(1)(vii)(B) of the P and D Regs in the event that it is determined that the works have the benefit of an exemption under Article 6 of the Regs.

Annette Quinn | County Archaeologist | Planning & Development Cork County Council | Tel: 021-4285329 M 086-1688826

Section 5 Application Ref No.: Interconnector Route from Ardnageehy to Ballyroe underground cable route.

Status

Proposal
Interconnector Route from Ardnageehy to Ballyroe underground cable route.

Planning Regulations, Exemption and Archaeology

Restrictions on exemption. 9. (1) Development to which article 6 relates shall not be exempted development for the purposes of the Act— (a) if the carrying out of such development would—

(vii) consist of or comprise the excavation, alteration or demolition (other than peat extraction) of places, caves, sites, features or other objects of archaeological, geological, historical, scientific or ecological interest, the preservation, conservation or protection of which is an objective of a development plan or local area plan for the area in which the development is proposed or, pending the variation of a development plan or local area plan, or the making of a new development plan or local area plan,
in the draft variation of the development plan or the local area plan or the draft development plan or draft local area plan.

(vii a) consist of or comprise the excavation, alteration or demolition of any archaeological monument included in the Record of Monuments and Places, pursuant to section 12 (1) of the National Monuments (Amendment) Act 1994, save that this provision shall not apply to any excavation or any works, pursuant to and in accordance with a consent granted under section 14 or a licence granted under section 26 of the National Monuments Act 1930 (No. 2 of 1930) as amended.

Conclusion

I did not have the opportunity to comment on the Section 5 application following submission but I understand that further information has been sought and therefore the following are my conclusions:

An Archaeological Assessment (Courtney Deery, Dec 2024) has been submitted with the Section 5 application. This has satisfactorily addressed all potential archaeological issues which have largely been addressed through Geophysics and avoidance (buffer zones).

The assessment has confirmed that the route does not pass through any zones of notification around any Recorded Monuments. The route has also been designed to avoid impacts on sub-surface features detected during geophysical survey and testing. The report has confirmed that mitigation has already begun along the interconnector route through buffer zones and avoidance by re-design. The archaeologist has confirmed that

Annette Quinn | County Archaeologist | Planning & Development Cork County Council | Tel: 021-4285329 M 086-1688826

groundworks will be archaeologically monitored under licence from the National Monuments Service.

It is considered that all measures have been considered in reducing archaeological impacts, including sub-surface archaeology. I cannot provide conditions to a Section 5 application but given the commitment to undertake archaeological monitoring I am recommending that the proposed development is exempt from an archaeological perspective.

Comhairle Contae Chorcaí
Cork County Council

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Bóthar Charraig Ruacháin,
Corcaigh T12 R2NC.
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Web: www.corkcoco.ie

Kathleen O'Sullivan & Michael O'Sullivan,
Ballynadrideen,
Ballyhea,
Charleville,
Co. Cork.

7th January 2025

Our Ref.: D/201/25

Re: Declaration of Exempted Development under Section 5 of The Planning and Development Act 2000 – 2010.

Whether the construction of 33 kV underground cabling to facilitate a connection between Ardnageehy Solar Farm and a 110 kV Ballyroe Substation located in the townlands of Ballynadrideen and Ballyroe, Co. Cork is development or is or is not exempted development.

Dear Madam & Sir,

Please be advised that a declaration has been sought with respect to Section 5 of the Planning and Development Act 2000 (as amended) from the Planning Authority by Soleire Renewables SPV Limited with respect to whether the above constitutes development.

You are being notified as the applicant has indicated that you are the legal owner of the land in question.

Yours faithfully,

Eveleen Crowley
Clerical Officer
Planning Department

In order to process your query, it may be necessary for Cork County Council to collect Personal information from you. Such information will be processed in line with our privacy statement which is available to view at https://www.corkcoco.ie/privacy-statement-cork-county-council

Comhairle Contae Chorcaí
Cork County Council

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Web: www.corkcoco.ie

Joan Brassil,
Ballynadrideen,
Ballyhea,
Charleville,
Co. Cork.

7th January 2025

Our Ref.: D/201/25

Re: Declaration of Exempted Development under Section 5 of The Planning and Development Act 2000 – 2010.

Whether the construction of 33 kV underground cabling to facilitate a connection between Ardnageehy Solar Farm and a 110 kV Ballyroe Substation located in the townlands of Ballynadrideen and Ballyroe, Co. Cork is development or is or is not exempted development.

Dear Madam,

Please be advised that a declaration has been sought with respect to Section 5 of the Planning and Development Act 2000 (as amended) from the Planning Authority by Soleire Renewables SPV Limited with respect to whether the above constitutes development.

You are being notified as the applicant has indicated that you are the legal owner of the land in question.

Yours faithfully,

Eveleen Crowley
Clerical Officer
Planning Department

In order to process your query, it may be necessary for Cork County Council to collect Personal information from you. Such information will be processed in line with our privacy statement which is available to view at https://www.corkcoco.ie/privacy-statement-cork-county-council

We are Cork.

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Comhairle Contae Chorcaí
Cork County Council

Pleanáil agus Forbairt,
Halla an Chontae,
Bóthar Charraig Ruacháin,
Corcaigh T12 R2NC.
Fón: (021) 4276891
R-phost: planninginfo@corkcoco.ie
Suíomh Gréasáin: www.corkcoco.ie
Planning & Development,
County Hall,
Carrigrohane Road, Cork T12 R2NC.
Tel (021) 4276891
Email: planninginfo@corkcoco.ie
Web: www.corkcoco.ie

Thomas McNamara & Anna McNamara,
Ballyroe,
Ballyhea,
Co. Cork.

7th January 2025

Our Ref.: D/201/25

Re: Declaration of Exempted Development under Section 5 of The Planning and Development Act 2000 – 2010.

Whether the construction of 33 kV underground cabling to facilitate a connection between Ardnageehy Solar Farm and a 110 kV Ballyroe Substation located in the townlands of Ballynadrideen and Ballyroe, Co. Cork is development or is or is not exempted development.

Dear Sir & Madam,

Please be advised that a declaration has been sought with respect to Section 5 of the Planning and Development Act 2000 (as amended) from the Planning Authority by Soleire Renewables SPV Limited with respect to whether the above constitutes development.

You are being notified as the applicant has indicated that you are the legal owner of the land in question.

Yours faithfully,

Eveleen Crowley
Clerical Officer
Planning Department

In order to process your query, it may be necessary for Cork County Council to collect Personal information from you. Such information will be processed in line with our privacy statement which is available to view at https://www.corkcoco.ie/privacy-statement-cork-county-council

entrust
planning. environmental. technical.

Entrust Limited
Unit 1 First Floor
Oranmore Business Park
Oranmore
County Galway
H91 P7X8

Cork County Council
Planning Section
Cork County Hall
Carrigrohane Road,
Cork, T12 R2NC

09/12/2024

APPLICATION FOR DECLARATION OF EXEMPT DEVELOPMENT - SOLEIRE RENEWABLES SPV LIMITED.

INSTALLATION AT: ARDNAGEEHY – BALLYROE INTERCONNECTOR, LAND AT BALLYNADRIDEEN & BALLYROE TOWNLANDS, CO. CORK

RE: Application for a declaration of exempted development under Section 5 of the Planning and Development Act 2000 (as amended) for the development described as the construction of 1.83 km of 33kV underground cabling to facilitate a grid connection for a previously consented solar farm at Ardnageehy (Pl. Ref. Cork Co. Co. 230699 & ABP-320298-24) to a previously consented 110kV substation at Ballyroe (Pl. Ref. ABP-314431-22), at Ballynadrideen & Ballyroe Townlands, Co. Cork.

Dear Sir/Madam,

We, Entrust Planning and Environmental Ltd, on behalf of our client Soleire Renewables SPV Limited, are making this submission to seek a Declaration of Exempt Development under Section 5 of the Planning and Development Act, 2000 regarding the proposed 33kV underground grid connection between the previously consented Ardnageehy Solar Farm (Fiddane, Cooliney, Coolcaum, Ballynoran, Ballynadrideen, Ardnageehy, Charleville, Co. Cork.) and the previously consented 110 kV Substation at Ballyroe, Ballyhea, Charleville, Co. Cork.

The following documentation has been submitted in support of the Section 5 application:

- Section 5 Planning Application Form (4 copies) – *Appendix 1*
- Drawings of Proposed Cabling Route (4 copies each of 6" and 25" O.S. maps) *See Appendix 2*
  - Site Locality (Aerial Map): Scale 1:5000
  - Site Location Map: Scale 1:10560
  - Cable Route: Scale 1:5000
  - Cable Route (Section 1): Scale 1:2500
  - Cable Route (Section 2): Scale 1:2500
- Screening for Appropriate Assessment Report – *Appendix 3*
- Outline Construction Methodology Report (2 copies) – *Appendix 4*
- Archaeology Impact Assessment Report *Appendix 5*
- Copy of contact details (1 Copy) – *Appendix 6*
- Section 5 Declaration of Exempted Development planning application fee of €80.00

Background Information

The proposed development would facilitate a connection between the previously consented Ardnageehy Solar Farm (Pl. Ref. 236099) and (ABP-320298-24) and the previously consented 110kV Ballyroe Substation SID (Pl. Ref. ABP-314431-22) located in Ballynadrideen & Ballyroe Townlands, Co. Cork.

The proposed development involves the installation of a 33 kV underground cable for a distance of 1.83 KM to facilitate the grid connection between the Ardnageehy Solar Farm and the Ballyroe substation SID which were previously granted planning permission. The proposed grid connection will consists of

approximately 1.83 km of an underground cable, with a total Horizontal Direct Drilling (HDD) length of 94.25 m, crossing a public road for 6.4m. The approximate minimum width of the redline boundary is 10 m with a total development area of 1.8097 Ha/4.4719 Acres. Outline construction details and construction methodology are included in Appendix 4.

Planning permission was granted by Cork County Council to Soleire Renewables SPV Limited (Applicant) for the development of Ardnageehy Solar farm and the Ballyroe substation SID.

DESIGN AND CONSTRUCTION

Please refer to the Construction Methodology Report found in Appendix 4, attached, for full details regarding the proposed routing, design and construction of the proposed cabling. In summary, the works consist of detailed desk study – to consider environmental constraints and highlight the relevant stakeholders (service provides and local residents) in the area. Additionally, it is necessary to conduct pre-construction trial pits at specific locations along the cabling route to assess ground conditions and thermal resistivity.

Inspection pits will be carried out to determine the depth/condition of existing services (if present within the planned cable route). The proposed interconnector will consist of 3 No. 110mm diameter uPVC power cable ducts, 1 No. 110mm diameter uPVC communications duct, 1 No. 63mm diameter duct for earth continuity conductor. Cable ducts are typically installed in an open-cut style excavated trench (typical trench dimensions – 940mm wide by 1220mm deep).

A full methodology of the above works is set out in Section 3 - 5 of the report. Further information is provided on considerations ancillary to the works described above, such as access routes, traffic management, storage of plant machinery, relocation of existing services and emergency response plan.

APPROPRIATE ASSESSMENT

A Screening for Appropriate Assessment (AA) conducted by Veon Limited. (See Appendix 3) followed the approach outlined below:

- Identified the Natura 2000 site(s), within the potential zone of influence of the proposed development.
- Identified the features of interest of the Natura 2000 site(s) and review their conservation objectives.
- Assessed whether there is potential for the proposed development to affect the features of interest of the relevant Natura 2000 site(s) based on information such as the vulnerabilities of the European site(s), proximity to the development site and the nature and scale of the works associated with the proposed development.
- Took into consideration the likelihood of potential impacts occurring based on professional judgement and the collated information.
- Identified the likelihood of significant effects on Natura 2000 sites occurring because of the proposed development.
- Took into consideration the likelihood of cumulative impacts arising from the proposed development in-combination with other projects and plans.

The assessment outlined the potential for significant effects on Natura 2000 sites located within a 15 km radius. Currently, there are three (3) European sites within this area: Blackwater River SAC (002170), Ballyhaura Mountains SAC (002036), and Kilcolman Bog SPA (004095).

Kilcolman Bog Special Protection Area (SPA) does not have any pathways, whether physical or hydrological, that could serve as a route for potential direct impacts to the proposed development. The Ballyhaura Mountains Special Area of Conservation (SAC) is hydrologically connected upstream of the site; therefore, it has been screened out as a viable receptor site. The Blackwater SAC is the only Natura 2000 site that is connected to the site through a potential hydrological pathway via the Dromin Stream (18D30). However, the section of the Dromin river which dissects the site is in its uppermost reaches of the course and when investigated was found to consist of poor quality interspaced shallow puddles with a lack of any free-flowing water. Given the habitat characteristics and the nature of the works involved, specifically Horizontal Directional Drilling (HDD), this pathway is deemed unviable as a source of pollution.

The development site does not provide habitats of significance for the listed QIs (Species or habitat) to the surrounding Natura 2000 sites with similar habitat composition being seen in much of the surrounding region. No QIs were recorded during site walkover within the study area.

The report provided adequate information to conclude, with reasonable scientific certainty, that the proposed development, both on its own and in conjunction with other plans or projects, is unlikely to significantly impact the surrounding European (Natura 2000) sites. It is concluded that the risk of pollution impacting the surrounding habitat through this pathway is negligible due to the combination of natural and operational measures.

Archaeological Assessment

An Archaeological Impact Assessment Report was prepared by Courthey Deery Archaeological Consultants (see Appendix 5) to establish a baseline for the archaeological heritage associated with the proposed underground cable route (refer to Appendix 2). The assessment of the proposed development area was conducted through a desk study, supplemented by a geophysical survey (Licence No.: 24R0410) to evaluate the archaeological potential beneath the proposed interconnector route. Previous cultural heritage and archaeological assessments carried out by Courtney Deery Heritage Consultancy Ltd in the surrounding region have facilitated a comprehensive understanding of the topography and land use within the study area. The findings from these prior assessments have informed this report (Cotter 2017; Crowley 2019; Crowley 2023; Crowley and O'Brien 2023; McLoughlin 2022; McLoughlin 2023; Nicholls 2017; Nicholls 2019; Young and Bird 2023a; Young and Bird 2023b; Young and Bird 2024).

The archaeological report concludes that there are no recorded monuments or protected sites along the proposed cable route, within the defined redline boundary, or in the surrounding area. The entire length of the proposed cable route underwent geophysical surveys in multiple phases (Licence No.: 19R0129; 22R0388; 24R0410). Any archaeological remains identified during these surveys have been preserved in situ through the establishment of exclusion and buffer zones around the surviving below-ground remains. As a result, none of these remains will be adversely affected by the proposed interconnector.

Grounds for Exempted Development Status

Exempt development refers to projects that do not need planning permission. As per Article 9, the development of a class listed in column 1 of Part 1 of Schedule 2 will be classified as exempt development under the Act, as long as it adheres to

the conditions and limitations outlined in column 2 of the aforementioned Part 1 for that class in column 1.

Soleire Renewable SPV Limited, having obtained authorization to generate & construct directly from the Commission for Energy Regulation in advance of construction commencement is categorised as an electricity undertaker as defined in the Electricity (Supply) Act, 1927. Therefore, we assess that the proposed works qualify as exempt development under the relevant planning and development legislation. We respectfully ask the Planning Authority to officially confirm this assessment through a Section 5 Declaration of Exemption.

Additionally, a comparable but significantly larger grid connection (Reference: S5/20/46) was approved for exempted development in 2020. This project involves the construction of an 8.1 km, 33 kV underground cable to connect The Sheehys Solar Park (Planning Reference: 16/600917) to the Irish Distribution System at the ESB Ikerrin 110kV Substation. The project also includes a public road undercrossing (M7) utilizing horizontal directional drilling.

We submit this request for a Declaration under Section 5 of the Planning and Development Act, 2000 (as amended), declaring that the proposed 33kV underground cabling grid connection (UCG), which extends 1.83 km from the approved Ardnageehy Solar Farm (located in Fiddane, Cooliney, Coolcaum, Ballynoran, Ballynadrideen, Ardnageehy, Charleville, Co. Cork) (Pl Ref: 236099) to the Ballyroe 110kV Substation (SID) (Townland of Ballyroe, Ballyhea, Charleville, Co. Cork) (Pl Ref: ABP-314431-22), constitutes development and qualifies as exempted development.

In our assessment, we have supplied all the necessary information for the Planning Authority to conduct a comprehensive evaluation of this application. If the Planning Authority needs any further clarification or data during their assessment, they can reach me using the contact details listed below.

Yours faithfully,

Richard Mahlalela
Entrust Limited
For Soleire Renewable SPV Limited
Email: Richard@entrust-services.com
Tel: +353 91 342511

CORK COUNTY COUNCIL APPLICATION FOR SECTION 5 DECLARATION OF EXEMPTION

APPLICANT CHECKLIST ***(Please tick √)***

4 No. Copies of Application Form:	✓
1 No. Copy of Contact Details:	✓
4 No. Copies 6" O.S. Maps:	✓
4 No. Copies 25" O.S. Maps:	✓
4 No. Copies of Site Layout Plan:	✓
4 No. Copies Scaled Drawings of Development:	✓
€80 Application Fee:	✓

Planning Department
06 JAN 2025
Cork County Council
County Hall
Cork

DATE STAMP HERE

FOR OFFICE USE ONLY

Receipt No.	PL20002463
Cash/Cheque/ Credit Card	Cheque
Date	6/1/25
Declaration Ref. No.	D/201/25

You should make sure that you are satisfied that any information/documentation that you submit is appropriate to be viewed by the public. Please do not submit any information that you do not want 3rd parties to view.

In the case of a Declaration of Exemption for Land Reclamation, the following additional information is required:

- A copy of the details submitted to the Council's Environment Department (Inniscarra) for a Waste Licence Permit
- Correspondence from Teagasc (detailing how the land reclamation would benefit the land in question for agricultural purposes)
- Details of existing and proposed levels
- Details of fill material and duration of fill.

DATA PROTECTION

The planning process is an open and public one. In that context, all applications for Declarations of Exemption are made available for public inspection.

Personal information collected by Cork County Council is done so in order for us to process your application for a Section 5 Declaration of Exemption. Legally we can process this information as it is necessary for us to comply with our statutory/legal obligations. The protection of our personal data is a key priority for the Council and your data will be processed in line with our Privacy policy which is available at http://www.corkcoco.ie/Privacy-Policy or hardcopy from our offices at County Hall, Carrigrohane Road, Cork, Ireland. Should you have any questions about our privacy policy or the information we hold about you, please contact us by email to dpo@corkcoco.ie or write to us at Data Protection Officer, Cork County Council, County Hall, Carrigrohane Road, Cork, Ireland.

1. **NAME OF APPLICANT: (ADDRESS TO BE SUPPLIED AT QUESTION A – CONTACT DETAILS)**

Soleire Renewables SPV Limited

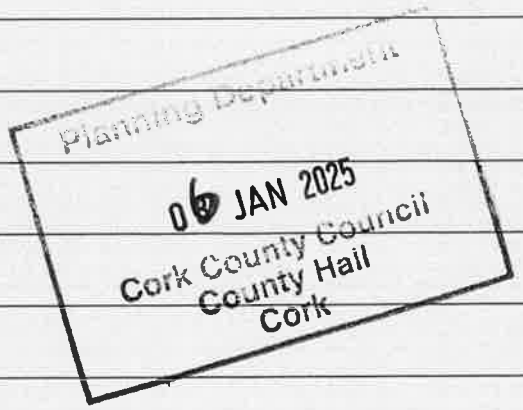
2. **POSTAL ADDRESS OF LAND OR STRUCTURE FOR WHICH DECLARATION OF EXEMPTION IS SOUGHT**:

Townlands of Ballynadrideen & Ballyroe, Co. Cork.

3. **QUESTION/DECLARATION DETAILS:**

Please state the specific question for which a Declaration of Exemption is sought
Note: Only works listed and described under this section will be assessed under the Section 5 Declaration of Exemption

Construction of 33 kV underground cabling (1.83 km total length approx.) to facilitate
a connection between the approved Ardnageehy Solar Farm (Pl. Ref. 236099) and a
110kV Ballyroe Substation SID (Pl. Ref. ABP-314431-22) located in Ballynadrideen &
Ballyroe Townlands, Co. Cork.



4. APPLICATION DETAILS:

Answer the following if applicable. Note: Floor areas are measured from the inside of the external walls and should be indicated in square metres (m^2)

(a) Floor area of existing/proposed structure(s):	
(b) If a domestic extension is proposed, have any previous extensions/structures been erected at this location after 1st October, 1964 (including those for which planning permission has been obtained):	Yes ☐ No ☑ If yes, please provide floor areas (m^2) and previous planning reference(s) where applicable:
(c) If a change of use of land and/or building(s) is proposed, please state the following: Existing/previous use	Proposed use
(d) Are you aware of any enforcement proceedings connected to this site?	Yes ☐ No ☑ If yes, please state relevant reference number(s):

5. LEGAL INTEREST OF APPLICANT IN THE LAND/STRUCTURE:

Please tick appropriate box to show applicant's legal interest in the land or structure:	**A. Owner** ☐	**B. Other** ☑
Where legal interest is **"Other"**, please state your interest in the land/structure:	LEASEHOLD SUBJECT TO SECTION 5 DECLARATION	
If you are not the legal owner, please state the name of the owner/s (address to be supplied at Question C in Contact Details):	JOAN BRASSIL, KATHLEEN O'SULLIVAN & MICHAEL O'SULLIVAN THOMAS MCNAMARA & ANNA MACNAMARA	

6. PROTECTED STRUCTURE DETAILS / ARCHITECTURAL CONSERVATION AREA:

Is this a Protected Structure/Proposed Protected Structure or within the curtilage of a Protected Structure: Yes ☐ No ☑

If yes, has a Declaration under Section 57 of the Planning & Development Act 2000 been requested or issued for the property by the Planning Authority: Yes ☐ No ☐

If yes, please state relevant reference No._____

Is this site located within an Architectural Conservation Area (ACA), as designated in the County Development Plan? Yes ☐ No ☑

7. APPROPRIATE ASSESSMENT:

Would the proposed development require an appropriate assessment because it would be likely to ☑ ☐

have a significant effect on the integrity of a European site (SAC, SPA etc)? Yes No

8. DATA PROTECTION DECLARATION:

In order for the Planning Authority to process the personal data you have provided, your consent is required. By ticking the box below, you consent to the Planning Authority processing the personal data provided by you in line with the terms of Cork County Council's Privacy Policy available at http://www.corkcoco.ie/privacy-statement-cork-county-council or in hardcopy from any Council office; and to having your information processed for the following purposes:

Processing of your Declaration of Exemption application by the Planning Authority

☑ *I give permission for my personal information to be processed for the purpose stated above*

Signed (By Applicant Only)	
Date	03/12/2024

GDPR Special Categories of data / Sensitive Personal data - Explicit Consent

Where Special Categories of personal data / sensitive personal data are provided as part of / in support of a declaration application, **explicit consent** to the processing of the special categories of data must be given by the person to whom the data refers, namely the Data Subject.

Special Categories of data / Sensitive Personal data include:

- Race
- Ethnic origin
- Political opinions
- Religion
- Philosophical beliefs
- Trade union membership
- Genetic data
- Biometric data
- Health data
- Concerning a natural person's sex life
- Sexual orientation

In order for the Planning Authority to process the sensitive personal data you have provided, your consent is required. By ticking the box below, you consent to the Planning Authority processing the personal data provided by you in line with the terms of Cork County Council's Privacy Policy available at https://www.corkcoco.ie/privacy-statement-cork-county-council or in hardcopy from any Council office; and to having your information processed for the following purposes:

Sensitive personal data being submitted in support of Declaration of Exemption Application

☑ *I give permission for my sensitive personal data submitted to the Planning Authority to be processed for the purpose stated above.*

Signed	
Date	03/12/2024

You have the right to withdraw your consent by contacting the Planning Department, Ground Floor, County Hall, Carrigrohane Road, Cork. Tel: (021) 4276891 Email: planninginfo@corkcoco.ie or by contacting the Planning Department, Norton House, Cork Road, Skibbereen, Co. Cork. Tel: (028) 40340 Email: westcorkplanninginfo@corkcoco.ie However if consent to the use of personal data is withdrawn during the declaration of exemption decision-making process this information cannot be considered as part of the decision making process. Once a decision has been made, an applicant is not entitled to withdraw consent, as the right of erasure does not apply to a situation where processing is required for compliance with a legal obligation or for the performance of a task carried out in the public interest.

Please note that all information / supporting documentation submitted will be available publicly to view at the Planning Authority offices.

ADVISORY NOTES:

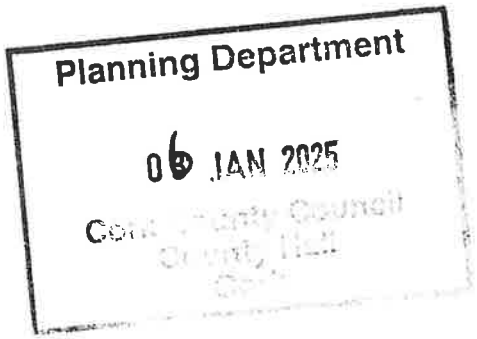
The application must be accompanied by the required fee of €80
The application must be accompanied by a site location map which is based on the Ordnance Survey map for the area, is a scale not less than 1:1000 and it shall clearly identify the site in question.
Sufficient information should be submitted to enable the Planning Authority to make a decision. If applicable, any plans submitted should be to scale and based on an accurate survey of the lands/structure in question.
The application should be sent to the following address:
The Planning Department, Cork County Council, Floor 2, Co. Hall, Carrigrohane Road, Cork, T12 R2NC; or for applications related to the Western Division, The Planning Department, Cork County Council, Norton House, Cork Road, Skibbereen, Co. Cork, P81 AT28.

- The Planning Authority may require further information to be submitted to enable the authority to issue a decision on the Declaration of Exemption application.
- The Planning Authority may request other person(s), other than the applicant; to submit information on the question which has arisen and on which the Declaration of Exemption is sought.
- Any person issued with a Declaration of Exemption may on payment to An Bord Pleanála refer a Declaration of Exemption for review by the Board within 4 weeks of the date of the issuing of the Declaration of Exemption decision.
- In the event that no Declaration of Exemption is issued by the Planning Authority, any person who made a request may on payment to the Board of such a fee as may be prescribed, refer the question for decision to the Board within 4 weeks of the date that a Declaration of Exemption was due to be issued by the Planning Authority.

The application form and advisory notes are non-statutory documents prepared by Cork County Council for the purpose of advising the type of information which is normally required to enable the Planning Authority to issue a Declaration of Exemption under Section 5. This document does not purport to be a legal interpretation of the statutory legislation nor does it state to be a legal requirement under the Planning and Development Act 2000 as amended, or Planning and Development Regulations, 2001, as amended.

9. I hereby declare that, to the best of my knowledge and belief, the information given in this form is correct, accurate and fully compliant with the Planning and Development Acts 2000, as amended and the Regulations made thereunder:

Signed (Applicant or Agent as appropriate)	
Date	03/12/2024



County Hall,
Carrigrohane Road,
Cork, T12 R2NC

FAX: (021) 4867007

Cork Road,
Skibbereen,
Co.Cork, P81 AT28

FAX: (028) 21660

WEB ADDRESS: www.corkcoco.ie

CourtneyDeery

ARCHAEOLOGY & CULTURAL HERITAGE

Archaeological Impact Assessment

Ardnageehy-Ballyroe Interconnector

Ardnageehy and Ballyroe Townlands, Co. Cork

For

Soleire Renewables Ltd

Dr Karen O'Toole

2nd December 2024

CONTENTS

List of Figures


Planning Department
06 JAN 2025
Cork County Council
County Hall
Cork

EXECUTIVE SUMMARY

This report provides an archaeological heritage baseline for a proposed underground interconnector cable between the approved Ardnageehy Solar Farm (Planning Ref.: 23/6099) and Ballyroe Substation (Planning Ref.: ABP-314431-22).

The project involves the installation of a 33 KV underground cable for a distance of 1.83 KM to facilitate the grid connection between the Ardnageehy Solar Farm and the Ballyroe substation SID. The proposed grid connection will consist of approximately 1.83 km of an underground cable, with a total Horizontal Direct Drilling (HDD) length of 94.25 m, crossing a public road for 6.4m.

There are no recorded monuments or protected along the proposed cable route, within the redline boundary or in proximity to it.

The entire length of the proposed cable route have been subject to geophysical survey over a number of phases (Licence No.: 19R0129; 22R0388; 24R0410). In areas where archaeological test excavation has taken place, the remains identified have confirmed the results of the geophysical surveys. In all cases, any archaeological remains identified by the geophysical surveys have been preserved *in situ* through the use of exclusion and buffer zones established around the surviving below ground remains. Additionally, the proposed cable route has been designed to avoid any known archaeological features.

No further archaeological mitigation is required during this phase of the project.

It is recommended that all ground disturbance works in later stages of the project are archaeologically monitored. This is due to the potential for the survival of further below ground archaeological remains. Archaeological monitoring is carried out under a Section 26 licence to the National Monuments Service (NMS) of the Department of Housing, Local Government and Heritage. Licences are granted subject to a method statement to be agreed with the NMS and can take 4 weeks or more to procure.

All recommendations made in this report are subject to the approval of the National Monuments Service of the Department of Housing, Local Government and Heritage and the National Museum of Ireland.

1. INTRODUCTION

1.1. General

Courtney Deery Heritage Consultancy were appointed by Soleire Renewables Ltd to carry out an archaeological impact assessment for a proposed underground interconnector cable between the approved Ardnageehy Solar Farm (Planning Ref.: 23/6099) and Ballyroe Substation (Planning Ref.: ABP-314431-22). This report provides an archaeological heritage assessment for the proposed interconnector.

1.2. Proposed development

The proposed project would facilitate a connection between the approved Ardnageehy Solar Farm (Planning Ref. 23/6099) and a 110kV Ballyroe Substation SID (Planning Ref.: ABP-314431-22) located in Ballynadrideen & Ballyroe Townlands, Co. Cork.

The project involves the installation of a 33 KV underground cable for a distance of 1.83 KM to facilitate the grid connection between the Ardnageehy Solar Farm and the Ballyroe substation SID. The proposed grid connection will consist of approximately 1.83 km of an underground cable, with a total Horizontal Direct Drilling (HDD) length of 94.25 m, crossing a public road for 6.4m. The approximate minimum width of the redline is 10 m with a total development area of 1.8097 Ha/4.4719 Acres. A full construction methodology is included in the enclosed submission.

1.3. Site Location

The proposed interconnector cable route is located in Ballynadrideen and Ballyroe townlands, in the parish of Aglishdrinagh and the barony Orrery and Kilmore (Figure 1). It is situated in a rural landscape of predominantly pasture fields. The general topography of the area is one of undulating river valleys, rising to the Ballyhoura Mountains to the east and rolling hills to the north and west. The underlying solid geology includes the Upper Carboniferous Clare Shale formation.

The proposed cable route is located in a rich archaeological landscape that has been the subject of considerable previous archaeological investigation in recent years. Archaeological investigations associated with previous planning applications have resulted in an extensive understanding of the surrounding archaeological landscape and its below ground potential. This includes the identification and preservation of previously unknown and undesignated sites.

While this report focuses on archaeological heritage only, it should be noted that there are no protected structures or features of architectural heritage interest within or immediately adjacent to the proposed development. The closest structure of architectural heritage interest is Ballynoran House (NIAH Reg.: 20900713), located c. 580m north-west.

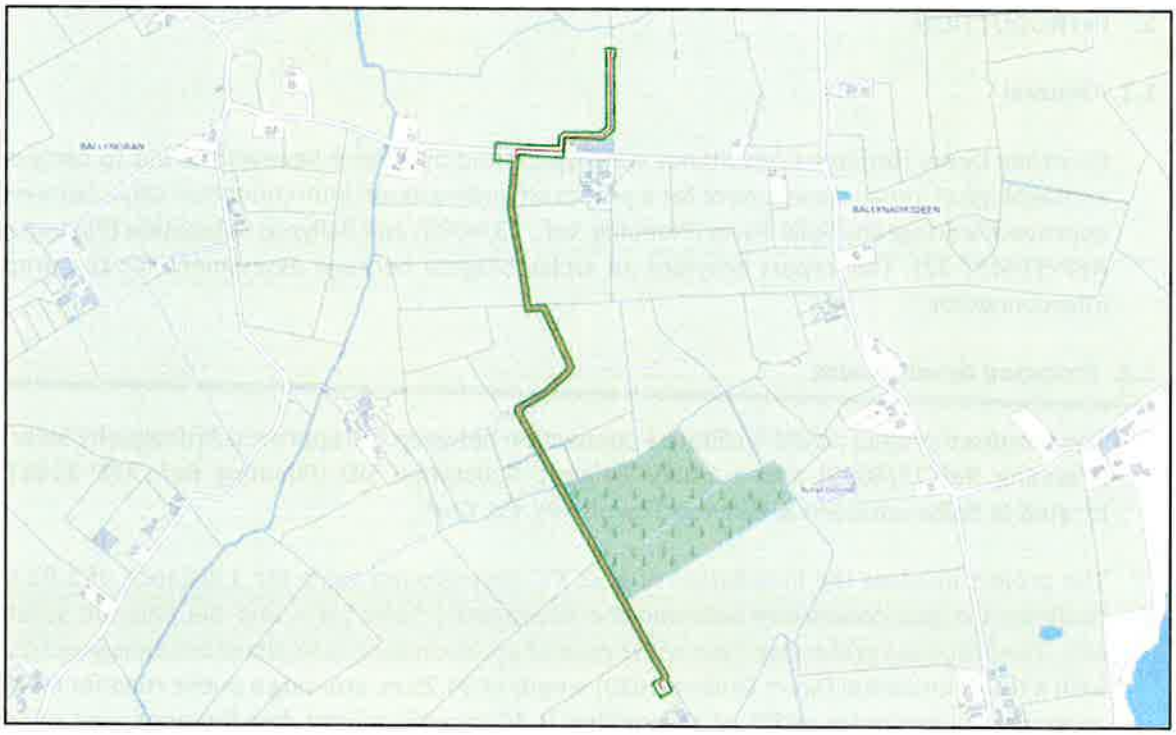


Figure 1 Location of proposed interconnector cable

1.4. Methodology

The assessment of the proposed development area was based on a desk study which was supported by a geophysical survey (Licence No.: 24R0410) to assess the below ground archaeological potential of the proposed interconnector route. Previous cultural heritage and archaeological assessments undertaken by Courtney Deery Heritage Consultancy Ltd in the surrounding area have provided a thorough understanding of the topography and land use within the study area. The reports produced for the assessments have been used to inform this assessment (Cotter 2017; Crowley 2019; Crowley 2023; Crowley and O'Brien 2023; McLoughlin 2022; McLoughlin 2023; Nicholls 2017; Nicholls 2019; Young and Bird 2023a; Young and Bird 2023b; Young and Bird 2024).

A review of the following information took place in order to inform the Archaeological Impact Assessment (AIA) report:

- UNESCO World Heritage Sites (WHS) and Tentative World Heritage Sites and those monuments on the tentative list;
- National Monuments in State care, as listed by the National Monuments Service (NMS) of the Department of Housing, Local Government and Heritage (DHLGH);
- Sites with Preservation Orders;
- Sites listed in the Register of Historic Monuments;
- Record of Monuments and Places (RMP) and the Sites and Monuments Record (SMR) from the Archaeological Survey of Ireland; The statutory RMP records known upstanding archaeological monuments, their original location (in cases of destroyed monuments) and the position of possible sites identified as cropmarks on vertical aerial photographs. Archaeological sites identified since 1994 have been added to the non-statutory SMR database of the Archaeological Survey of Ireland (National Monuments Service, DHLGH), which is available online at www.archaeology.ie and includes both RMP and SMR sites.

Archaeological sites identified since 1994 are placed on the SMR and are scheduled for inclusion on the next revision of the RMP[1];

- Record of Protected Structures (RPS) in the Cork County Development Plan (2022-2028);
- Cork County Council Architectural Conservation Areas (ACAs) and their statements of character;
- National Inventory of Architectural Heritage (NIAH) Building Survey;
- National Inventory of Architectural Heritage (NIAH) Garden Survey (paper survey only);
- A review of the topographical files the National Museum of Ireland;
- Cartographical Sources, OSi Historic Mapping Archive, including early editions of the Ordnance Survey including historical mapping (such as Down Survey 1656 Map);
- The Irish archaeological excavations catalogue i.e. Excavations bulletin and Excavations Database;
- Place names, townland names and toponomy (loganim.ie);
- National Folklore Collection (Duchas.ie);
- Cork County Development Plan (2022-2028).
- A review and interpretation of aerial imagery (OSI Aerial Imagery 1995, 2000, 2005, Aerial Premium 2013-2018, Digital Globe 2011-2013, Google Earth 2001–2024, Bing 2022) to be used in combination with historic mapping to map potential cultural heritage assets.
- A review of existing guidelines and best practice approaches (see Appendix 2).

A bibliography of sources used is provided in the References section (Section 6). A summary of the relevant legislation is provided in Appendix 1.

2. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

2.1. Prehistory

Barrows present as small circular earthen mounds and are associated with prehistoric burial practice. They can date from the Neolithic period to the Late Iron Age. The majority of barrows in County Cork have been classified as ring barrows and these consist of a low circular mound or platform enclosed by a bank with internal fosse. They can occur on their own or in clusters and are frequently associated with other monuments of the period. Evidence from excavated sites has shown that cremation was the burial rite practised and that some sites were used over an extended period of time. One ring barrow (RMP CO007-052) is recorded c. 820m north-east of the proposed cable route, in Ardnageehy townland.

Further evidence of Bronze Age activity within and in the landscape surrounding the proposed interconnector route comes in the form of numerous fulachta fia or burnt mounds. Fulachta fia, although still somewhat ambiguous, are generally accepted to be ancient cooking places, consisting of a water-filled trough into which fire-heated stones were placed to heat the water for cooking. The used, and often burnt and fragmented, stones were removed and accumulated in a low kidney or horseshoe-shaped mound around the sides of the trough. They are usually located

[1] The Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023 was enacted in October 2023 and this Act is now law. The Minister for Housing, Local Government and Heritage commenced certain provisions in May 2024 (S.I. No. 252/2024), however until the Act is fully commenced, the National Monuments Acts have therefore not yet been repealed and remain in force.

close to a water source (marshy areas, streams or springs) and their presence is often indicative of Bronze Age seasonal communal activity in river valleys and boggy ground. They often appear in groups and are represented by small grass-covered mounds of burnt stone or spreads of burnt stone ('burnt spreads') where the field has been ploughed and the mound levelled.

Two fulachtaí fia have been recorded in Coolcaum townland (RMP CO007-075 and CO007-135), c. 1.3km west of the proposed interconnector. Additionally, several possible fulachta fia were identified by a geophysical survey undertaken in advance of a (now permitted) solar farm in the townland of Ballyroe (Nicholls 2019; Planning Ref.: 20/04041; ABP-314431-22), to the south and south-west of the proposed interconnector route.

2.2. Early Medieval Period

The early medieval period saw the development of a mixed-farming economy managed by kings, nobles and free farmers. The principal settlement type during this period was the ringfort or rath, the most common monument type in Ireland, with at least 30,000 examples recorded. They consist of a circular or sub-circular area (although irregular shapes have been noted recently through the excavation of such features) defined by an earthen bank or by a stone wall with an external ditch. These enclosures were essentially habitation sites or farmsteads, which vary in both size and morphology; from simple univallate enclosures measuring 30m diameter to larger bivallate or trivallate sites in strategic locations. They were not simple isolated homesteads, however, and should be considered within their contemporary settlement landscape, which would have consisted of unenclosed settlements, farms and fields, routeways and natural resources (Stout 2000). Typically, they are sited on good, well-drained soils, usually over the 100m contour, close to a water source, and often located in proximity to routeways (ridges, eskers, moraines). As well as settlement and farming related activities, ringforts are also known to act as centres for industry such as weaving, metal working and glass working.

Ringforts and enclosures dominate the archaeological record of the wider landscape. While enclosures can represent denuded prehistoric settlement sites, they are far more commonly dated to the early medieval and medieval period. There are 1,038 enclosures recorded in County Cork (ASI 2009). There is one ringfort (RMP CO007-053) located c. 285m east of the proposed interconnector, in the townland of Ballynadrideen. The monument is located in a pasture field and was annotated as a circular enclosure on historic Ordnance Survey maps. The monument has been levelled in the past and there is now no visible trace of it.

Ringforts are sometimes found associated with souterrains, which are underground structures of one or more chambers, connected by narrow passageways or creepways, usually constructed of drystone-walling with a lintelled roof over the passages and a corbelled roof over the chambers. Souterrains also occur independently and may represent the only surviving remains of former settlements of the early medieval period that may have been unenclosed (Clinton 2001). The recorded ringfort in Ballynadrideen townland (RMP CO007-054001, c. 835m east of the proposed interconnector) has an associated souterrain (RMP CO007-054002).

2.3. Medieval Period

In 1170 the Anglo-Normans invaded Ireland and, in doing so, completely altered the pattern of settlement with an emphasis on tillage and crop production, within defined manorial centres, replacing cattle-rearing in many parts of the county. To the west of the proposed interconnector, in the townland of Ballynoran, there are the remains of a motte (RMP CO007-156). This form of castle dates to the early phases of the Anglo-Norman conquest of Ireland and consisted of a mound topped by a wooden tower, often with an accompanying enclosure constructed of earth

and wood, known as the bailey (Simpson and Duffy 2019). This monument is located in an elevated position overlooking the surrounding landscape. It presents as a flat-topped mound surrounded by a ditch and outer bank. Geophysical survey has detected a possible field system and earlier enclosing elements that could be associated with this site.

Later medieval activity is relatively well-represented in the surrounding landscape. There are a number of moated sites located in the wider landscape and close to the proposed development in Ardnageehy townland (RMP CO007-051 & -050). One in Cooliney townland is located adjacent to two ringforts (RMP CO007-043002). These are enclosed settlements, usually square or rectangular in plan, large in scale and dating to the late 13th/early 14th century. They have been described by Barry (1987) as Anglo-Norman defended homesteads. However, O'Connor (1998) has suggested that Gaelic Chieftains, at least in certain areas (for example County Roscommon) also built moated sites as their principal residences. The distribution of recorded moated sites in Cork suggests a 'frontier' boundary zone, running from Charleville through Mallow and Bandon and perhaps indicated Gaelic controlled lands to the west and Anglo-Norman controlled lands to the east (Hanley 2013). The main defensive element of a moated site is a wide, deep, water-filled ditch with an internal bank. As such these sites are normally situated in low-lying areas, either on wet ground or near a water source. The water would have been diverted into the ditch by a channel known as a *leat*.

A rectilinear enclosure (RMP CO007-176) c. 220m east of the proposed interconnector, in Ballyroe townland, may represent another example of a moated site (RMP CO007-176). Geophysical survey in the fields immediately southeast of the enclosure site in 2019 (Licence No.: 19R0126; Nicholls 2019) revealed an area of dense settlement. Although activity may have occurred over different time periods (continuously or otherwise), the rectilinear forms within the main settlement cluster are suggestive of a medieval settlement.

There is also one unclassified castle (RMP CO007-137), c. 1.2km west of the proposed interconnector, in Coolcaum townland. This castle was formerly associated with the Fitzgibbons family (Healy 1988) and is situated in pasture on a gentle west-facing slope. No visible surface trace of the castle survives today, but the landowner described a raised area (c. 4ft high) in field, where some cut stone was uncovered when it was previously levelled.

2.4. Post-Medieval Period

As part of the Munster Plantation (post-1586), the English crown confiscated vast swathes of land following the failure of the Desmond Rebellion. This ultimately led to a transfer of land ownership from the previous ruling Anglo-Norman and Gaelic families to a Protestant Ascendency. Within north Cork, this led to the development of the big country house and landed estates which replaced the medieval village (Smyth 1993). Following a period of rebellion and unrest in the 17th century, the 18th century heralded a period of relative peace linked to dramatic changes in the landscape. A system of estate landholding was imposed that involved the construction of classical houses with demesne landscapes and associated large farms, with the landscaping and house design strongly influenced by social and architectural ideas from Britain and mainland Europe.

The 18th century Cooliney House (RMP CO007-045001), located approximately 1.4km north-west of the proposed interconnector, is an example of a country house whose design bears the influence of both classical and British models. This house is the seat of the Gibbings family and the demesne has a long history, with settlement first recorded in this area in the mid-17th century. The house along with its outbuildings and stone boundary walls formerly associated with the walled garden as well as the gated entrance all form part of an attractive composition within a large working farm.

2.5. Cartographic Sources

2.5.1. Down Survey

The Down Survey was the first ever detailed land survey on a national scale anywhere in the world. Undertaken during 1656-1658, the survey underpinned the massive transfer of landownership from Irish Catholics to English Protestants in the aftermath of the Cromwellian Conquest of Ireland. Maps were created at county, barony and parish scales and can sometimes provide detailed information about an area, including important landmarks and political seats. The townland of Ballyroe ('Balliroe') is named on the Down Survey County Map of Cork (Figure 2), as are some of the surrounding townlands – although Ballynadrideen does not appear. Several features in the surrounding area are depicted on the map, including the main branch of the Awbeg river (south of Caherconnor townland), a bridge at Annagh (RMP CO007 144), with the Annagh bogs to the north and west. Little other detail is provided for the study area.

Figure 2 Excerpt from Down Survey (1656) County Map of Cork

2.5.2. Ordnance Survey Mapping

The first edition Ordnance Survey (OS) 6-inch map of 1844 provides the earliest complete and accurate survey of the study area. The lands within along the proposed interconnector route are generally in agricultural use at this time, with the cable passing 12 of the fields depicted on the map. The recorded ringfort site (RMP CO007-053) located 285m east of the interconnector in Ballynadrideen townland, is depicted as a circular enclosure, incomplete at its southern extent (Figure 3). A small farmstead and a cottage or cabin is also depicted to the north of the interconnector route where it meets a public road in Ballynadrideen. Further south, the interconnector crosses the Ballyroe-Ballynadrideen townland boundary as it heads southwards to the permitted Ballyroe Solar Farm (Planning Ref.: 20/04041; ABP-314431-22; Figure 4).

By the time of the revised 25-inch OS map of 1905, the fields around the interconnector route have become more regular in their shapes and sizes. These changes presumably reflected land improvements in the wider area. Both the small farmstead and cabin shown along the proposed interconnector on the 1844 map edition had been removed by this time (Figure 5), although much else along the route remains unchanged. The Ballyroe-Ballynadrideen townland boundary is depicted as being formed by a stream on this map (Figure 6).

Very little has changed along the proposed interconnector route by the publication of the Last Edition 6-inch OS maps between 1923 and 1936 and, as a result, they are not reproduced here.

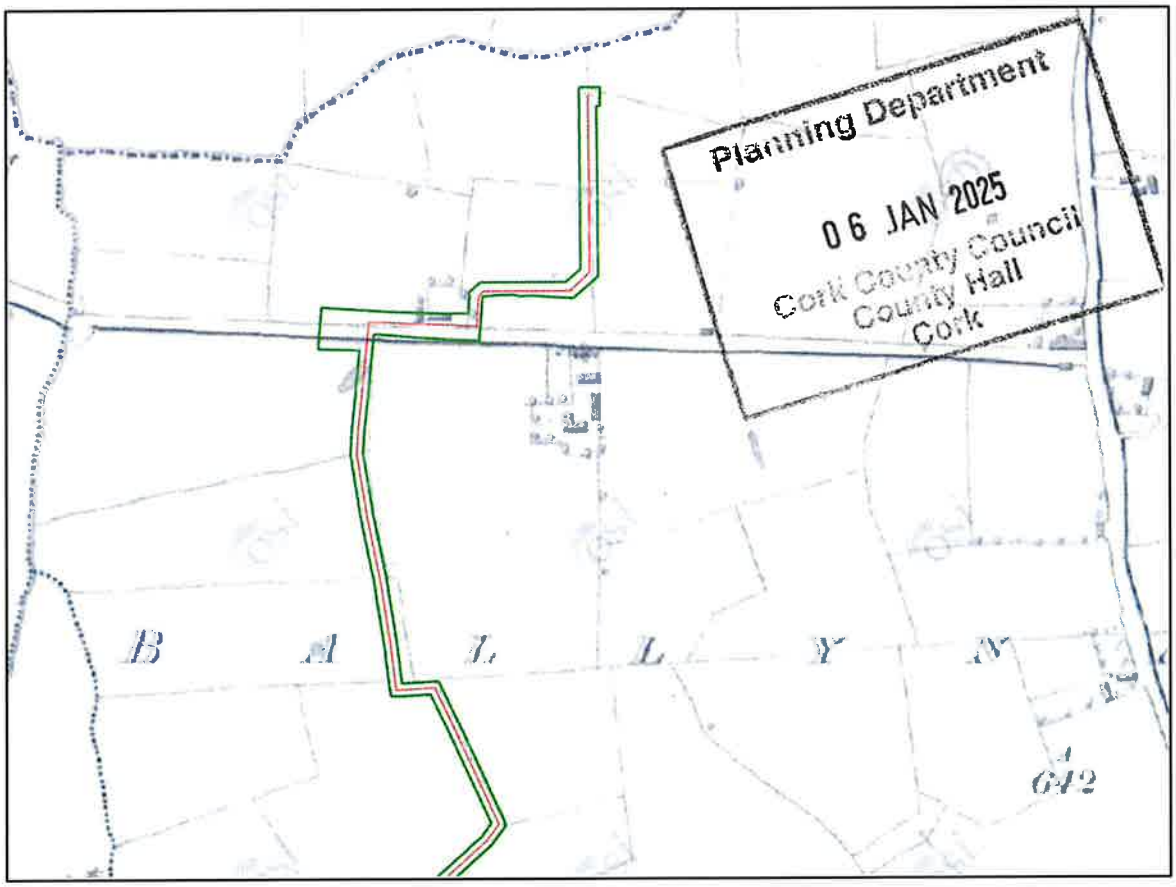


Figure 3 Excerpt of OS First Edition 6-inch map showing northern half of proposed interconnector

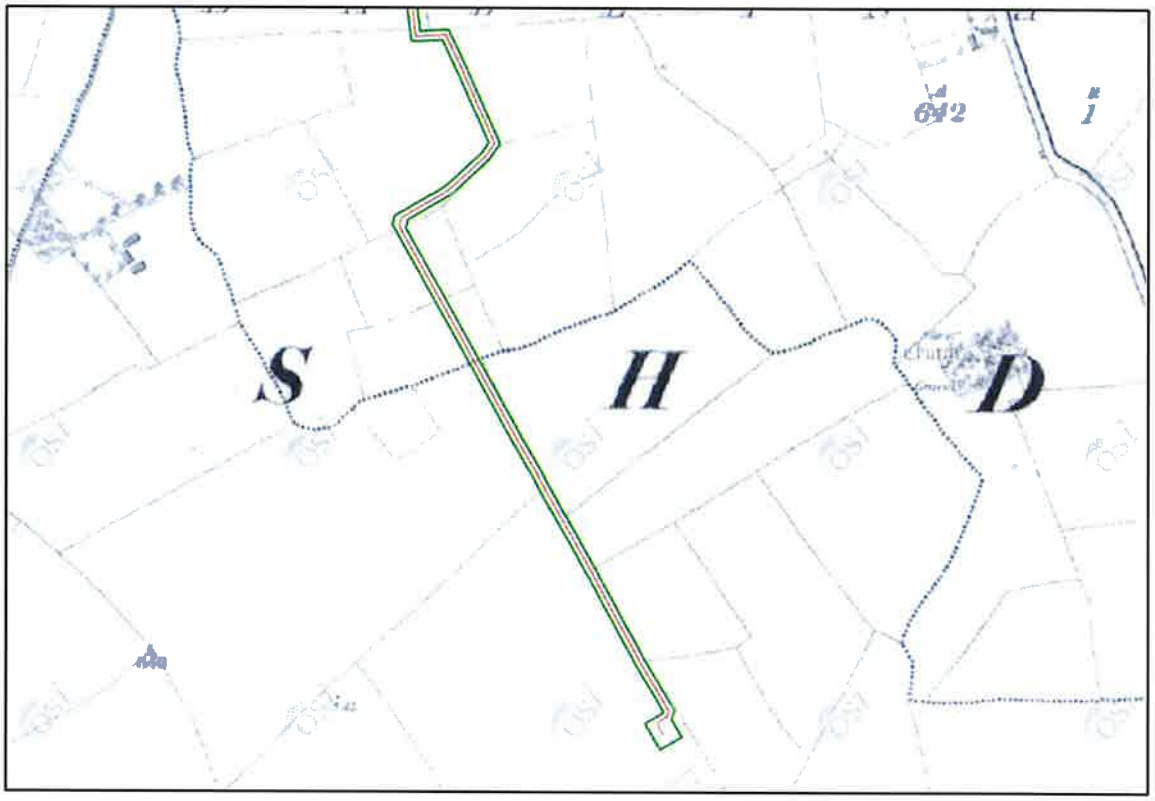


Figure 4 Excerpt of OS First Edition 6-inch map showing southern half of proposed interconnector

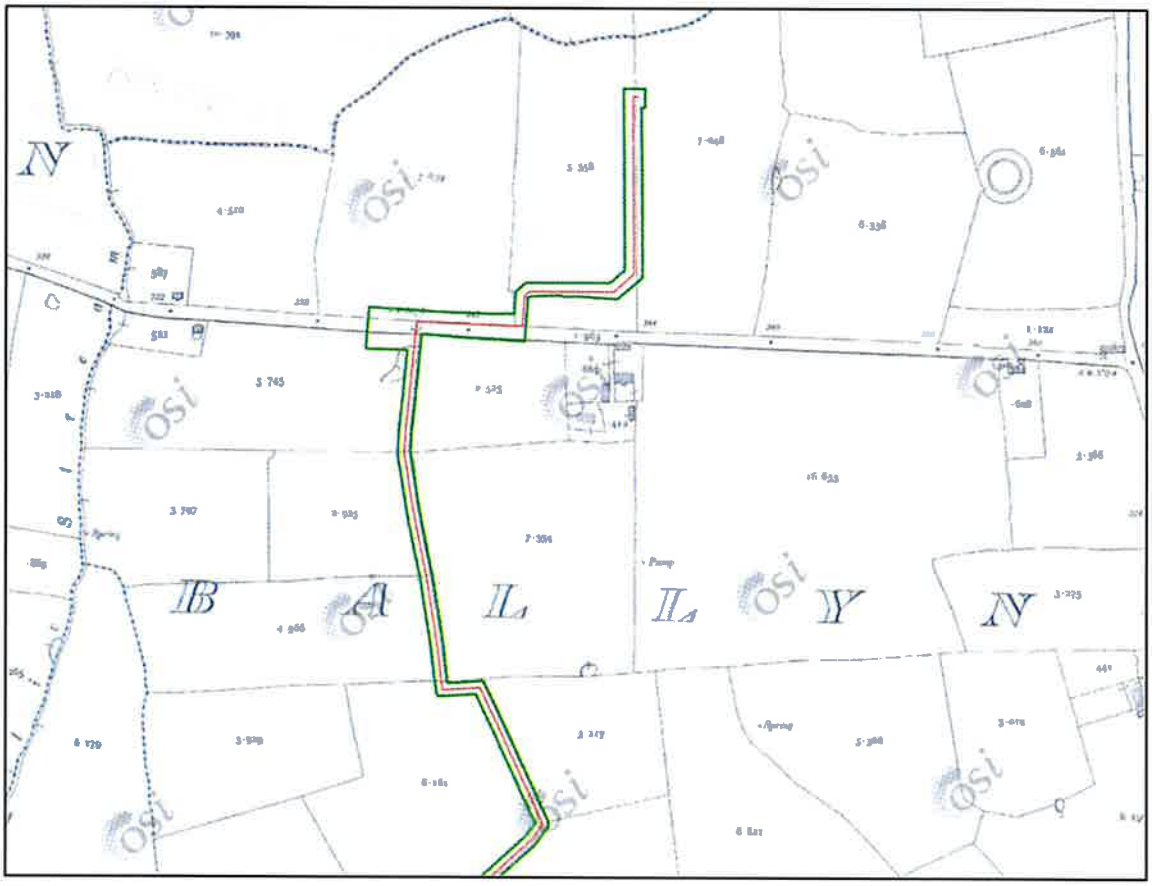


Figure 5 Excerpt of OS 25-inch map showing northern half of proposed interconnector

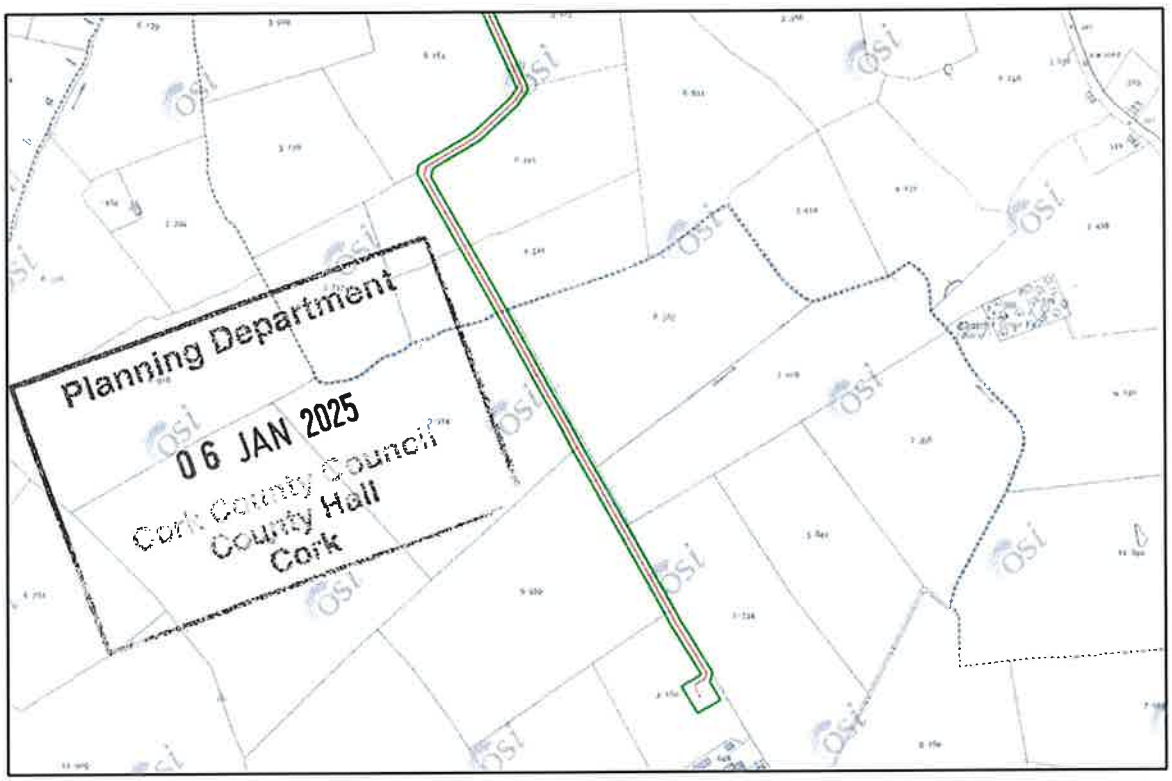


Figure 6 Excerpt of OS 25-inch map showing southern half of proposed interconnector

2.6. Previous Archaeological Investigations

The proposed cable route passes through a landscape that has been the focus of considerable archaeological investigation in recent years, all of which is associated with previous planning applications (Table 1). Of particular note are the previous archaeological investigations associated with two solar farm developments to the north and south of the proposed interconnector route (Figure 7) – Ballyroe Solar Farm (Planning Ref.: 20/04041; ABP-314431-22) and Ardnageehy Solar Farm (Planning Ref.: 23/6099).

Table 1 Previous archaeological investigations

Licence No.	Location	Type	ITM E	ITM N	Findings
09E0168	Castleharrison	Test excavation	554188	619210	No archaeological significance
10E0118	Ardnageehy	Test excavation	552587	619120	No archaeological significance
16R0210	Fiddane	Geophysical survey	546773	617876	A large number of responses of potential archaeological interest
17E0221	Fiddane	Test excavation	549773	617876	Ditched enclosure, burnt spreads, and other enclosures
19R0129	Ballyroe	Geophysical survey	552712	617153	A substantial area of archaeological settlement
22E0378	Ballyroe	Test excavation	552712	617153	Four pits containing charcoal and burnt bone inclusions
22R0388	Ardnageehy, Ballynadrideen and Ballynoran	Geophysical survey	552600	618250	Twelve potential archaeological sites
23E0122	Ardnageehy, Ballynadrideen and Ballynoran	Test excavation	552600	618250	Ditched enclosure and burnt mound remains

Licence No.	Location	Type	ITM E	ITM N	Findings
23R0359	Ardnageehy, Ballynadrideen and Ballynoran	Geophysical survey	550502	618313	Seven potential archaeological sites
24E0383	Ballyroe	Test excavation	552260	616570	No archaeology found

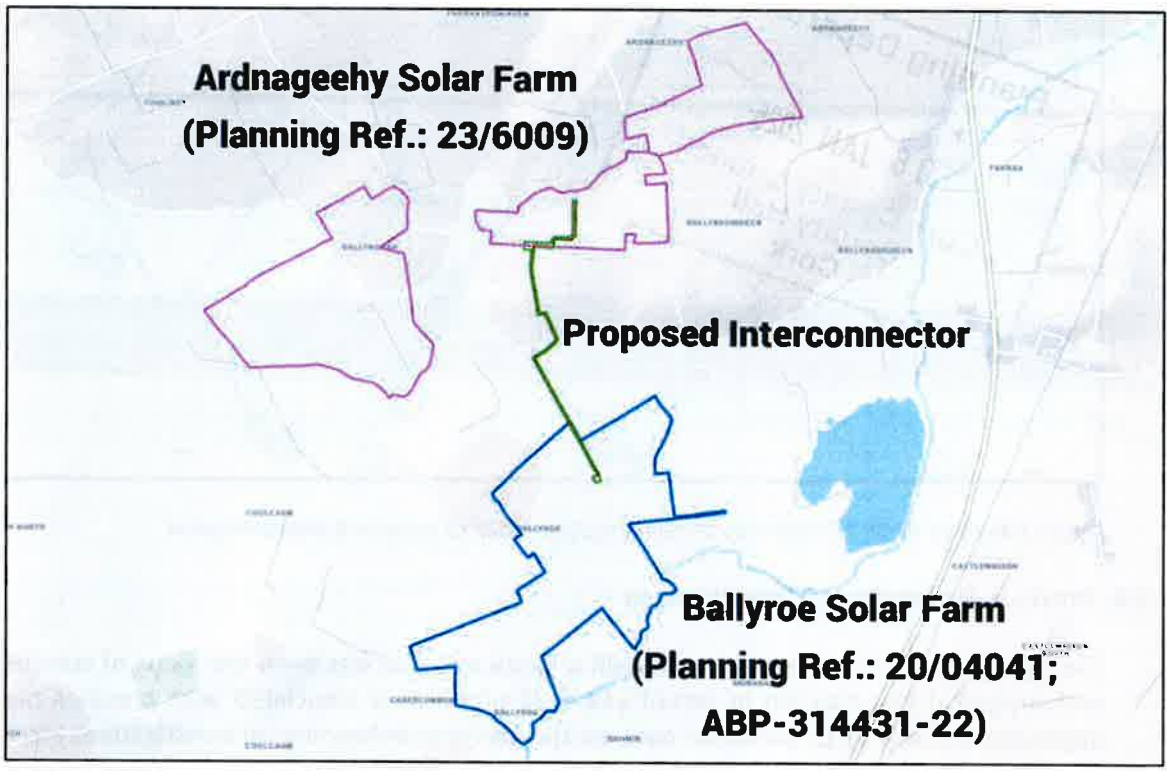


Figure 7 Relevant areas of previous archaeological investigation

2.6.1. Ballyroe Solar Farm (Planning Ref.: 20/04041; ABP-314431-22)

A high resolution magnetic gradiometer survey was conducted at Ballyroe Solar Farm (Planning Ref.: 20/04041; ABP-314431-22) by Target Archaeological Geophysics in June and August 2019 (Licence No. 19R0129; Nicholls 2019). The proposed interconnector route passes through the area labelled M1 in this previous survey. A substantial area of archaeological settlement is indicated by the results from survey in this, extending c.340m north-east / south-west (Figure 8). The complex nature of the results suggests an area of dense settlement in which activity may have occurred over different time periods (continuously or otherwise). An intricate network of ditched enclosures spreads across the north-northeast, largely sub-rectangular in form, with numerous internal ditches, pits, postholes, and possible burnt / fired remains (Anomalies 14-20).

The rectilinear forms are suggestive of a medieval settlement and the network of features extends beyond the proposed development boundary to the north-west and north-east and south/south-east into M2 (described below). Large sub-rectangular features (Anomalies 21-22) may indicate the presence of a possible moated site forming part of the recorded enclosure (CO007-176) that lies immediately outside the boundary to the northwest.

To the south-west there is a large sub-rectangular enclosure measuring c.100m x 80m (Anomalies 1-4), with possible internal divisions or annexes. A rectilinear enclosure (Anomaly 9) was identified within the larger enclosure (though not necessarily contemporary with it). This appears to be associated with an adjoining network of linear features to the north / north-west that continue beyond the site boundary, perhaps parts of larger enclosures (Anomalies 10-11). A small cluster of linear responses was also identified at the eastern corner of M1, which appear to extend beyond the site boundary (Anomaly 12). Remnants of former land divisions and past cultivation are also indicated throughout M1 (e.g. Anomaly 23, part of a possible field system).

In a later phase of works within the Ballyroe Solar Farm, test excavation (Licence No.: 22E0378) was carried out in relation to a proposed substation and underground cable to Charleville substation as part of the permitted solar PV farm development at Ballyroe. The substation and underground cable was a Strategic Infrastructure Development (SID) at the pre-application stage of planning (Planning ref. ABP-313001-22) at the time of the testing.

The archaeological testing (Licence No.: 22E0378; McLoughlin 2022) was carried out in June 2022. In total six test trenches were excavated, five to target anomalies identified in the geophysical survey in the areas of the proposed substation and cable route, and one trench was placed to test the cable route to the northwest of a circular ditched enclosure identified in the geophysical survey (Figure 9). In most of the test trenches linear features were identified that correspond with anomalies identified in the geophysical survey. In some cases, it was clear that these features were modern and in other cases there were no inclusions within the fills to suggest they were of archaeological interest. Trench 3 was the exception to this, where four pits containing charcoal and burnt bone inclusions appeared to be of archaeological interest and are likely to represent habitation activity associated with the circular ditched enclosure to the south.

All of the archaeological sites identified during these archaeological investigations were preserved *in situ* through a designed-in mitigation strategy. This involved the creation of exclusion zones extending 5-10m beyond the newly identified archaeological sites or features within which no development can take place. These exclusion zones were then augmented by an additional buffer of 5m around the exclusion zone, where concrete feet are used to support the solar panels, to avoid the ground penetration required by the normal supports (Figure 10).

More recently, test excavations were carried out in 2024 (Licence No.: 24E0383) relating to a proposed cable route associated with the permitted solar farm development (Figure 11). In total three test trenches were excavated, targeting three possible small ring-ditches and a linear ditch. In general, there were features present in the trenches where they were indicated in the geophysical survey, however none were deemed to be of archaeological interest.

Figure 8 Summary interpretation of geophysical survey results at Ballyroe (Licence No.: 19R0129)

Figure 9 Test trench locations at Ballyroe (Licence No.: 22E0378)

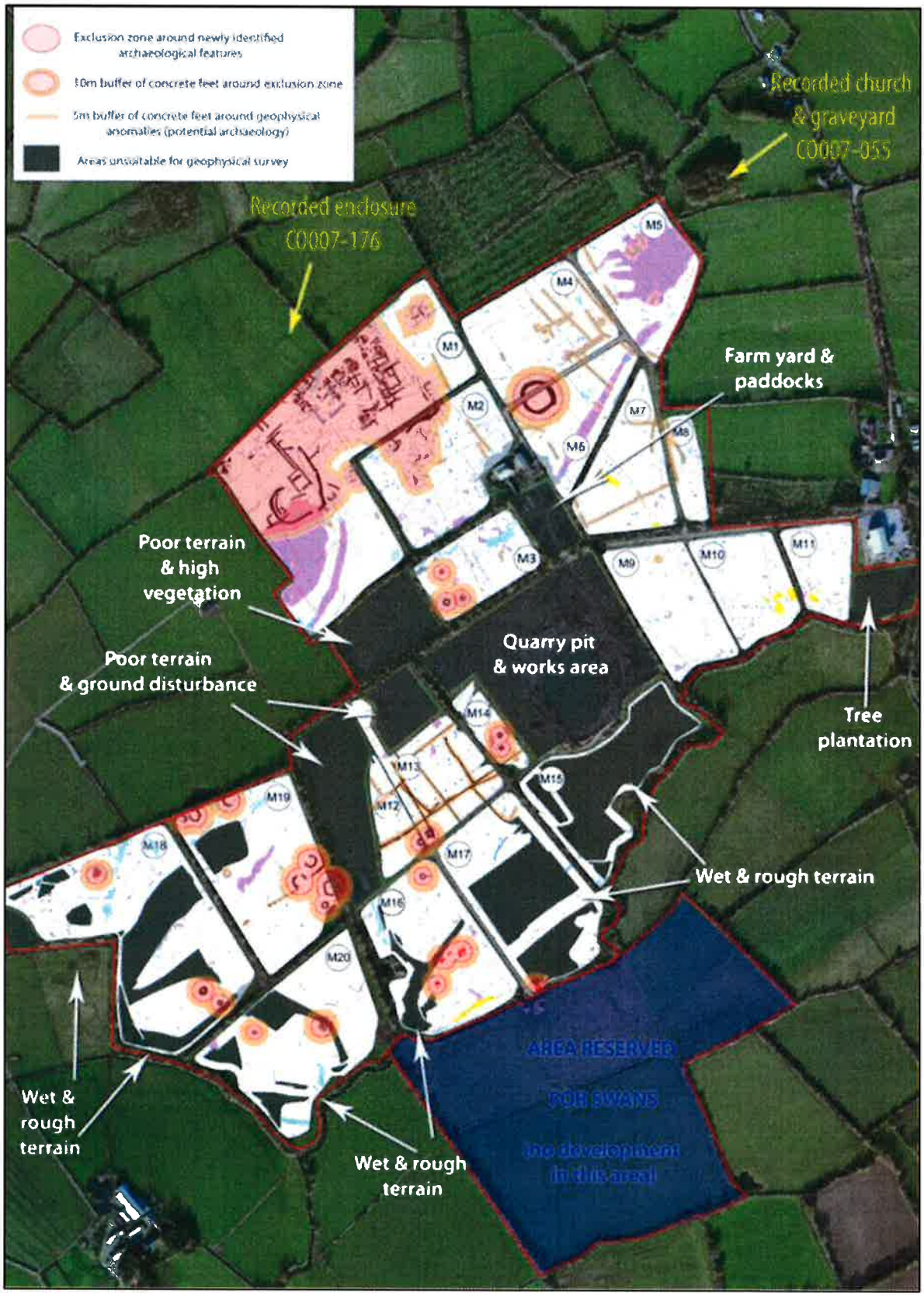


Figure 10 Exclusion (red) and buffer (orange) zones at Ballyroe

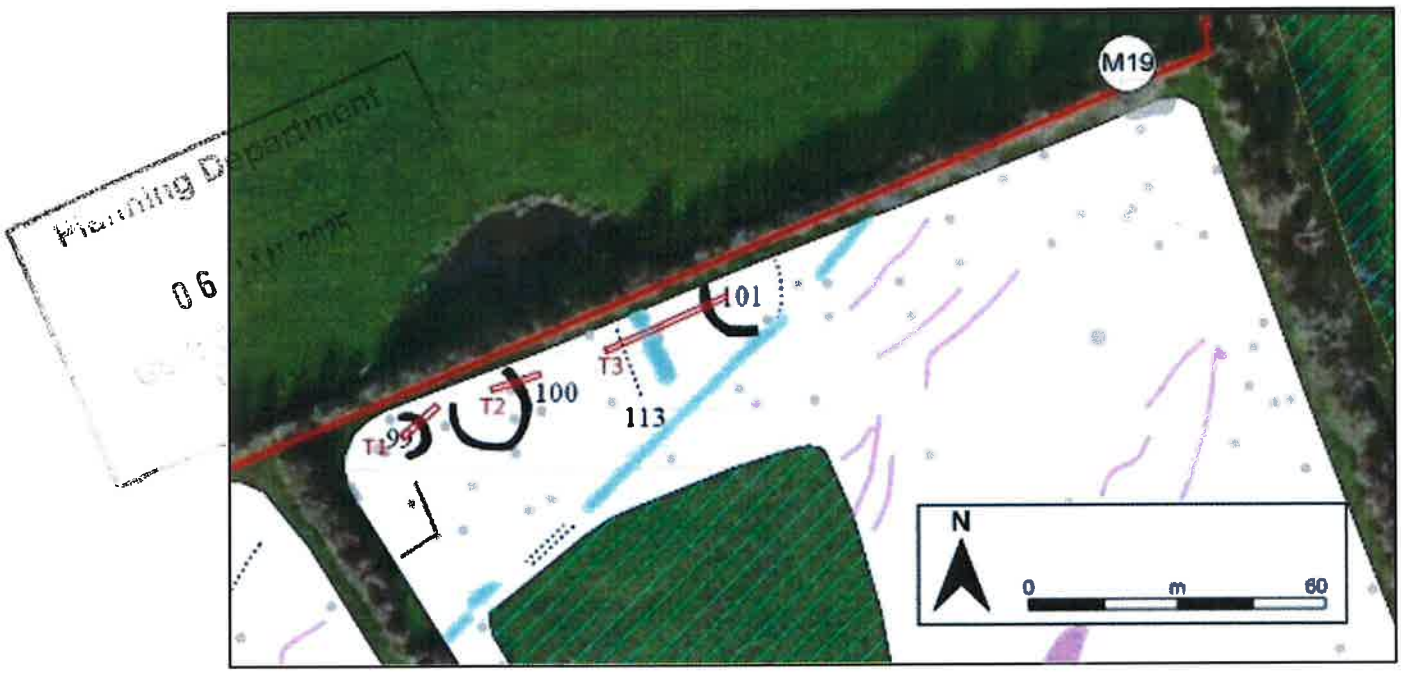


Figure 11 Location of additional test trenches at Ballyroe (Licence No.: 24E0383)

2.6.2. Ardnageehy Solar Farm (Planning Ref.: 23/6099)

The lands within the permitted Ardnageehy Solar Farm (Planning Ref.: 23/6099) were subjected to a geophysical survey between November 2022 and January 2023 (Licence No.: 22R0388, 23R0359; Young and Bird 2023a; Young and Bird 2023b). The proposed interconnector route is located in the Ballynadrideen land parcel of this solar farm and the geophysical survey identified two potential archaeological sites (Sites D and E) in the eastern extent of this land parcel (Figure 12), c. 300m east of the proposed interconnector route. Site D is a possible sub-rectangular enclosure (28m x 35m), the northern part of which is not evident in the survey responses. Site E corresponds to a recorded ringfort (RMP CO007-053) and comprises two concentric enclosures, covering an area c. 46m in diameter. Traces of a possible field system or further occupation features may be represented by the anomalies identified between Sites D and E, and east of E.

Archaeological testing in the Ballynadrideen townland parcel was carried out in March 2023 (Licence No.: 23E0122; McLoughlin 2023). Eight trenches were excavated in this land parcel (Figure 13). A ditch corresponding with an enclosure indicated in the geophysical survey (Site D) was identified in trench T14 and although no dateable finds were recovered from a hand excavated section across the ditch, the fills were consistent with it being archaeological in nature. Linear features interpreted as drainage / field division boundaries were identified in T17, T18 and T19 and corresponded with linear anomalies indicated in the geophysical survey and an area of modern disturbance corresponded with a magnetic anomaly indicated in trench T16. In trench T21 a cluster of pits and a trough were identified indicating truncated / ploughed out burnt mound activity in this area. No anomalies were indicated in this area in the geophysical survey. The recorded ringfort (RMP CO007-053; Site E) was not subjected to test excavation.

As at Ballyroe, archaeological exclusion and buffer zones were created to preserve these archaeological features *in situ* through designed-in mitigation (Figure 14). In the case of the ringfort, RMP CO007-053, the exclusion zone corresponded to the designated RMP Zone of Notification (ZoN) for the site. As this ZoN is sufficiently large to protect the site, no additional buffer zone was required.

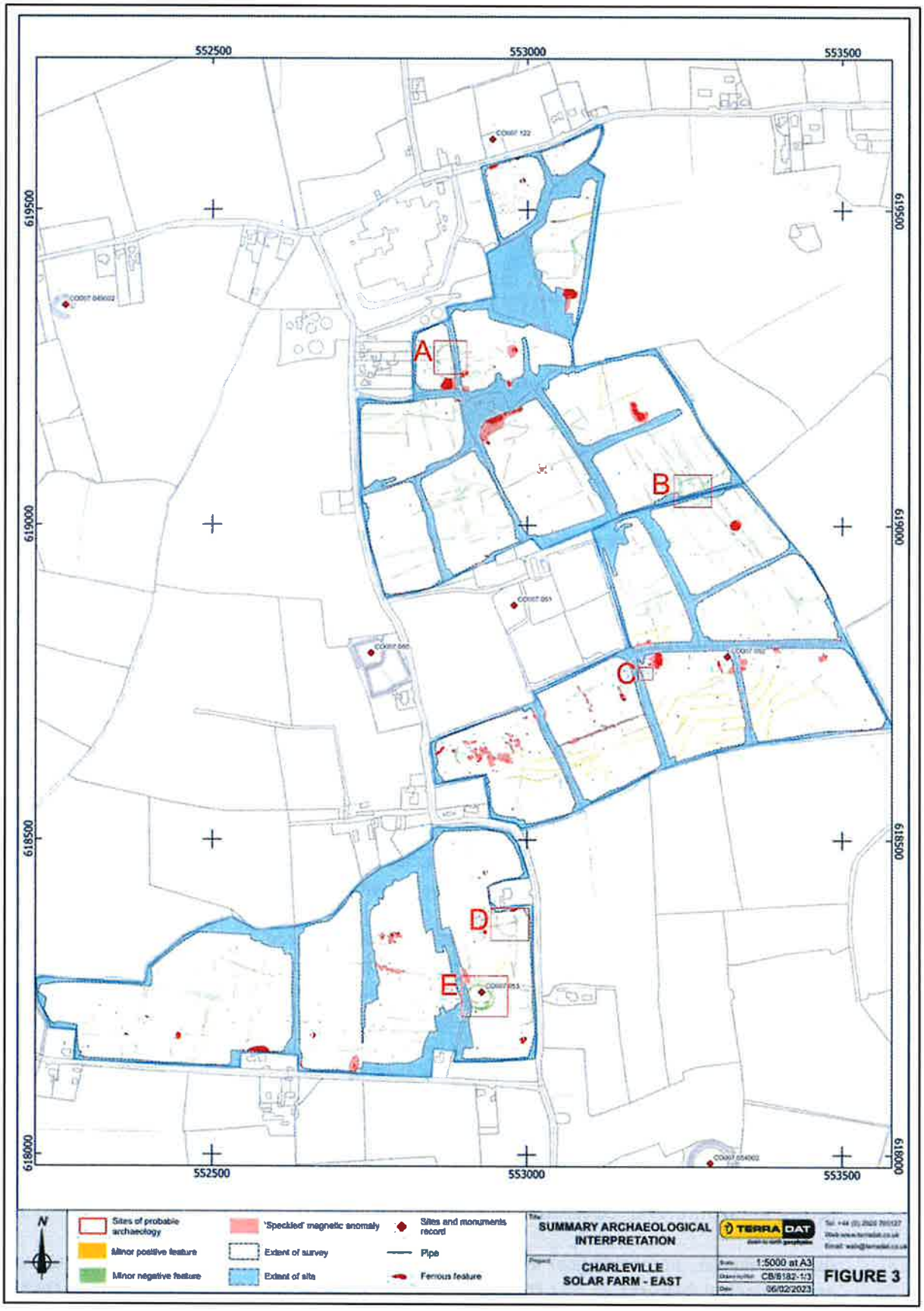


Figure 12 Summary interpretation of geophysical survey results at Ardnageehy solar farm (Licence No.: 22R0388)

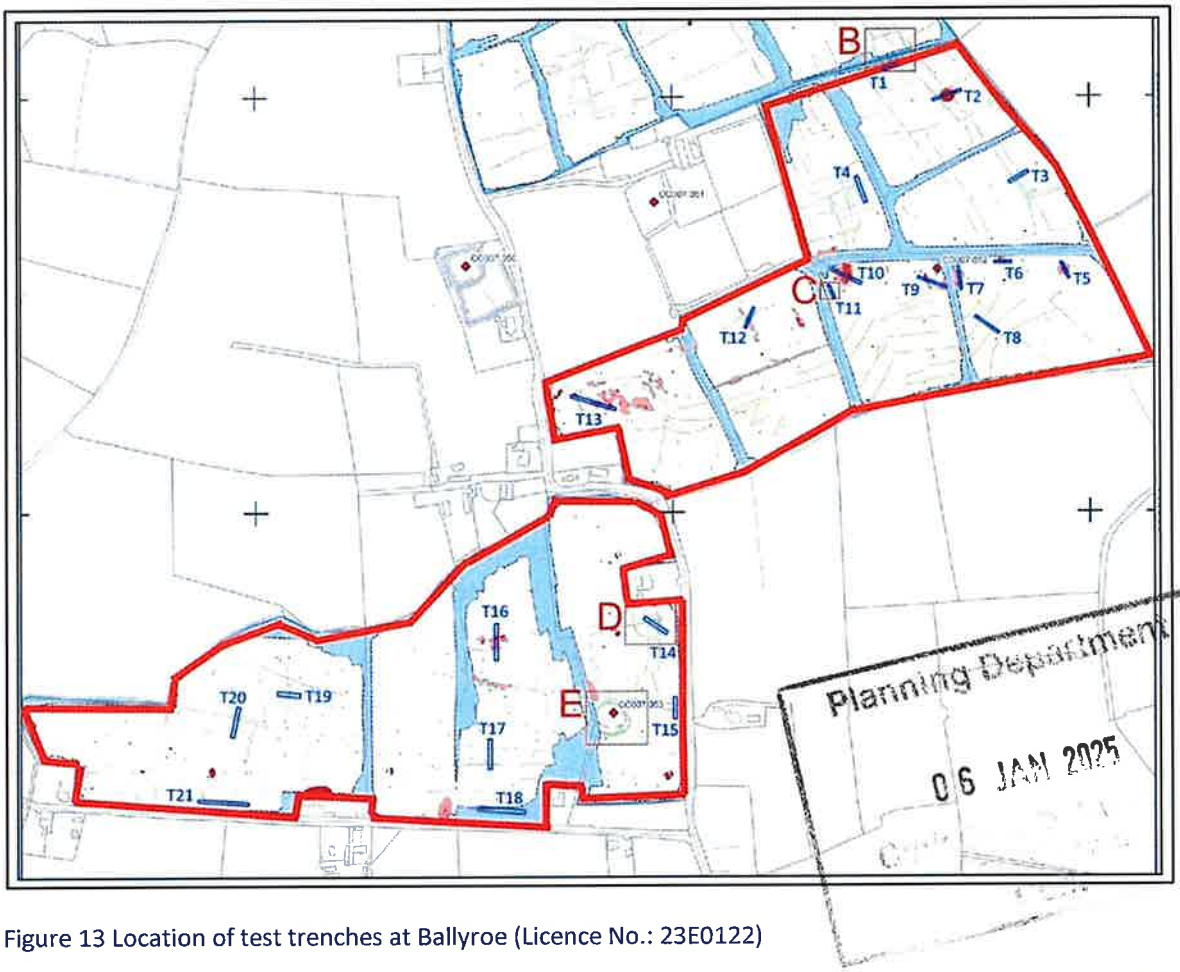


Figure 13 Location of test trenches at Ballyroe (Licence No.: 23E0122)

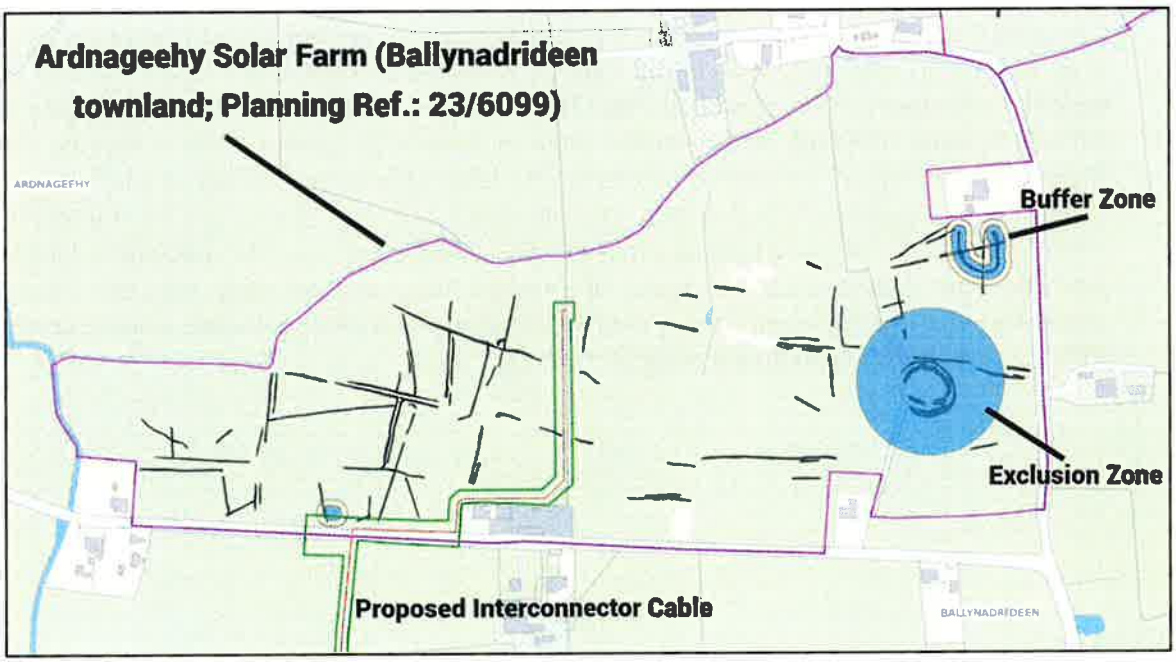


Figure 14 Exclusion (blue) and buffer (yellow) zones at Ardnageehy Solar Farm

2.6.3. Additional Previous Investigations

There have been four additional previous archaeological investigations in the wider landscape around the proposed cable route (Table 1). In 2009, test excavations (Licence No.: 09E0168) in advance of the constructions of new changing rooms for Ballyhea GAA club in Castleharrison townland, to the east of the proposed interconnector, did not identify any features or finds of archaeological significance.

In 2010, test excavations were carried out in Ardnageehy as part of an EIS for a wind turbine, to the east of the proposed interconnector. Two test-trenches were opened within the greenfield site and nothing of archaeological interest was noted.

Between 2016 and 2017, geophysical survey (Licence No.: 16R0210) and test excavations (Licence No.: 17E0221) were carried out in Fiddane townland, to the west of the proposed interconnector, as part of a planning application for a solar farm (Planning Ref.: 17/5799; ABP-306915-20). A large number of responses of potential archaeological interest were recorded throughout the area surveyed (Figure 15). These included the levelled remains of a recorded ringfort (RMP CO007-071), a large, and previously unrecorded, multivallate ringfort/rath, a smaller well-defined ditched enclosure, an expansive network of walled remains, fulacht fiadh, linear ditch and pit remains, circular walled enclosures, a large sub-rectangular enclosure system, and a group of former buildings with adjoining walled enclosure/field system remains (Nicholls 2017).

Subsequent test excavations (Licence No.: 170221; Cotter 2017; Figure 16) targeted the features identified in the geophysical survey (Licence No.: 16R0210). 34 test trenches were investigated and features of archaeological or potential archaeological interest came to light in eleven trenches. Two sites, a ditched enclosure, c. 29m in diameter (Trench 30, Zone E), and an extensive burnt spread with one or more possible troughs (Trench 21, Zone F), proved to be well-defined archaeological monuments. Significant burnt spreads were recorded in two other trenches (Trenches 1 and 32) and smaller or more superficial spreads of burnt material occurred in Trenches 2, 12 and 33. In most cases the burnt material consisted of reddened / heat fractured stone, typically sandstone, in charcoal-rich clay. The remaining archaeological features were more difficult to date, including an substantial ditch in Trench 25 (Zone G) and a roughly circular enclosure in in Trench 23. Features of interest in Trench 18 included a small pit containing flecks of burnt bone. Spreads of charcoal-rich clays identified in Trench 13 may also be of interest. The results pointed to two overlapping archaeological landscapes – a late prehistoric landscape, surviving now largely on the margins of Annagh Bogs, and an early medieval landscape concentrated on the higher and better drained slopes to the north / northeast, which is consistent with the previously known archaeology of the area.

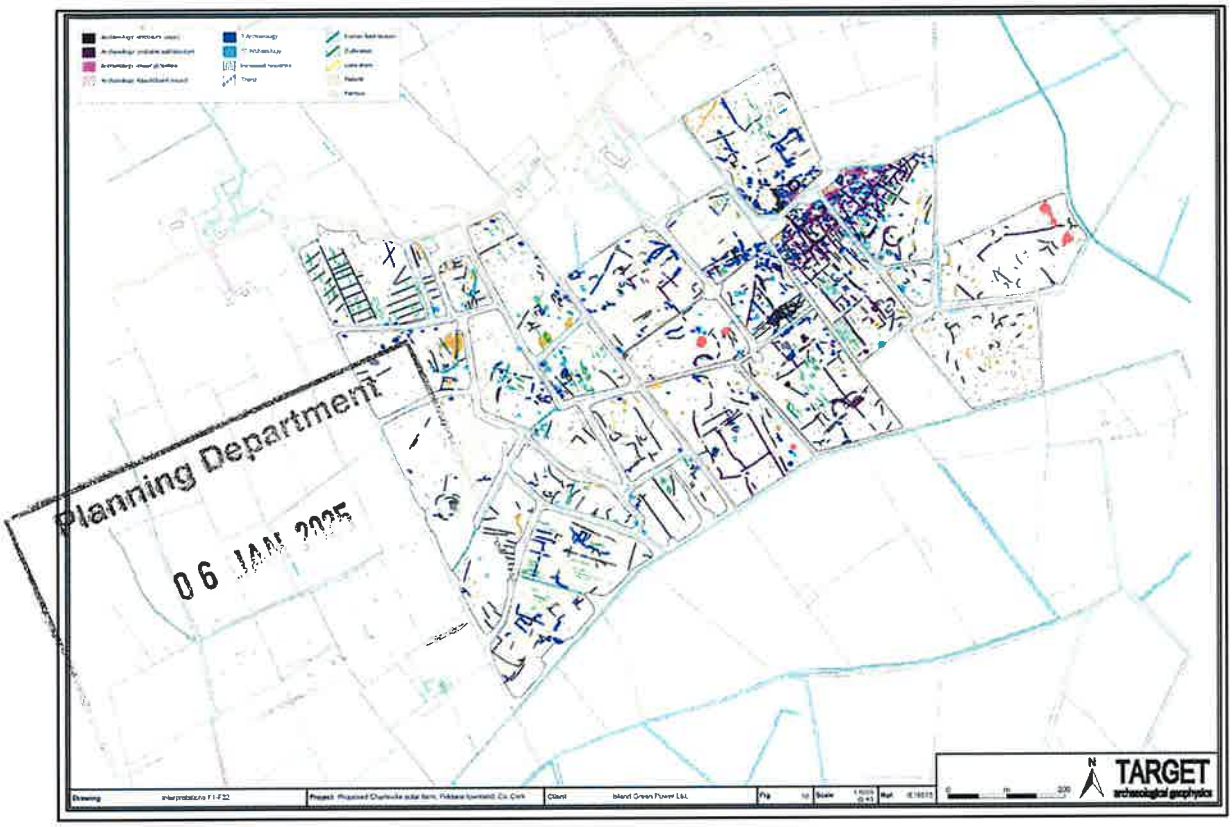


Figure 15 Summary interpretation of geophysical survey results at Fiddane (Licence No.: 16R0210)

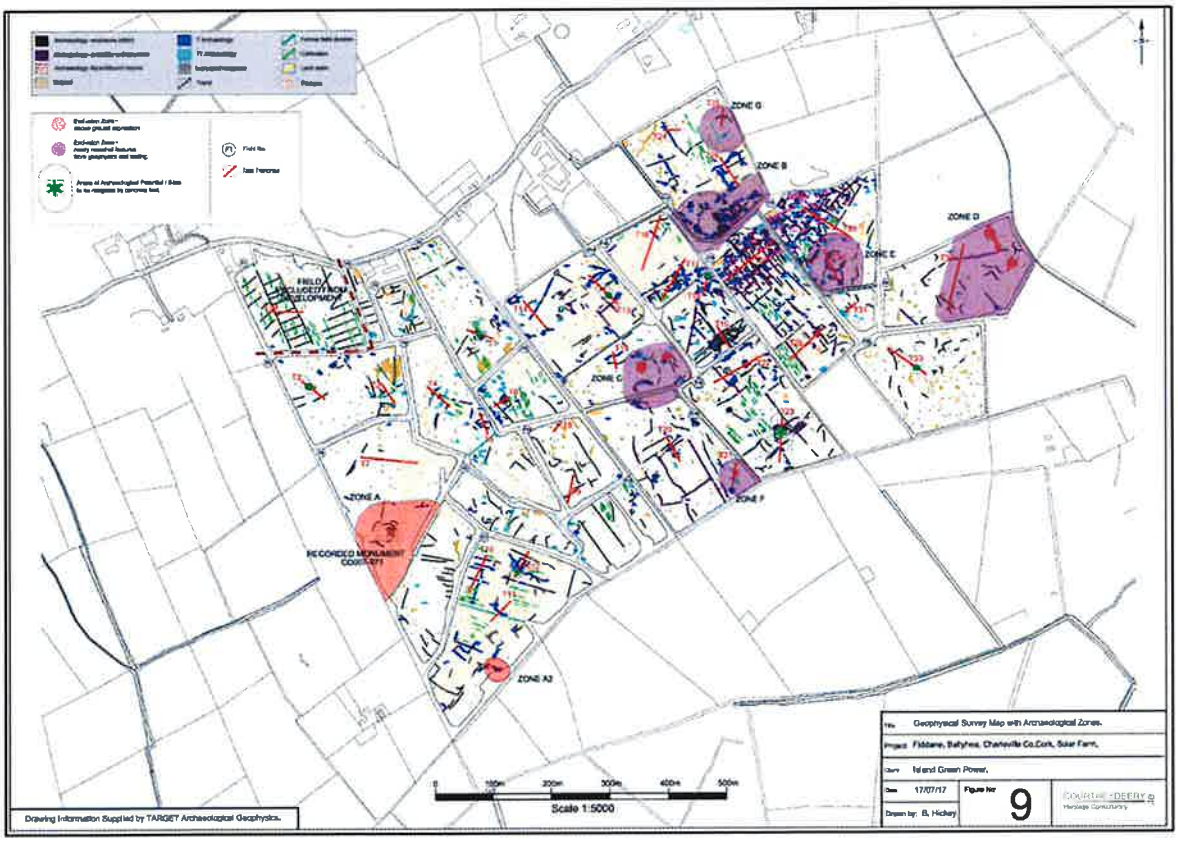


Figure 16 Test trench locations at Fiddane (Licence No.: 17E0221)

2.7. Topographical Files of the National Museum of Ireland

There are no stray finds recorded in the Topographical Files of the National Museum of Ireland (NMI) along the proposed cable route or within the surrounding townlands of Ballyroe, Ballynadrideen, Ballynoran and Coolcaum.

3. ARCHAEOLOGICAL HERITAGE

3.1. National Monuments

There are no national monuments within or in the vicinity of the proposed interconnector route.

3.2. Record of Monuments and Places (RMP / SMR sites)

There are no recorded monuments within the proposed interconnector route.

The closest recorded monument is an enclosure (SMR No.: CO007-176), located c. 265m west of the southern extent of the proposed route. The enclosure is clearly visible on aerial imagery and its rectangular shape may suggest a medieval moated site, of which there are six others known in the surrounding area, and geophysical survey revealed that it likely formed part of a more extensive area of settlement (see Section 2.6.1).

3.3. Undesignated Sites

There are no undesignated archaeological sites along the proposed interconnector cable route. However, the interconnector does pass through areas in which undesignated archaeological sites have been identified through previous archaeological investigations.

In Ballynadrideen townland, a fulacht fia was identified during test excavations (Licence No.: 23E0122). While the redline planning boundary for the proposed interconnector passes through the exclusion and buffer zones established to protect this archaeological feature, the proposed cable route respects these zones and does not intersect with this below ground undesignated site (Figure 17).

In Ballyroe townland, neither the planning boundary nor the proposed interconnector route intersect any undesignated archaeological sites. However, a number of archaeological features were identified during previous geophysical survey and test excavation (Licence No.: 19R0129) in proximity to the proposed route. This includes the remains of a substantial archaeological settlement to the west of the interconnector route. The closest of these is the remains of an enclosure, located c. 5m to the west of the redline planning boundary (Figure 18). To the east, the remains of a circular enclosure, c. 50m wide, are located c. 6m from the redline planning boundary. The proposed cable route follows an existing farm track where it enters the Ballyroe solar farm.

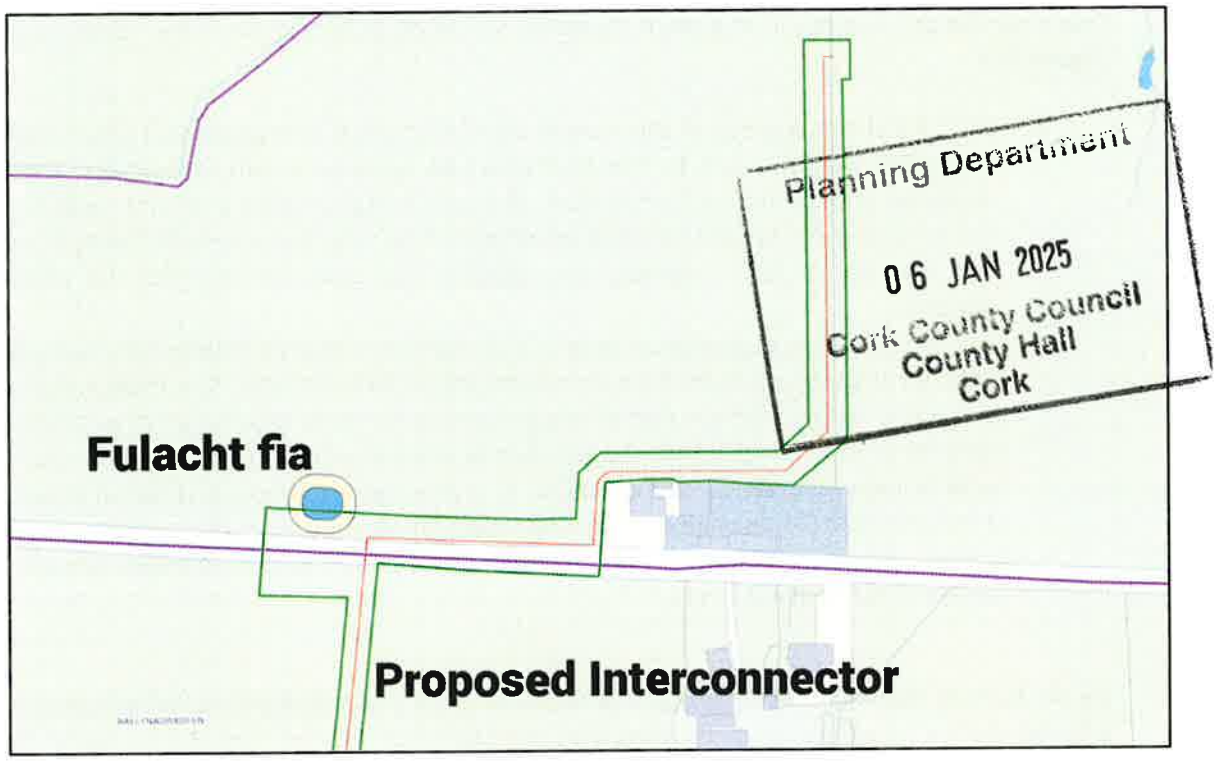


Figure 17 Undesignated fulacht fia in Ballynadrideen townland

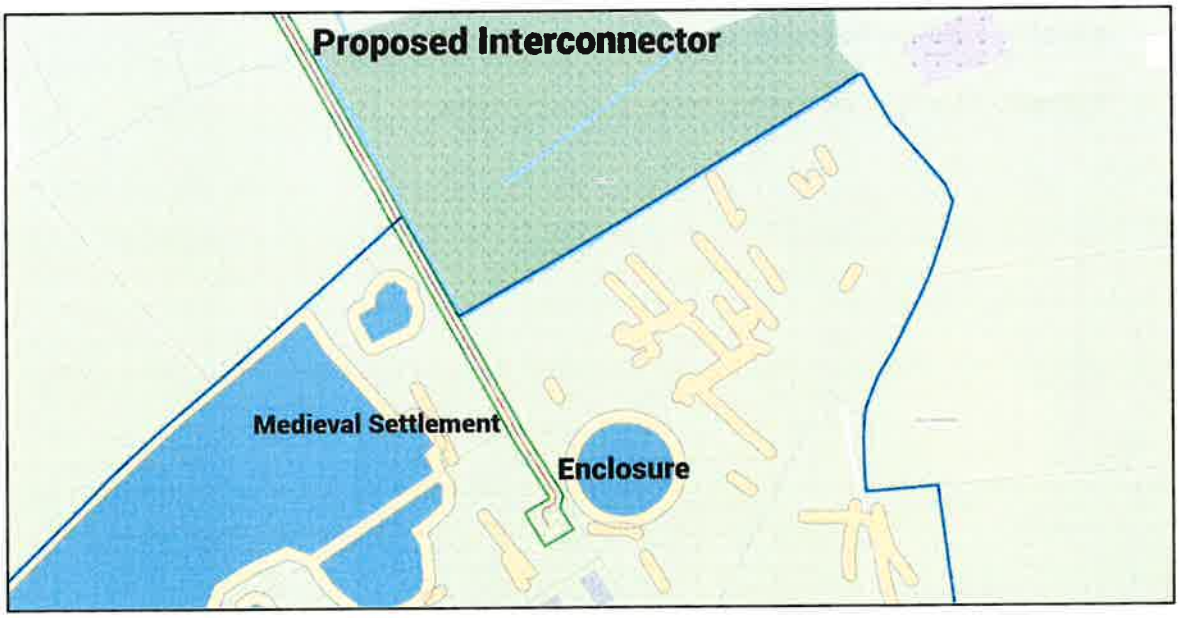


Figure 18 Undesignated archaeological remains in Ballyroe townland

4. RESULTS OF GEOPHYSICAL SURVEY

A geophysical survey was carried out along the proposed interconnector route in August 2024 (Licence No.: 24R0410; Young and Bird 2024). A high-resolution magnetic gradiometry survey was conducted across all accessible parts of the survey area to identify features of potential archaeological significance.

Two potential archaeological sites were identified during the geophysical survey – Sites 13 and 14 (Figure 19):

- Site 13 includes a group of three north-east/ south-east strong positive linear magnetic anomalies that fan out to the southwest to produce a sub-rectangular area that measures approximately 25m by 20m. This group of anomalies does not easily suggest an interpretation, but the elevated amplitude of the magnetic anomalies hints that there was material of high magnetic susceptibility (e.g. ash) feeding into the linear cut features.
- Site 14 is a cluster of positive magnetic anomalies over approximately 30m east-west by 18m north-south, most of which are of possible pit-like character, but there are stronger anomalies in the southern part of the group that are more suggestive of possibly being hearths or kilns. This is a distinct possibility as this site is close to the medieval settlement area in the west, which was identified in a previous geophysical survey (Licence No.: 19R0129). Site 14 also appears to have been identified during this earlier geophysical survey and exclusion and buffer zones have already been established around it to preserve the remains *in situ*.

On the basis of these geophysical survey results, and as part of a designed-in mitigation strategy, a 10m exclusion zone in which no development can take place has been created for Site 13 (Figure 20). This has been supported by the creation of a 5m buffer zone around the exclusion zone. Together, these exclusion and buffer zones will facilitate the *in situ* preservation of the identified archaeological remains. Additionally, the proposed interconnector cable has been re-routed to avoid the exclusion and buffer zones.

Both sites 13 and 14 are avoided by the proposed route.

Figure 19 Summary interpreation of geophysical survey results along proposed interconnector (Licence No.: 24R0410)

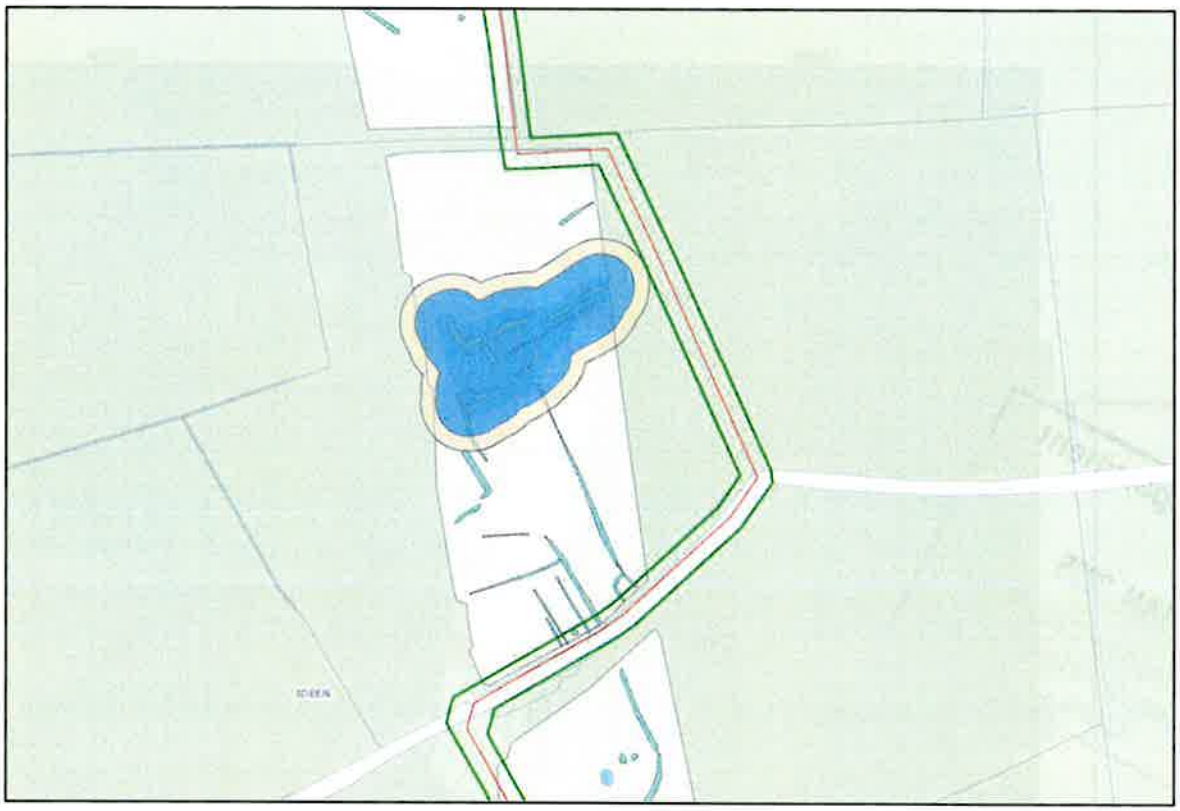


Figure 20 Exclusion (in blue) and buffer (in yellow) zones around Site 13

5. SUMMARY AND CONCLUSIONS

5.1. Baseline Summary of Potential

The proposed underground cable passes through Ballynadrideen and Ballyroe townlands. There are no recorded monuments along the proposed cable route, within the redline planning boundary or in proximity to it.

The entire length of the proposed cable route has been subject to geophysical survey over a number of phases (Licence No.: 19R0129; 22R0388; 24R0410). In areas where archaeological test excavation has taken place, the remains identified have confirmed the results of the geophysical surveys. The extent of the previous archaeological investigations, both in proximity to the proposed route and in the wider area, has demonstrated the effectiveness of geophysical survey as a tool to identify the presence of archaeological sites in this landscape. In all cases, any archaeological remains identified by the geophysical surveys have been preserved *in situ* through the use of exclusion and buffer zones established around the surviving below ground remains. None will be negatively affected by the proposed interconnector.

5.2. Recommendations

The designed-in mitigation strategy employed at similar sites around the proposed interconnector cable route have proved effective at facilitating the preservation *in situ* of known archaeological remains.

Appropriate archaeological mitigation has already begun along the proposed interconnector route through the use of exclusion and buffer zones around known archaeological remains. The

proposed interconnector route has also been designed to avoid a recently identified archaeological site. On this basis, no further archaeological mitigation is required during this phase of the project.

It is recommended that all ground disturbance works associated with the site preparation and construction phase of the proposed project are archaeologically monitored. This is due to the slight potential for the survival of further below-ground archaeological remains that may be present. Given the investigations carried out to date, and their results, it is anticipated that any such features would be discrete, isolated and small in scale.

Monitoring by a suitably qualified archaeologist will ensure the full recognition of, and – if required – the proper excavating and recording of all archaeological features, finds or deposits which may lie undisturbed beneath the ground surface.

Archaeological monitoring will be carried out under a Section 26 licence to the National Monuments Service (NMS) of the Department of Housing, Local Government and Heritage (DHLGH). Licences are granted subject to a method statement to be agreed with the NMS and can take 4 weeks or more to procure.

In the event that archaeological remains are discovered, NMS (DHLGH) and the National Museum of Ireland will be informed and all construction works will cease in the vicinity of the remains and the area fenced off until a licensed archaeologist has resolved the archaeological issues in consultation with the authorities, who will advise on the most appropriate remedial action (such as preservation by record through excavation or preservation in-situ through redesign).

All recommendations made in this report are subject to the approval of the National Monuments Service of the Department of Housing, Local Government and Heritage and the National Museum of Ireland.

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APPENDIX 1 SUMMARY OF RELEVANT LEGISLATION

Historic and Archaeological Heritage and Miscellaneous Provisions Act (2023)

The Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023 was enacted in October 2023 and this this Act is now law. The Minister for DHLGH commenced certain provisions in May 2024 (S.I. No. 252/2024) which relate to World Heritage Property in the State, inventories, the protection of certain records, the promotion of heritage, and the issuing of statutory guidance. Certain related and supporting provisions concerning implementation and enforcement are also commenced. However, until the Act is fully commenced, the National Monuments Acts and the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act have not yet been repealed and therefore remain in force.

The Act also contains transitional provisions which will, if necessary, enable certain aspects of the existing National Monuments Acts 1930 to 2014 to continue in operation while successor provisions are being brought fully into operation. An example of this would be provisions enabling the Record of Monuments and Places to continue to have effect pending the establishment of a new Register of Monuments.

A person performing a function under this Act shall recognise and take due account of the following principles in performing that function:

a) that historic heritage is a non-renewable resource of great cultural and scientific importance which, in addition to its intrinsic value, provides evidence for the development of society and promotes public understanding and appreciation of all periods of the past;

b) that the first option to be considered should be the protection in situ of historic heritage and that there ought to be a presumption in favour of this option;

c) that any removal or alteration of historic heritage should be accompanied by all necessary and appropriate recording of such heritage;

d) that the Valletta Convention should be adhered to as well as any other international treaty, to which the State is a party, the provisions of which are aimed at promoting or securing the protection of the archaeological, architectural or other historic heritage;

e) that responsibility for the protection of historic heritage is, as a resource of benefit to all, shared by all and, accordingly, that those permitted to remove or interfere with such heritage should, in the normal course, bear the costs of any recording or protective work necessitated by, or associated with, such removal or interference.

For the avoidance of doubt, it is hereby declared that the destruction, whether in whole or in part and by whatever means, of a monument to which general protection or special protection applies shall not prejudice the continuation of such protection to the remainder (if any) of the monument, including the site, surrounding area and immediate surroundings of the monument.

The Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023 will establish a Register of Monuments which will replace and supersede the existing Record of Monuments and Places and the Register of Historic Monuments. The Register shall include

a) prescribed monuments known to the Minister which are deemed appropriate to be entered in the Register;

b) relevant things of a relevant interest deemed appropriate to be entered in the Register.

A prescribed monument will be a relevant thing of archaeological interest or of other relevant interest. It may be prescribed by reference to any one or more than one of the following criteria:

(a) age, date or period (including by reference to any terminology relating to periods) that, in the opinion of the Minister, is or has been in use in archaeology or other relevant disciplines;

(b) morphology;

(c) condition;

(d) typology (including by reference to typologies which, in the opinion of the Minister, are or have been in use in archaeology or other relevant disciplines);

(e) the environment in which the relevant thing is situated (including whether or not the relevant thing is situated under water);

(f) the circumstances in which the relevant thing is found (including the manner of finding);

(g) whether the relevant thing is or is not marked or shown on any—

i. edition of any ordnance map, or

ii. map prescribed for the purposes of this paragraph.

"Relevant thing" means any of the following things:

a) any artificial structure, construction, deposit, feature or layer (including any building and any burial or interment);

b) any artificially altered structure, construction, deposit, feature or layer, whether or not natural in origin;

c) any wreck;

d) any ritual or ceremonial site;

e) any site where an historic event took place, including any other site directly associated with that event;

f) any battlefield;

g) any site with legendary or mythological associations;

h) any feature, deposit or layer, whether or not natural in origin and whether or not artificially altered, containing or providing information or evidence relating to the past environment;

The Register shall be in the form of an electronic database which is easily accessible to members of the public through public telecommunication networks. The registered monument may include a surrounding area which is considered reasonably necessary to secure the protection of the monument or thing.

Where a person finds, or believes that he or she has found a prescribed monument other than a registered monument, the person shall make a preliminary report Minister or a member of An Garda Síochána within 72 hours, or in the case of discovery in the course of licensable activity, that it be reported to the Minister in such a manner as specified in the licence.

Special protection may be applied to a registered monument taking into account whether the monument is, in terms of such heritage, of special or particular interest, character, integrity, community or amenity value, whether at a local, regional, national or international level. This includes

a) a national monument,

b) a wreck of 100 or more years old, or

c) a guardianship monument.

A person shall not carry out works at, on, in, under, to, or within the immediate surroundings of a monument to which special protection applies, or direct or authorise the carrying out of such works, other than under and in accordance with a licence. This shall be deemed to apply to a registered monument in the ownership or guardianship of the Minister or a local authority where special protection does not otherwise apply to the monument.

General protection applies to

a) a registered monument to which special protection does not apply, and

b) a prescribed monument (not being a registered monument).

A person shall not carry out works at, on, in, under, to, or within the immediate surroundings of a monument to which general protection applies, or direct or authorise the carrying out of such works, other than under and in accordance with a licence.

A person shall not, except under and in accordance with a licence, do any of the following at, on, in, over, under or in the vicinity of a wreck 100 or more years old, a registered monument or prescribed monument which is under water, or an archaeological object which is underwater:

a) dive or direct or authorise diving;

b) use or possess, or direct or authorise the use or possession of, diving, survey or salvage equipment;

c) dump or deposit, or direct or authorise the dumping or deposition of, any thing whether or not it interferes with or causes damage to the thing;

d) interfere, remove or tamper in any way (whether with or without causing damage) with the thing.

The Minister may prescribe a licence, consent, approval, permission or other authorisation where

a) a licence, consent, approval, permission or other authorisation is required to be granted, issued or given under an enactment (not being the Act of 2000) for works to be carried out which may require an EIA, and

b) the Minister is satisfied that such works are capable of being at, on, in, under, to, or within the immediate surroundings of a monument, and it is reasonable and proportionate to do so and compatible with the protection of monuments,

The Minister shall consider whether or not the relevant works in respect of which they should be made subject to conditions and may require all or any of the following:

a) the carrying out of an assessment of heritage interest or potential including an assessment by way of archaeological excavation, use of detection devices or any form of photographic or geophysical survey equipment or any other appropriate form of survey or inspection;

b) the recording of the monument as a whole or any part or aspect of it (including its immediate surroundings) or any objects on, in, under or within it or its immediate surroundings including recording by way of archaeological excavation, use of detection devices or any form of photographic or geophysical survey equipment or any other appropriate form of survey or inspection;

c) the carrying out of any form of monitoring (including archaeological monitoring), supervision or inspection;

d) the salvaging, collection or protection of any part of the monument (including its immediate surroundings) or any object on, in, under or within it or its immediate surroundings and, where appropriate, the preparation of such part or object for deposition in an appropriate museum or other site for such deposition;

e) the specification of the time period when the relevant works are to be carried out;

f) that the relevant works be done in a specified manner or be funded or carried out by a specified person or a person falling within a specified category of persons.

The Minister shall make a screening determination for EIA in respect of the proposed relevant works on the basis of the information provided by the applicant. The Minister shall ensure that, before the application is determined, proposed relevant works likely to have significant effects on the environment by virtue of their nature, size or location (or any combination thereof) are made subject to an EIA. The applicant shall in this case submit to the Minister an EIAR in respect of the proposed relevant works, having regard to guidelines issued by the Minister.

The Minister may appoint himself or herself, or with the consent of a local authority, appoint the local authority as the guardian of a registered monument to which special protection applies. A national monument under the Act of 1930 will be deemed both a registered monument and a guardianship monument.

Any archaeological object where such object has no known owner shall be vested in the State. An owner or owner exception of land, not being the State, or a finder of an archaeological object is

deemed not to acquire any rights of ownership to an archaeological object found on, in or under the land.

Where a person finds, or believes that he or she has found an archaeological object, the person shall make a preliminary report of the finding of the thing to the Board of the National Museum of Ireland or a member of An Garda Síochána within 72 hours, in the case of licensable activity, to the Minister or the Board in such manner as is specified in the licence. A person, other than a relevant person, shall not interfere with or remove a relevant archaeological object, or cause it to be interfered with or removed, except under and in accordance with a licence, or where there is reasonable grounds to believe that it is necessary to remove the thing from the site where he or she found it for the purposes of the safekeeping of the thing.

"Architectural heritage" means—

a) structures and buildings together with their settings and attendant grounds, fixtures and fittings,

b) groups of structures and buildings referred to in paragraph (a), and

c) sites,

that are of archaeological, architectural, cultural, historic, scientific, social or technical interest;

A person shall not, other than under and in accordance with a licence—

a) undertake or carry out, or direct or authorise the undertaking or carrying out of, archaeological excavation,

b) ... archaeological monitoring,

c) search for or collect... archaeological objects lying exposed on the surface of land, whether or not any such object is known to be on, in or under that land,

d) search for... wrecks one hundred or more years old or archaeological objects or prescribed monuments, or other relevant things of archaeological interest, situated on, in or under the sea bed or land covered by water...

e) be in possession of a detection device in, at, on, over or above, or within the immediate surroundings of, a registered monument or a wreck one hundred or more years old, or

f) use... a detection device for the purpose of identifying, locating (including searching for), investigating, surveying or recording any archaeological object or monument or relevant thing of archaeological interest...

Anything done by a person in the course of his or her employment shall, in any proceedings brought under this Act, be treated as done also by that person's employer, whether or not it was done with the employer's knowledge or approval. Anything done by a person as agent for another person, with the authority (whether express or implied and whether precedent or subsequent) of

that other person shall, in any proceedings brought under this Act, be treated as done also by that other person.

National Monuments Legislation (1930-2014)

The National Monument Act, 1930 (as amended) provides the formal legal mechanism to protect monuments in Ireland. Protection of a monument is provided via:

Record of Monuments and Places (RMP);

National Monument in the ownership or guardianship of the Minister for Arts, Heritage, Regional, Rural & Gaeltacht Affairs or a Local Authority;

National Monument subject to a Preservation Order (or temporary Preservation Order);

Register of Historic Monuments (RHM).

The definition of a monument is specified as:

any artificial or partly artificial building, structure or erection or group of such buildings, structures or erections;

any artificial cave, stone or natural product, whether forming part of the ground, that has been artificially carved, sculptured or worked upon or which (where it does not form part of the place where it is) appears to have been purposely put or arranged in position;

any, or any part of any, prehistoric or ancient tomb, grave or burial deposit, or (ii) ritual, industrial or habitation site; and

any place comprising the remains or traces of any such building, structure or erection, any cave, stone or natural product or any such tomb, grave, burial deposit or ritual, industrial or habitation site.

Under Section 14 of the Principal Act (1930):

It shall be unlawful...

to demolish or remove wholly or in part or to disfigure, deface, alter, or in any manner injure or interfere with any such national monument without or otherwise than in accordance with the consent hereinafter mentioned (a licence issued by the Office of Public Works National Monuments Branch),

or

to excavate, dig, plough or otherwise disturb the ground within, around, or in the proximity to any such national monument without or otherwise than in accordance...

Under Amendment to Section 23 of the Principal Act (1930):

A person who finds an archaeological object shall, within four days after the finding, make a report of it to a member of the Garda Síochána...or the Director of the National Museum...

The latter is of relevance to any finds made during a watching brief.

In the 1994 Amendment of Section 12 of the Principal Act (1930), all the sites and 'places' recorded by the Sites and Monuments Record of the Office of Public Works are provided with a new status in law. This new status provides a level of protection to the listed sites that is equivalent to that accorded to 'registered' sites [Section 8(1), National Monuments Amendment Act 1954] as follows:

The Commissioners shall establish and maintain a record of monuments and places where they believe there are monuments and the record shall be comprised of a list of monuments and such places and a map or maps showing each monument and such place in respect of each county in the State.

The Commissioners shall cause to be exhibited in a prescribed manner in each county the list and map or maps of the county drawn up and publish in a prescribed manner information about when and where the lists and maps may be consulted.

In addition, when the owner or occupier (not being the Commissioners) of a monument or place which has been recorded, or any person proposes to carry out, or to cause or permit the carrying out of, any work at or in relation to such monument or place, he shall give notice in writing of his proposal to carry out the work to the Commissioners and shall not, except in the case of urgent necessity and with the consent of the Commissioners, commence the work for a period of two months after having given the notice.

The National Monuments Amendment Act enacted in 2004 provides clarification in relation to the division of responsibilities between the Minister of Environment, Heritage and Local Government, Finance and Arts, Sports and Tourism together with the Commissioners of Public Works. The Minister of Environment, Heritage and Local Government will issue directions relating to archaeological works and will be advised by the National Monuments Section and the National Museum of Ireland. The Act gives discretion to the Minister of Environment, Heritage and Local Government to grant consent or issue directions in relation to road developments (Section 49 and 51) approved by An Bord Pleanála and/or in relation to the discovery of National Monuments.

14A. (1) The consent of the Minister under section 14 of this Act and any further consent or licence under any other provision of the National Monuments Acts 1930 to 2004 shall not be required where the works involved are connected with an approved road development.

14A. (2) Any works of an archaeological nature that are carried out in respect of an approved road development shall be carried out in accordance with the directions of the Minister, which directions shall be issued following consultation by the minister with the Director of the National Museum of Ireland.

Subsection 14A (4) Where a national monument has been discovered to which subsection (3) of this section relates, then the road authority carrying out the road development shall report the discovery to the Minister subject to subsection (7) of this section, and pending any directions by the Minister under paragraph (d) of this subsection, no works which would interfere with the monument shall be carried out, except works urgently required to secure its preservation carried out in accordance with such measures as may be specified by the Minister.

The Minister will consult with the Director of the National Museum of Ireland for a period not longer than 14 days before issuing further directions in relation to the national monument.

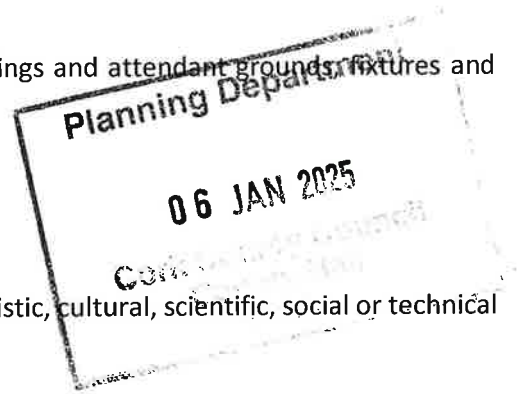
The Minister will not be restricted to archaeological considerations alone, but will also consider the wider public interest.

Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act, 1999

This Act provides for the establishment of a national inventory of architectural heritage and historic monuments.

Section 1 of the act defines "architectural heritage" as:

(a) all structures and buildings together with their settings and attendant grounds, fixtures and fittings,



(b) groups of such structures and buildings, and,

(c) sites

which are of architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest.

Section 2 of the Act states that the Minister (for Arts, Heritage, Gaeltacht and the Islands) shall establish the NIAH, determining its form and content, defining the categories of architectural heritage, and specifying to which category each entry belongs. The information contained within the inventory will be made available to planning authorities, having regard to the security and privacy of both property and persons involved.

Section 3 of the Act states that the Minister may appoint officers, who may in turn request access to premises listed in the inventory from the occupiers of these buildings. The officer is required to inform the occupier of the building why entry is necessary, and in the event of a refusal, can apply for a warrant to enter the premises.

Section 4 of the Act states that obstruction of an officer or a refusal to comply with requirements of entry will result in the owner or occupier being guilty of an offence.

Section 5 of the Act states that sanitary authorities who carry out works on a monument covered by this Act will as far as possible preserve the monument with the proviso that its condition is not a danger to any person or property, and that the sanitation authority will inform the Minister that the works have been carried out.

The provisions in the Act are in addition to and not a substitution for provisions of the National Monument Act (1930–94), and the protection of monuments in the National Monuments Act is extended to the monuments covered by the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act (1999).

The Local Government (Planning and Development) Act, 1999

The Local Government (Planning and Development) Act, 1999, which came into force on 1st January 2000, provides for the inclusion of protected structures into the planning authorities' development plans and sets out statutory regulations regarding works affecting such structures, thereby giving greater statutory protection to buildings. All structures listed in the development plan are now referred

to as Protected Structures and enjoy equal statutory protection. Under the 1999 Act the entire structure is protected, including a structures interior, exterior, the land lying within the curtilage of the protected structure and other structures within that curtilage. This Act was subsequently repealed and replaced by the Planning and Development Act, 2000, where the conditions relating to the protection of architectural heritage are set out in Part IV of the Act.

Protected Structures, Curtilage & Attendant Grounds

A protected structure is defined in the Local Government (Planning and Development) Act 2000 as any structure or specified part of a structure, which is included in the planning authorities' Record of Protected Structures (RPS). Section 57 (1) of the 2000 Act states that "...the carrying out of works to a protected structure, or a proposed protected structure, shall be exempted development only if those works would not materially affect the character of

(a) the structure, or

(b) any element of the structure, which contributes to its special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest.

By definition, a protected structure includes the land lying within the curtilage of the protected structure and other structures within that curtilage and their interiors. The notion of curtilage is not defined by legislation, but according to Architectural Heritage Protection Guidelines for Planning Authorities (2004) and for the purposes of this report it can be taken to be the parcel of land immediately associated with that structure and which is (or was) in use for the purpose of the structure.

The attendant grounds of a structure are lands outside the curtilage of the structure but which are associated with the structure and are intrinsic to its function, setting and/or appreciation. The attendant grounds of a country house could include the entire demesne, or pleasure grounds, and any structures or features within it such as follies, plantations, lakes etc.

APPENDIX 2 STANDARDS AND GUIDELINES

The following legislation, standards and guidelines were consulted for this archaeological desk study:

- National Monuments Acts 1930 (as amended);
- The Planning and Development Act 2000 (as amended);
- The Heritage Act, 1995;
- CAAS Environmental Ltd on behalf of the Environmental Protection Agency (EPA) (2002), Guidelines on the information to be contained in Environmental Impact Statements;
- CAAS Environmental Ltd on behalf of the Environmental Protection Agency (EPA) (2003), Advice Notes on Current Practice (in preparation of Environmental Impact Statements);
- Department of Arts, Heritage, Gaeltacht and Islands, (1999a), Framework and Principles for the Protection of the Archaeological Heritage;
- National Roads Authority (2005), Guidelines for the Assessment of Archaeological Heritage Impacts of National Road Schemes;
- National Roads Authority (2005), Guidelines for the Assessment of Architectural Heritage Impacts of National Road Schemes;
- National Roads Authority (2017) Project Management Guidelines;
- Code of Practice between the National Roads Authority (NRA) and the Minister for Arts, Heritage and the Gaeltacht, June 2000;
- Code of Practice between Transport Infrastructure Ireland (TII) and the Minister for Arts, Heritage, Regional, Rural and Gaeltacht Affairs, 2017;
- Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act, 1999 and the Planning and Development Act (as amended);
- Cork County Council Heritage Unit (2007) Guidance Notes for the Appraisal of Historic Gardens, Demesnes, Estate and their Settings;
- Transport Infrastructure Ireland (TII), (2024) Guidelines for Cultural Heritage Impact Assessment of TII National Road and Greenway Projects (hereafter referred to as TII Guidelines);
- TII (2023) Project Management Guidelines, PE-PMG-02041;
- UNESCO (2022) Guidance and Toolkit for Impact Assessments in a World Heritage Context;
- International Council on Monuments and Sites (ICOMOS) Ireland (2000) Archaeology and Development Guidelines for Good practice for Developers, prepared for the Heritage Council;
- Environmental Protection Agency (EPA) (2022). Guidelines on the information to be contained in Environmental Impact Assessment Reports;
- Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023. This was enacted in October 2023 and this Act is now law. The Minister for Housing, Local Government and Heritage commenced certain provisions in May 2024 (S.I. No.: 252/2024), however until the Act is fully commenced, the National Monuments Acts have therefore not yet been repealed and remain in force.

VEON Forestry, Ecology & Environment

AA Screening for a proposed Ardnageehy-Ballyroe Cable Route

Compiled by Veon Ecology,
Aine O'Sullivan

Prepared for: Entrust Ltd.

On behalf of: Soleire Renewables SPV Ltd.

Completion Date: 12/12/24

Contents

Executive Summary

This report presents the outcome of a Screening of Appropriate Assessment (AA) for a proposed underground interconnector located in the townland of Ballinadrideen and Ballyroe County Cork.

This report details the results of field surveying and a desktop study which have informed this Screening for AA for the proposed development. The report assesses any potential impacts on EU designated sites.

This AA Screening Report examines whether any potential effects upon a Natura 2000 site will be significant and determines whether the AA process for the proposed development at Ballinadrideen County Cork alone and in combination with other developments in the area requires to proceed to a Stage 2 Appropriate Assessment.

Having taken into regards the zone of influenced presented by the site which includes hydrological and proximal pathways it was concluded that the project does not pose any significant effect to the surrounding Natura 2000 sites.

The primary habitats within the proposed development area comprise of grassland habitats. Which is relatively unsuitable habitat for the surrounding Natura 2000 QIs. Given the scale of the project and habitats present, species of conservation concern are unlikely to occur within the area of the works footprint. Further the short time scale of the works, underground nature of the works and with the main habitat, GA1 (Improved grassland), being found in abundance in the surrounding region any disturbance to local species will not be significant long-term impacts. EPA mapping of the site records that the upper section of the river Dromin, a tributary of the River Blackwater SAC, dissects the site however under further investigation this habitat was seen to have a lack of free-flowing water consisting of shallow interspaced smaller puddles of poor water quality within a flat landscape. Further, Horizontal Directional drilling (HDD) will allow for the cable to be placed underneath this habitat with no in stream works and minimal surface distribution. It concluded that the project works will not have any significant effects on this habitat as such the habitat was screened out as a pollution source pathway. It was therefore concluded that, taking into consideration reasonable scientific doubt, the project alone or in combinations to other plans and project does not have the potential to significantly affect surrounding Natura 2000 site and their subsequent conservation targets. The contents of this Screening for AA, prepared by Veon Ecology are true and have been prepared with due regard to the Chartered Institute of Ecology and Environmental Management's (CIEEM) Code of Professional Conduct.

General Details

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Describe scope of contribution in preparing this report : Desktop Survey, Ecological Assessment, Screening, Finalising report

Veon Ltd. Veon Ecology							
Revision	Description	Author:	Date	Reviewed By:	Date	Authorised by:	Date
1	Draft Report	AOS	02/08/24	DM			
2	Draft Report	AOS	14/11/24	DM	15/11/24	DP	15/11/24
3	Final Report	AOS	12/12/24	DM	12/12/24	DP	12/12/24

Section 1: Introduction

Veon LTD. (Veon Ecology) has been appointed by Entust Ltd. To carry out a screening for Appropriate Assessment (AA) for a proposed development of an Ardnageehy-Ballyroe Cable Route.

The screening for appropriate assessment has been prepared to provide the competent authority, with the relevant scientific information to conduct the Appropriate Assessment (AA) in accordance with the requirement of Article 6(3) of the habitats Directive (Directive 92/43). This information will allow the competent national authorities (in this case Cork County Council). To determine, in view of best scientific knowledge, if the proposed project, individually or in combination with others plans and projects is likely to have a significant effect on a European site and, where necessary, to ascertain whether or not the proposed project would adversely affect the integrity of any European site(s).

A screening for the Appropriate Assessment for the proposed project has been prepared and is provided in **section 5**. The screening assessment concluded as follows:

The small scale and timeframe of the works as well as the nature of the works of the works being done, underground with HDD, will mean there will be no significant long-term impacts on the surrounding habitat and species.

It can be concluded, in view of best scientific knowledge on the basis of objective information and in light of conservation objectives of the relevant European sites, that the proposed project (i.e the underground interconnector as well as associated works), individually or in combination with other plans and project will not have a significant effect on a Natura 2000 site.

For ease of read the proposed development area ie the redline boundary provided by Entrust LTD will be referred to as 'the site' or 'development site'. Where a study area is mentioned note that this includes the redline boundary and immediate surrounding habitat in which studies for this report were carried out (see Appendix 1 for mapped boundaries).

1.1 Legislative Background

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, better known as "The Habitats Directive", provides legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000.

Natura 2000 sites are defined under the Habitats Directive (Article 3) as a coherent European ecological network of special areas of conservation, composed of sites hosting the natural habitat types listed in Annex I and habitats of the species listed in Annex II, shall enable the natural habitat types and the species' habitats concerned to be maintained or, where appropriate, restored at a favourable conservation status in their natural range. In Ireland, these sites are designated as European Sites and include Special Protection Areas (SPAs), established under the EU Birds Directive (79/409/EEC, as codified by 2009/147/EC) for birds and Special Areas of Conservation (SACs), established under the Habitats Directive 92/43/EEC for habitats and species.

The Habitats Directive has been transposed into Irish law by Part XAB of the Planning and Development Act, 2000 - 2021 and the European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477/2011) as amended. Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to adversely affect the integrity of European Sites (Annex 1.1).

Article 6(3) establishes the requirement for Appropriate Assessment (AA):

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 subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.

Article 6(3) of the Habitats Directive, transposed into Irish Law relevant to this project includes Part XAB of the Planning and Development Act, 2000-2021 and the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended).

Natura 2000 sites in Ireland (herein referred to as European sites) that form part of the Natura 2000 network of protected sites include Special Areas of Conservation (SACs) designated due to their significant ecological importance for species and habitats protected under Annexes I and II respectively of the Habitats Directive, and Special Protected Areas (SPAs), designated for the protection of populations and habitats of bird species protected under the EU Birds Directive (Council Directive 2009/409/EEC). Features for which SACs and SPAs are designated are termed Qualifying Interests and Special Conservation Interests respectively. Collectively, Qualifying Interests and Special Conservation Interests are herein referred to as Qualifying Features.

Section 2: Methodology & Report Structure

Introduction to Methodology

The above regulations require that before consent for a project or development is given, a Screening for Appropriate Assessment of a project for which an application for consent is received (which is not directly connected with or necessary to the management of the site as a European Site), must be carried out by the relevant public authority to assess, in view of best scientific knowledge and in view of the conservation objectives of the site, if that project, individually or in combination with other plans or projects is likely to have a significant effect on the European site.

A desk study was performed on the site using accredited data bases (NPWS, NBDC, GSI, EPA, County Council) in order to access historical environmental records to get the basal information of the area in which the site is proposed. Further, field work consisting of investigation into the current flora and fauna as well as the collective habitats currently within the redline boundary and its immediate surrounding habitat (Study area) were also conducted in order to gather current data on the site. This basal environmental historical and current data was then collated into this report along with proposed project description. With the basal information assembled an accurate evaluation of the effects the project could have on its surrounding environment both by itself and in combination with plan and projects can be formed as well as the significance of these effects.

Report structure

The proposed development is described in detail in **Section 3** of this report. Following on from this the results of the desk and field surveys that were undertaken and presented in **Section 4** and **Appendix 2**, to provide the necessary details of the ecological baseline conditions of the site for the proposed development. The proposed operations of the project are considered in the context of potential effects on the baseline environment, with particular reference to the potential for adverse effect on the integrity of the relevant European Sites.

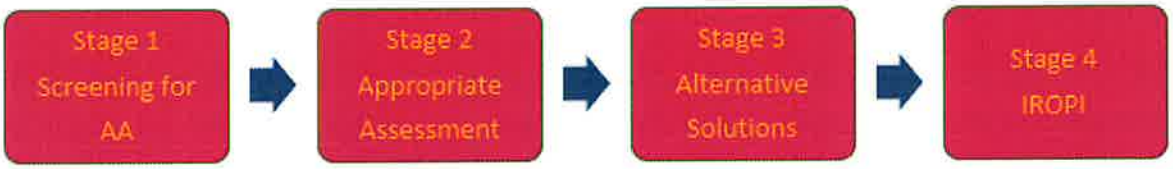
Finally, a concluding statement is provided in **Section 8** of this report. This includes a summary of the results of the assessment along with a summary statement of the potential of adverse effects on the integrity of any European Site (in light of the Conservation Objectives of the site as per Box 10 of EC, 2001).

2.1 Appropriate Assessment Methodology

The purpose of an Appropriate Assessment (AA) is to establish whether a particular plan or project is likely to have a significant effect on a Natura 2000 Site, either individually or in combination with other plans and/or projects. Natura 2000 sites in Ireland are European sites, including Special Protection Areas (SPAs), and Special Areas of Conservation (SACs).

The four distinct stages in the AA process are summarised diagrammatically in **Figure 1.1**. Stages 1-2 deal with the main requirements for assessment under Article 6(3). Stage 3 may be part of the Article 6(3) Assessment or may be a necessary precursor to Stage 4. Stage 4 is the main derogation step of Article 6(4).

Figure 1.1: Stages of Appropriate Assessment.



Stage 1: Screening for Appropriate Assessment.

Screening is the process that addresses and records the reasoning and conclusions in relation to the first two tests of Article 6(3):

Whether a plan or project is directly connected to or necessary for the management of the site, and whether a plan and/or project, alone or in combination with other plans and/or projects, is likely to have significant effects on a European site in view of its conservation objectives.

If the effects are deemed to be significant, potentially significant, or uncertain, or if the screening process becomes overly complicated, then the process must proceed to Stage 2 (AA). Screening should be undertaken without the inclusion of mitigation, unless potential impacts clearly can be avoided through the modification or redesign of the plan or project, in which case the screening process is repeated on the altered plan. The greatest level of evidence and justification will be needed in circumstances when the process ends at screening stage on grounds of no impact.

Stage 2: Appropriate Assessment (Natura Impact Statement).

The aim of Stage 2 of the AA process is to identify any adverse impacts that the plan or project might have on the integrity of relevant European sites. As part of the assessment, a key consideration is 'in combination' effects with other plans or projects. Where adverse impacts are identified, mitigation measures can be proposed that would avoid, reduce or remedy any such negative impacts and the plan or project should then be amended accordingly, thereby avoiding the need to progress to Stage 3.

This stage considers whether the plan or project, alone or in combination with other projects or plans, will have adverse effects on the integrity of a European site, and includes any mitigation measures necessary to avoid, reduce

or offset negative effects. The proponent of the plan or project will be required to submit a Natura Impact Statement, i.e. the report of a targeted professional scientific examination of the plan or project and the relevant European sites, to identify and characterise any possible implications for the site in view of the site's conservation objectives, taking account of in-combination effects. This should provide information to enable the public authority to carry out the AA.

Section 177T(1)(b) of the Planning and Development Act 2000 (as amended) provides that *"[a] Natura impact statement means a statement, for the purposes of Article 6 of the Habitats Directive of the implications of a proposed development, on its own or in combination with other plans or projects, for one or more than one European site, in view of the conservation objectives of the site or sites".*

Section 177T(2) states that *"[w]ithout prejudice to the generality of subsection (1), […] a Natura impact statement, […], shall include a report of a scientific examination of evidence and data, carried out by competent persons to identify and classify any implications for one or more than one European site in view of the conservation objectives of the site or sites".*

Section 177T(7)(*a*) states that *"[w]ithout prejudice to subsection (1) […] a Natura impact statement shall include all information prescribed by regulations under section 177AD".*

Section 177T(*b*) states that *"[w]here appropriate, […] a Natura impact statement shall include such other information or data as the competent authority considers necessary to enable it to ascertain if the […] proposed development will not affect the integrity of the site".*

Where appropriate, a Natura Impact Statement shall include, in addition:

i. The alternative solutions that have been considered and the reasons why they have not been adopted.
ii. The imperative reasons of overriding public interest that are being relied upon to indicate that the plan or project should proceed notwithstanding that it may adversely affect the integrity of a European site.
iii. The compensatory measures that are being proposed.

If the assessment is negative, i.e. adverse effects on the integrity of a site cannot be excluded, then the process must proceed to Stage 3, or the plan or project should be abandoned. The competent authority must make a determination to that effect before proceeding to the next stage.

Stage 3 includes the Assessment of Alternative Solutions: Should the Appropriate Assessment determine that adverse impacts are likely upon a Natura 2000 site, this stage examines alternative ways of implementing the project that, where possible, avoid these adverse impacts.

Stage 4 involves the assessment of where no alternative solutions exist and where adverse impacts remain: Where imperative reasons of overriding public interest (IROPI) exist, an assessment to consider whether compensatory measures will or will not effectively offset the damage to the Natura site will be necessary.

2.2 Assessment Approach

The approach taken in preparing this screening report is set out below and is broadly based on standard methods and best practice guidance, as listed in the **Section 1.3** below.

The nature of the likely interactions between the project and the integrity of a European Site will depend upon the sensitivity of the European Site's qualifying features to potential impacts arising from the project; the current conservation status of the European Site and its qualifying features; and any likely changes to key environmental indicators (e.g. water quality) that underpin the conservation status of European Site(s) and their qualifying features, in combination with other projects and plans. The European Commission (2001) Guidelines outline the

stages involved in undertaking a Screening Assessment of a project that has the potential to have likely significant effects on European Sites.

The approach considered in preparation of this screening report and followed for this assessment are outlined below:

- Identify the Natura 2000 site(s), within the potential zone of influence of the proposed development
- Identify the features of interest of the Natura 2000 site(s) and review their conservation objectives.
- Assess whether there is potential for the proposed development to affect the features of interest of the relevant Natura 2000 site(s) based on information such as the vulnerabilities of the European site(s), proximity to the development site and the nature and scale of the works associated with the proposed development.
- Take into consideration the likelihood of potential impacts occurring based on professional judgement and the collated information.
- Identify the likelihood of significant effects on Natura 2000 sites occurring because of the proposed development.
- Take into consideration the likelihood of cumulative impacts arising from the proposed development in-combination with other projects and plans.

2.3 Desk Study

A desk study was carried out to collate the available information on the ecological environment with respect to Natura 2000 sites identified within the potential zone of influence of the proposed development.

The desktop study comprised a review of the following key datasets and information sources:

- Identification of European sites within the Zone of Influence (ZoI) of the Proposed Development area through the identification of potential pathways/links from the Proposed Development area and European sites and/or supporting habitats.
- Review of the National Parks and Wildlife Service (NPWS) site synopsis, Natura 2000 data forms and Conservation Objectives for European sites identified through potential pathways from the Proposed Development (https://www.npws.ie/protected-sites).
- Review of available literature and web data. This included a detailed review of the NPWS and National Biodiversity Data Centre (NBDC) websites including mapping and available reports for relevant sites and in particular Qualifying Interests and Special Conservation Interests described and their Conservation Objectives.
- Review of local environmental data through EPA maps and data sets.
- GIS Online mapping (http://dcenr.maps.arcgis.com; and EPA Mapping database (https://gis.epa.ie/EPAMaps/AAGeoTool).
- Review of Local County council development database https://eplanning.ie

In addition, aerial photography (Google Earth, Bing Maps) and mapping (Ordnance Survey of Ireland, Geological Survey of Ireland) were used to identify non-designated habitats such as rivers, woodlands, and hedgerows of local ecological importance.

2.4 Field Study

A detailed phase one habitat survey was undertaken on the 11th of June 2024 by Aine O'Sullivan, ecologist at Veon Ltd. In this survey the base data on the local flora and fauna were taken with particular attention being drawn to protected species. The habitat type and vegetation found within the site were mapped onto a survey map of the study area previously obtain from ArcGIS mapping and google satellite imagery. Any area that could not physically be surveyed were surveyed using binoculars. The habitats were given colour codes for ease of identification. Further the dominant species within each habitat was recorded with descriptive target notes. Target notes give succinct picture of the nature conservation interest of the site in regard to its land-use and management. Target notes consist primarily of points of note such as species composition, species of particular note (e.g. rare, protected & invasive) and where there is need for further surveying. The results of the survey were collated and mapped using Microsoft suit and ArcGIS. See Appendix 2 for habitat map.

2.5 Guidance and Legislation

This Screening for AA report has been prepared with regard to the relevant provisions of the EU Council Directive 92/43/EEC and Ireland's EU (Birds and Natural Habitats) Regulations 2011 (as amended). The methodology considered in preparation of this report and additional guidance and legislation followed for this assessment are outlined below:

- DoEHLG (2009, rev. 2010) Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government.
- European Commission (EC) (2018), 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.
- EC (2002) 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, Office for Official Publications of the European Communities, Luxembourg. European Commission.
- EC (2007a) Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC - Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission. European Commission.
- EC, (2007b), Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC. European Commission.
- EC (2013) Interpretation Manual of European Union Habitats. Version EUR 28. European Commission.
- EC (2021) Assessment of Plans and Projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC.
- Chartered Institute of Ecology and Environmental Management (CIEEM) Version 1.1 (September 2019), Guidelines for Ecological Impact Assessment in the UK and Ireland.
- NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 2: Habitat Assessments. Unpublished NPWS report.
- NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 3: Species Assessments. Unpublished NPWS report.
- Office of the Planning Regulator (OPR) (2021) Practice Note PN01 - Appropriate Assessment Screening for Development Management.
- The European Communities (Birds and Natural Habitats) Regulations 2011 as amended.
- The Planning and Development Act 2000-2022.
- The Planning and Development Regulations 2001-2022.

Section 3: Proposed Development

3.1 Project Location

The proposed development site is Located primarily within the townlands of Ballynadrideen with small section on the most southerly part of the site being in Ballyroe County Cork. It is centred around ITM grid reference; 552551, 617515.

The location of the proposed underground solar interconnector consists predominantly of Grassland (GA1&BC1) habitat which are bordered by a mix of Hedgerow (WL1) and Matures Treeline (WL2). There is a mix of both pastoral and arable grassland with pastoral being the more predominant of the two. There is also a section of planted Broadleaved Woodland (WD1). There is one Lowland depositing stream that dissects the site (FW2) which is bordered by a Drainage ditch (FW4).

A map of the hydrological features in the vicinity of the proposed development site is presented in Appendix 1. There is one lowland depositing stream (Dromin (EPA CODE 18D300)) which dissects the proposed redline boundary which is the main hydrological feature on site. The site is hydrologically connected to, and in close proximity of, the Blackwater River SAC (002170). Under further investigation the section of the Dromin stream which dissects the site is its uppermost reaches of its course and consist of shallow interspaced puddles of poor water quality within a flat landscape. This habitat is further bordered by dense vegetation of hedgerows and treelines.

A local road connects both the Northern and southernly section of the site to the N20 which further connects the site to both Cork and Limerick city.

A detailed survey was undertaken on the 11 th of June 2024 by Aine O'Sullivan, ecologist with Veon ltd. No 2. invasive species listed as Part 1 of the Third Schedule of S.I No. 477 of 2011, European communities (Birds and Natural Habitats) Regulations (2011) were historically recorded within 2km^2 distance of the site (NBDC2024). These were the Ruddy Duck and Jenkins spire snail. No invasive species was found during the site walkover.

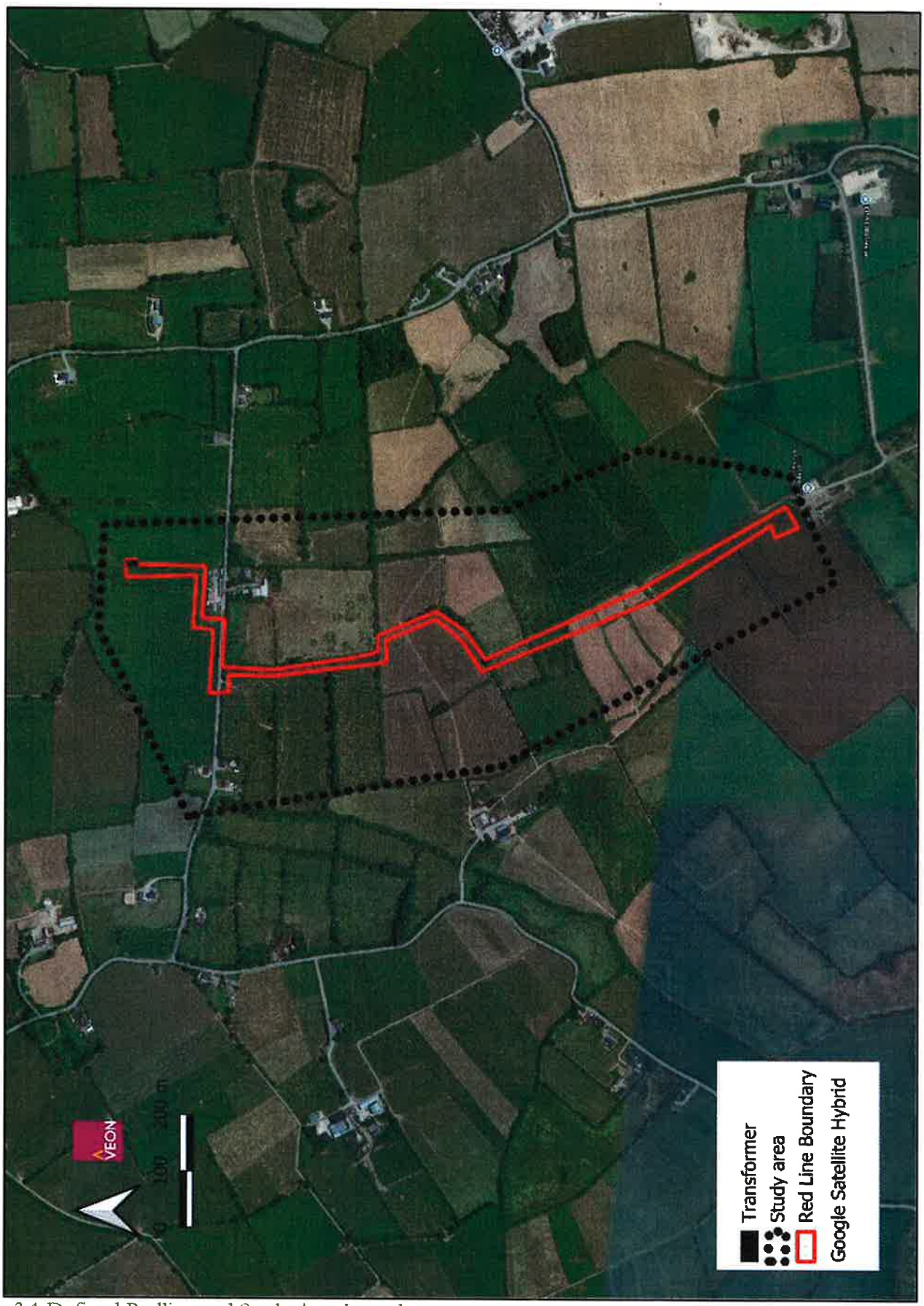
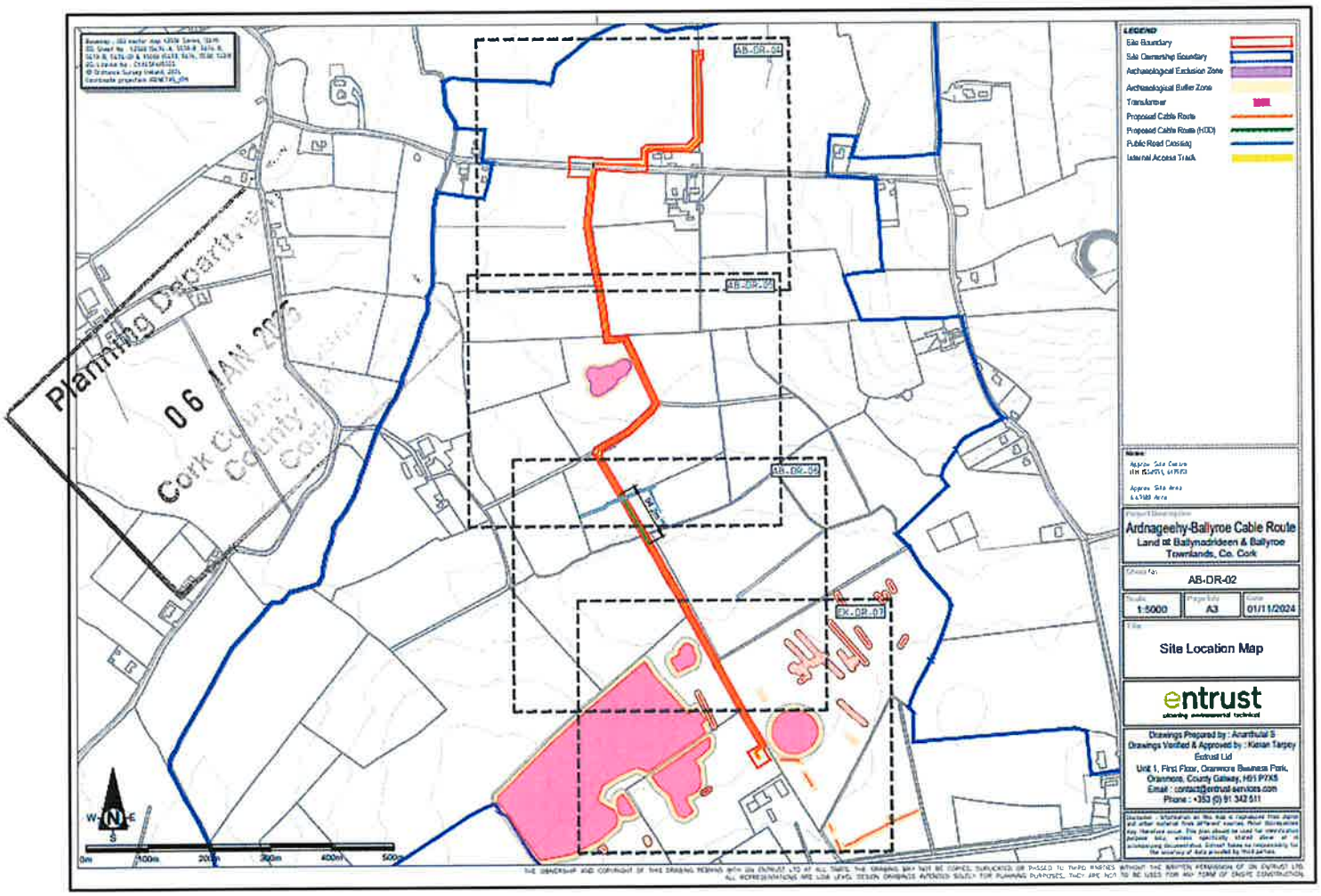


Figure 3.1 Defined Redline and Study Area boundary

3.2 Project description

The Proposed project would facilitate a connection between the approved Ardnageehy Solar Farm (Pl. Ref. 236099) and an 110kV Ballyroe Substation SID (Pl. Ref. ABP-314431-22) located in Ballynadrideen & Ballyroe Townlands, Co. Cork.

The project involves the installation of a 33 KV underground cable for a distance of 1.83 KM to facilitate the grid connection between the Ardnageehy Solar Farm and the Ballyroe substation SID. The proposed grid connection will consist of approximately 1.83 km of an underground cable, with a total Horizontal Direct Drilling (HDD) length of 94.25 m, crossing a public road for 6.4m. The approximate minimum width of the redline is 10 m with a total development area of 1.8097 Ha/4.4719 Acres. A full construction methodology is included in the enclosed submission.



3.3 Potentially effect Natura 2000 site

Natura 2000 sites in the vicinity of the proposed development and with a direct physical/hydrological connection to this development were checked for on the mapping system of the NPWS website http://webgis.npws.ie/npwsviewer/. In accordance with guidance from the Department of Environment, Heritage and Local Government (2009) a distance of 15km was used as a precautionary measure for identifying all potential impacts. A distance of 15km is currently recommended in the case of plans, and derives from UK guidance (Scott Wilson et al., 2006). For projects, the distance could be much less than 15km, and in some cases less than 100m, however this must be evaluated on a case-by-case basis with reference to the nature, size and location of the project, and the sensitivities of the ecological receptors, and the potential for in combination effects.

It was found that this 15km distance was more than adequate for capturing all potentially significant impacts within the ZoI. Natura 2000 sites within 15km of the subject site are shown in **Appendix 1**.

The Natura 2000 sites within 15km of the proposed works include:

National Heritage Sites:

No National Heritage Sites within the 15km of the site.

Specially Protected Areas

- Kilcolman Bog (004095)

Specially Areas of Conservation

- Blackwater River (002170)
- Ballyhoura Mountains (002036)

Both the Ballyhoura Mountains SPA (002036) and Blackwater River SPA (002170) are hydrologically connected to the site.

The relevant Naura 2000 site(s) are discussed in more detail in **Section 5**.

3.4 Potentially Affected Habitats/Species

The area of potential impact during construction phase is taken as being the site of the proposed development to the downstream aquatic habitat. While the aquatic zone of potentially highest impact is from the location of a proposed development to 5km downstream (Escauriaza et. al., 2017), potential impacts on protected habitats and species in the entire downstream section of the adjoining watercourses are also considered.

No annex I Habitats are recorded onsite so there is no potential for direct impacts on the QI Annex Habitats for which the relevant Natura 2000 site(s) are designated. The possibility of impacts within 15km was considered. There is No. 1 European Site within 5km of the proposed development (i.e. River Blackwater SPA).

A number of nationally designated sites are also located within 15km of the proposed project site. While Natural Heritage Areas (NHA) and Proposed Natural Heritage Areas (pNHAs) are designated for nature conservation they are not included within the Natura 2000 network and are therefore outside of the scope of an Appropriate Assessment Screening.

3.5 Assessment of Likely Effects

This Screening Assessment determines whether the construction, operational and subsequent decommissioning phases of the proposed development, alone or in combination with other projects and plans, will have the potential to result in likely significant effects on the above relevant European Sites. The likely significant effects of the proposed works are outlined in **Table 2.1**.

Table 2.1: Summary of likely significant effects of the proposed development

Assessment Criteria Describe any likely direct, indirect, or secondary impacts of the project (either alone or in combination with other plans or projects) on the Relevant European Site(s):	
Size and Scale	The proposed works are outlined in **Section 2.2**. The overall site wherein the proposed development works are to take place is approximately 4.47 acres in size. The projects work will done in a short time period and within a relatively small footprint.

	The works are further underground in nature for its majority as such the site will fully return to its original state once installation is completed with no significant permanent above ground structures other than the transformer and trench where the cable dissect the local road both of which are small in scale.
Land take	There are no Natura 2000 sites present within the site.
Distance from European Sites or key features of the site	The site is not located within any Special Areas of Conservation (SACs) or Special Areas of Protection (SPAs). There are no Annex habitats recorded within or immediately adjacent to the site of works. The site is bordered by Blackwater River (Cork/Waterford) SAC which is located 193.5m from the site Due to the small footprint and timescale of the works being done as well as underground nature of the works the close proximal distance of the site to the Blackwater River (Cork/Waterford) SAC will have no long-term significant impacts.
Transportation	During the construction phase of the proposed development delivery of machinery and material to site will be via the existing road network and access roadway.
Emissions	Small short term Construction works will be required for the proposed development plan. Emission to air will include temporary fine particulate matter associated with ongoing works and other construction practices. These are unlikely to go further than the site boundary. All works will be conducted during daylight hours
In Combination Effects	Cork County Council's planning website gives details on all proposed development applications, a review of the relevant planning applications was assessed and detailed below in **Section 6** of this report.
Describe any likely changes to the Relevant European Site(s) arising as a result of the following:	
Disturbance of key species	None of the species and/or habitats listed as QIs of the relevant European Sites were recorded on site during site walkover. The temporary small-scale and nature of the development as well sufficient alternative foraging habitat being seen in the site surroundings, there are no significant effects related to ex-situ foraging identified. EPA maps of the site show the uppermost section of the Dromin stream dissecting the site. When this section was further investigated it was found to have no free flowing water with no significant gradient along its length. The habitat is further bordered by dense vegetation further indicating the habitat as an unlikely pollution pathway. There will additionally be no in stream works with HDD. As such hydrological disturbance has been screened out.
Habitat or Species Fragmentation	The site is not part of any of the Natura 2000 sites nor does it provide any essential resources to Natura 2000 sites, thereby ruling out any direct habitat loss impacts.
Changes in key targets of conservation status	The construction of the proposed work does not have the potential to effect natura 2000s site and thus their targets. The development site does not currently support habitats of significance for the listed QIs of the relevant European Sites nor does it pose as a possible pollution source to downstream

	aquatic habitat in which the QIs inhabit. The Surrounding Natura 2000 site also do not acquest any essential resources from the site.
Describe any likely impacts on the European Site(s) as a whole in terms of:	
Interference with key relationships that define the structure and function of the European Site(s)	No QIs from the surrounding Natura 2000 sites were recorded on site during a site walkover. More transient QIs such as birds may be found on site however the site does not have habitats that would be of significance to the listed QIs of the relevant European Sites with similar habitat composition being found throughout the region. Nor does it pose as a possible pollution source to downstream aquatic habitat in which the QIs inhabit. The relevant Natura 2000 sites also do not acquest any essential resources from the site. As such the site does not pose as a source of interference in key relationships of the Natura 2000 sites.
Describe from the above the elements of the project or plan or combination of elements, where the above impacts are likely to be significant or where the scale of magnitude of impacts is not known.	
Likely significant impacts/ unknow scale or magnitude of impact.	The relatively small footprint and timescale of the works will lead to minimal disturbance during the construction phase. The commission phase of the project will have majority underground components with the overground habitats reverting to their original state. As such it can be concluded there are no likely significant impacts on the surrounding Natura 2000 sites. Cork County Council's planning website gives details on all proposed development applications. A review of the relevant planning applications was assessed and detailed below in **Section 6** of this report.

Section 4: Existing Environmental

4.1 Existing Site Ecology

The habitats within the study area have been assessed, following a detailed desktop and field study, and were cross referenced with 'A Guide to Habitats in Ireland' (Fossitt, 2000). Photographs illustrating the key areas to which the proposed development are applicable are provided in **Appendix 3**.

The primary habitats within the proposed development area comprise of Pastoral (GA1) and arable grassland (BC1). These fields are lined by hedgerows (WL1) and Treelines (WL2). There is a small Lowland depositing river (stream) (FW2) dissecting the southerly section of the site. The final habitat seen on site was a planted Broadleaved Woodland (WD1) seen in the Southeast section of the site.

The most significant hydrological feature on the site is the River Dromin (18D30) as defined by EPA maps. The section of the Dromin that dissects the site is shallow with a lack of free-flowing water consisting of poor quality shallow interspaced puddles. There is also an associated drainage dich which dissects the development site and leads into the Dromin. It is bordered by both hedgerows and Treelines which provide a dense vegetative cover.

The habitats within the site itself are not significant habitats for QI species and no QI habitat or species was found on site.

Section 5: Appropriate Assessment Screening

5.1 Overview of Potential Impacts

There are a number of elements associated with the proposed construction works that may give rise to direct and indirect impacts. The significance of these impacts depends on the scale of the impact as well as the ecological condition and the sensitivities of the qualifying interests. Elements of the proposed development that may give rise to impacts which have been considered with regards to potential likely significant effects to European sites are as follows:

- Release of sediment and pollutants which may be discharged into surface waters, particularly during high rainfall events.
- Movement of vehicles and machinery associated with construction works and the potential for spillages of oils, fuels or other pollutants which could be transported to the surface water system during rainfall events.
- Increased silt loading, which may stunt aquatic plant growth, limit dissolved oxygen capacity and overall reduce the ecological quality of watercourses, with the most critical period associated with low flow conditions.
- The introduction or spread of invasive alien species due to construction works.
- Disturbance to fauna (e.g. through noise from construction activity and/or human presence) resulting in the displacement of affected species.
- Accidental mortality of wildlife from construction machinery.

These potential impacts listed above are associated with the construction, and not the operational phase.

5.2 Determining the Likely Zone of Influence

In accordance with guidance from the Department of Environment, Heritage and Local Government (2009) a distance of 15km was used as a precautionary measure for identifying all potential impacts. A distance of 15km is currently recommended in the case of plans, and derives from UK guidance (Scott Wilson et al., 2006). For projects, the distance could be much less than 15km, as such this must be evaluated on a case-by-case basis with reference to the nature, size and location of the project, and the sensitivities of the ecological receptors, and the potential for in combination effects. It was found that a 15km distance was more than adequate for capturing all potentially significant impacts within the ZoI.

Using the source pathway-receptor model an examination of the potential effects of the proposed development was undertaken (alone and in-combination with other plans and projects) to identify what European sites, and which of their Qualifying Interests or Special Conservation Interest species were potentially at risk. This examination was used to determine the Zone of Influence (ZoI) for the Proposed Development.

It is vital that an assessment of potential pathways is undertaken to assess potential impact links between the receptor (European sites) and source (proposed ground investigations) to establish the risk of any likely significant effects.

With regards to potential habitat degradation effects associated with the release of sediment and other pollutants to surface water, the ZoI of the proposed development is considered to include receiving water bodies in close proximity to, or downstream of, the proposed development site.

The distance downstream is associated with the current biological condition of the accepting water body and its capacity to accept and assimilate sediment and other pollutants. The distance downstream is also associated with

the sensitivity of the Qualifying Interests of the European Site which may be hydrologically connected to the proposed development site.

Noise from activities has the potential to cause disturbance to resting, foraging and commuting Qualifying Interest and Special Conservation Interest species. With regards to disturbance effects, the potential ZoI is considered to be in the local vicinity (within 300m) of the proposed development. The proposed works are anticipated to generate relatively low levels of noise and only during permitted hours. In general, machinery will be designed to ensure that the maximum noise level 10m outside the site boundary does not exceed an equivalent continuous sound level beyond what is recommended in the BSI British Standards (BS5228-1:2009+A1:2014). It should be noted, no night works will be carried out. It should be noted, no night works are anticipated. Further the timescale and footprint of the project is relatively short with an abundance of alternative habitat within the surroundings as such the disturbance to species in the immediate surrounding habitat is considered minimal.

Where the proposed development site does not have the potential to impact on the qualifying Annex II species of the EU Habitats Directive or Annex I species of the EU Birds Directive of a European Site or if the terrestrial qualifying habitats of the European sites occur at a remote distance from the proposed works site, (i.e. buffered from the proposed development site), then these European Sites are not considered to be within the ZoI of the proposed development.

5.3 Identification of Relevant European Sites

The source-pathway-receptor (S-P-R) conceptual model was used to identify a list of 'relevant' European sites (i.e. those which could be potentially affected by the Proposed Development). This conceptual model is a standard tool in environmental assessment (OPR, 2021). In order for an effect to occur, all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism means there is no likelihood for the effect to occur. In the context of the Proposed Development, the model comprises:

- Source (s) – e.g. Sediment run-off from proposed development works.
- Pathway (s) – e.g. Rivers and drains connecting to a European site.
- Receptor (s) – e.g. Special Conservation Interests (SCI) or Qualifying Interests (QI).

There are currently No. 3 European sites within 15km of the Proposed Development. These include Blackwater River SAC (002170), Ballyhaura Mountains SAC (002036) and Kilcolman Bog SPA (004095).

Kilcolman Bog SPA has no pathways (physical or hydrological connections which could act as a route for potential direct impacts) to the proposed development. Ballyhaura Mountains SAC is hydrologically connected upstream to the site so as such is screened out as a viable receptor site. The Blackwater SAC is the only Natura 2000 site which is connected to the site by a hydrological pathway via the Dromin (18D30). However, the section of the Dromin river which dissects the site is in its uppermost reaches of the course and when investigated was found to consist of poor quality interspaced shallow puddles with a lack of any free-flowing water. This habitat was further covered by dense vegetation. There was also a lack of any significant gradient along its length. Horizontal directional drilling will be done in this habitat even with the lack of free-flowing water creating minimal surface disturbance and no instream works. As such this potential hydrological pathway was deemed an unviable.

5.4 Screening of relevant European Sites

Potential impacts and their significance, if any, within the Relevant European sites are considered below. Impacts are considered in light of the Conservation Objectives/Special Conservation Interests for which these European sites are designated.

Table 4.1: Screening assessment of the potential effects arising from the proposed development using SPR model

Site Code	Site Name	Distance To (m)	Qualifying Interests (*denotes a priority habitat)	Assessment
002170	Blackwater River (Cork/Waterford) SAC	193.5	Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Perennial vegetation of stony banks [1220] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330] Mediterranean salt meadows (Juncetalia maritimi) [1410] Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] Margaritifera margaritifera (Freshwater Pearl Mussel) [1029] Austropotamobius pallipes (White-clawed Crayfish) [1092] Petromyzon marinus (Sea Lamprey) [1095] Lampetra planeri (Brook Lamprey) [1096] Lampetra fluviatilis (River Lamprey) [1099] Alosa fallax fallax (Twaite Shad) [1103] Salmo salar (Salmon) [1106] Lutra lutra (Otter) [1355] Trichomanes speciosum (Killarney Fern) [1421]	The Blackwater SAC is the only Natura 2000 site which is connected to the site by a hydrological pathway via the Dromin (18D30). However, the section of the Dromin river which dissects the site is in its uppermost reaches of its course and when investigated was found to consist of poor quality interspaced shallow puddles with a lack of any free-flowing water. This habitat was further covered by dense vegetation. Further characteristics such as a lack of any significant gradient along its length further promotes it as an unlikely pollution source pathway. Horizontal directional drilling (HDD) will be done underneath this habitat even with the lack of free-flowing water creating minimal surface disturbance and no instream works with the cable gong underneath the habitat. As such this potential hydrological pathway was deemed as an unviable pollution source pathway. The SAC surrounds the site from the South, West and East. In its closest proximity the SAC is located approximately 193.5m from the site. The development site does not support habitats of significance for the listed QIs (Species or habitat) nor where they recorded on site. Further the SAC does not rely on the site for essential resources. Due to the small footprint, timescale and nature of the works, along with plentiful alternative habitat within the site surroundings, disturbance to local terrestrial habitats/species is considered minimal. As such, the proposed development does not have the potential to affect the Blackwater River (Cork/Waterford) SAC QIs and its targets. Therefore, it can be screened-out for potential impacts
002036	Ballyhoura Mountains SAC	6428.6	Northern Atlantic wet heaths with Erica tetralix [4010] European dry heaths [4030] Blanket bogs (* if active bog) [7130]	The SAC is located both upstream and up slope of this habitat and as such though it is hydrologically connected to the site, the site does not form a viable pollution source pathway. This European Site is located entirely outside the proposed development site. At its nearest the designated site is c. 6.4km northwest of the proposed developments site. There is no viable hydrological connectivity between the

				site and this European site. Based on this rationale, Ballyhoura Mounatins SAC has been screened-out for potential impacts
004095	Kilcolman Bog SPA	7897.4	Whooper Swan (Cygnus cygnus) [A038] Teal (Anas crecca) [A052] Shoveler (Anas clypeata) [A056] Wetland and Waterbirds [A999]	This European Site is located entirely outside the proposed development site. At its nearest the designated site is c. 7.9 km south-east of the proposed developments site. There is no hydrological connectivity between the site and this European site. The habitats seen on site are deemed unsuitable for the SPAs QIs. Whooper swan is known frequent the surrounding region however the habitat on sight would not be significant habitat to the species a further look at previous reports on whooper swan activity in the region further supports this conclusion (See Further **Appendices – whooper swan activity map by Entrust LTD**). Based on this rationale, Kilcolman Bog SAC has been screened-out for potential impacts.

The Hydrology map in the Appendices is taken from the EPA website https://gis.epa.ie/EPAMaps/AAGeoTool. The watercourse(s) are labelled along with directional flow (See Appendix 1). Where the flow of the watercourses is away from or does not flow into European sites mentioned, no Qualifying Interests have been recorded within 10km of the site and/or there is no hydrological connection to the European sites, these sites have been screened out. European sites (SPA/SAC) downstream with direct hydrological connections, or any European sites within 15km where QIs have been recorded on or within 10km of site have been screened in.*

Section 6: Assessment of Potential Impacts

The available information on the relevant Natura 2000 sites, was reviewed to establish whether the proposed development site is likely to have a significant effect on any European Site. The potential for impacts on the features of interest is identified using information collated from the desk study in conjunction with the ecological appraisal data (Field study). The likelihood of impacts occurring are established in light of the type and scale of the project, the location of the project with respect to the Natura 2000 sites and the features of interest and conservation objectives of the relevant Natura 2000 sites. The assessment was carried out following the source-pathway-receptor model. The potential impacts are summarised into the following categories for screening process.

- Direct impacts which refer to habitat loss or fragmentation arising from possible land-take requirements for development. Direct impacts can be as a result of a change in land use or management (e.g. the removal of agricultural practices which prevent scrub encroachment).
- Indirect and secondary impacts do not have a straight-line route between source and receptor. As a result, it is often difficult to ensure that all the possible indirect impacts of the plan or development, in combination with other plans and projects are established.
- Indirect and secondary impacts can occur when a development alters the hydrology of a catchment area, which in turn affects the movement of groundwater to a site and the qualifying interests that rely on the maintenance of water levels.
- Deterioration in water quality can occur as an indirect consequence of a development, which in turn changes the aquatic environment and reduces its capacity to support certain plants and animals.

- Disturbance to fauna can occur directly through the loss of habitat (e.g. potential bat roosts) or indirectly through noise, vibration and increased activity associated with construction and operation.
- Collision risk during the operational phase could potentially impact on bird species.

Site-Specific Conservation Objectives (SSCOs) have been prepared for a number of European sites. These detailed SSCOs aim to define favourable conservation condition for the qualifying habitats and species at that site by setting targets for appropriate attributes which define the character habitat. The maintenance of the favourable condition for these habitats and species at the site level will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a species can be described as being achieved when:

'Population data on the species concerned indicate that it is maintaining itself, and the natural range of the species is neither being reduced or likely to be reduced for the foreseeable future, and there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.'

Favourable conservation status of a habitat can be described as being achieved when:

'Its natural range, and area it covers within that range, is stable or increasing, and the ecological factors that 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'.

A Generic Conservation Objective for a SAC is as follows:

To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.

A Generic Conservation Objective for a SPA is as follows:

To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.

6.1 Identification of Potential Significant Effects

Potential impacts, both direct and indirect, as a result of the proposed development were identified in the previous section and summarised below. The potential for cumulative impacts to occur and likelihood of effects being significant are also discussed below.

Direct Impacts

The construction phase of the proposed development will not result in any direct impacts to the relevant European Sites. Only one Natura 2000 site is within direct proximity to the site, Blackwater River (Cork/Waterford) SAC (002170), though this is within the local vicinity of the site (193.5m) subjecting it to possible disturbance (namely noise, light and human presence) the relatively small footprint, timescale and nature of the works would make any disturbance minor and short term and with no significant long term effects.

The proposed development will require localised earthworks primarily in pastoral (GA1) and arable grassland (BC1). The internal boundaries within the site are of low to moderate value for nesting and roosting for passerine birds which were recorded during the field study. There will be limited removal of hedgerows and treelines as part of the proposed development. The proposed construction works will temporarily make the site relatively unattractive for many of the small passerine species however this will be short term with the abundance of similar habitat to that within the development site in the surrounding area mitigating any impacts as a result of disturbance or displacement. As the interconnector will be underground there no potential for bird collision

No Natura 2000 site is within the sites boundaries nor relies on the sites for essential resources as such the proposed development will not result in any loss of habitat or fragmentation of habitats which form part of the relevant European Sites.

Indirect Impacts

The sites main hydrologically features of the site is the Dromin stream (18D30) and associated drainage ditch which dissects the site at ITM 552528.09,617517.72. and 552466.83,617667.48 respectively. This site was investigated as a potential hydrological pathway between the site and the Blackwater River (Cork/Waterford) SAC (002170). The characteristic of the habitat as well as nature of the works being done deemed this potential pollution source pathway as unviable (See table 4.1 for more detail). The site shares the same bedrock limestone aquifer as the SAC (see Appendix 1). However, the subsoil of the site and its immediate surroundings is of low to moderate permeability (Shale & Sandstone Till (Numarian)) with the groundwater vulnerability of the region also classified as low to moderate (GSI/maps.ie). In conclusion, the most notable hydrological connectivity between the site and a Natura 2000 site is the Dromin stream and associated drainage ditch which is deem as an unviable pathway.

IUCN red listed waterfowl species such as Eurasian Curlew (Numerius Arquata) and Northern Lapwing (Vanellus vanellus) have been recorded within 2km^2 of the site. There were no habitats that would be deemed suitable for these protected species within the site.

To summarize, the site is unlikely to have direct or indirect impacts on Natura 2000s sites.

Section 7: In- Combination and Cumulative Effects

The proposed development was considered in combination with other plans and projects in the locality that could result in cumulative/in-combination effects on the relevant European Sites. Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated within an area or location.

Cumulative effects can occur where a proposed development results in impacts that when considered in-combination with impacts caused by other proposed or permitted projects and plans may result in a cumulative effect. Plans or Projects Which Might Act in Combination Article 6(3) of the Habitats Directive requires that, any plan or project not directly connected with or necessary to the management of the European site(s) 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(s) in view of the site's conservation objectives.

A search of the Cork County Council planning enquiry system (https://www.eplanning.ie), and the EIA portal was carried out on the 30th of June 2024. Finalised applications lodged within the vicinity of the proposed development within the last 5 years were examined. Planning applications within the last 5 years in the locality of the proposed development site consisted primarily of applications for alterations and extensions to existing buildings, along with the construction of small-scale developments (See **Table 6.1**).

Section 8: Screening Determination

This report to inform screening for appropriate assessment of the proposed development of an Ardnageehy-Ballyroe Cable Route describes and considers the potential for likely significant effects on Natura 2000 sites within 15 km. There are currently No. 3 European sites within 15km of the Proposed Development. These include Blackwater River SAC (002170), Ballyhaura Mountains SAC (002036) and Kilcolman Bog SPA (004095).

Kilcolman Bog SPA has no pathways (physical or hydrological connections which could act as a route for potential direct impacts) to the proposed development. Ballyhaura Mountains SAC is hydrologically connected upstream to the site so as such is screened out as a viable receptor site. The Blackwater SAC is the only Natura 2000 site which is connected to the site by a via a potential hydrological pathway via the Dromin (18D30). This habitats characteristics combined with the nature of the works, in this case HDD, make this pathway unviable as a pollution source pathway.

The development site does not provide habitats of significance for the listed QIs (Species or habitat) to the surrounding Natura 2000 sites with similar habitat composition being seen in much of the surrounding region. No QIs were recorded during site walkover within the study area.

There is sufficient information presented in this report to consider, with reasonable scientific certainty, that the proposed development, individually or in combination with other plans or projects, is not likely to significantly affect the surrounding European (Natura 2000) sites.

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Section 10: Appendices

Appendix 1 Maps and Figures

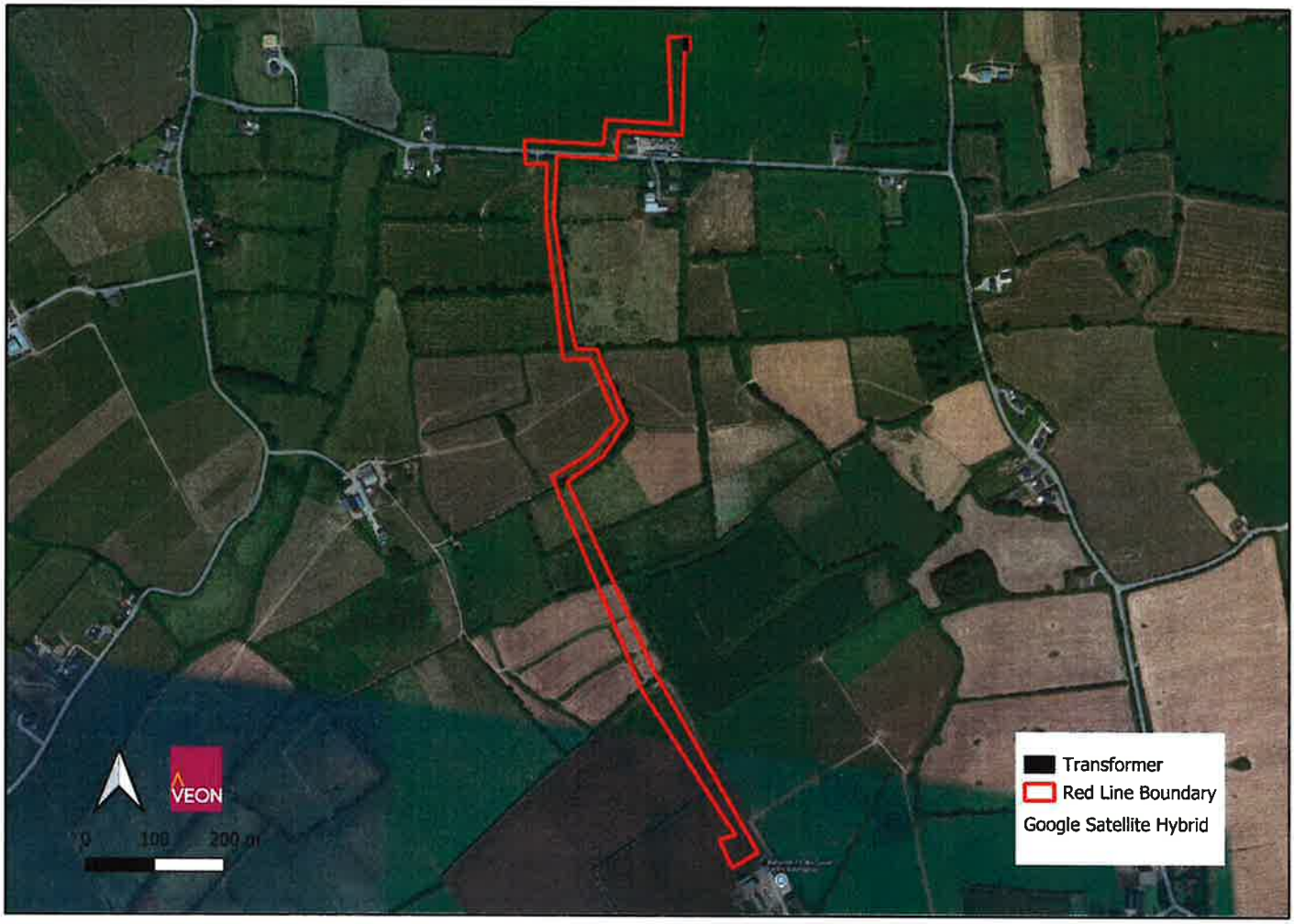


Figure 10.1 Red line Boundary

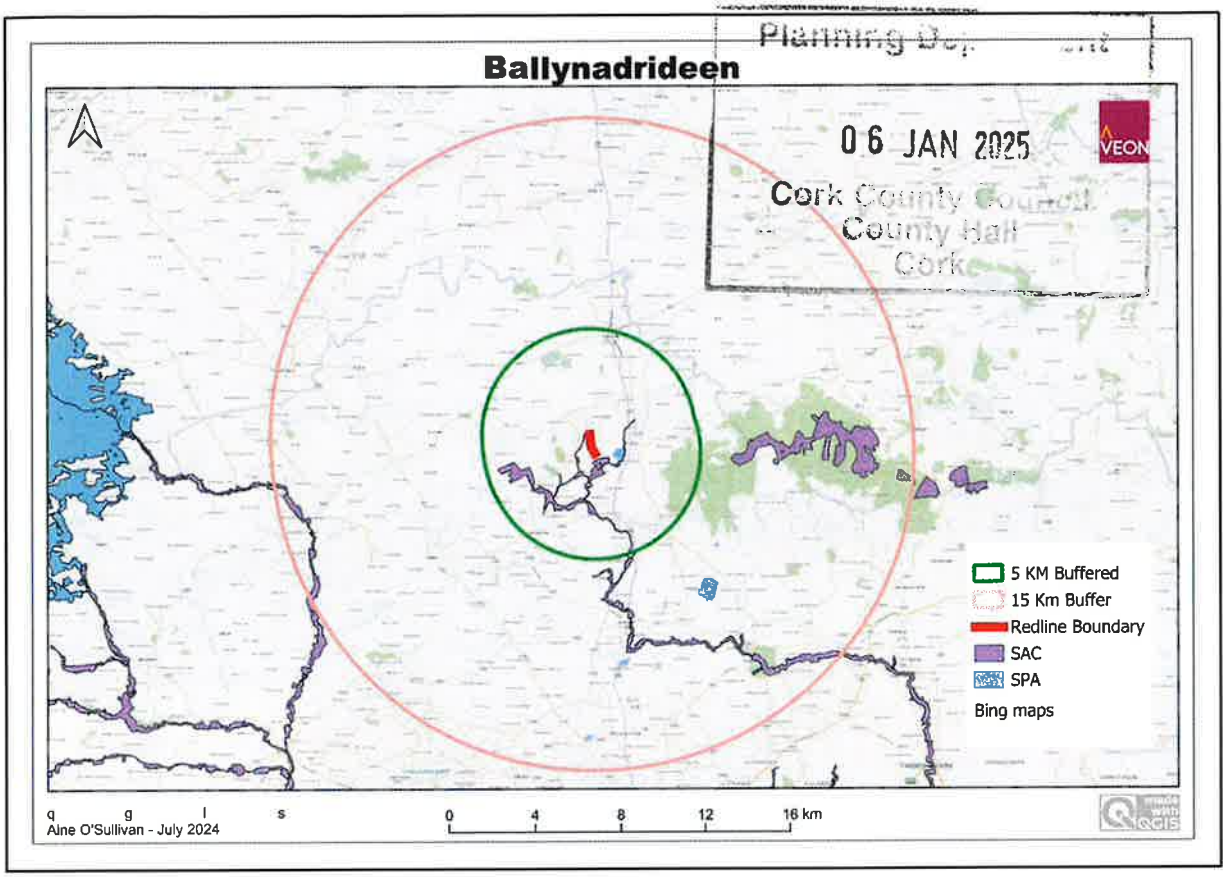


Figure 10.2 Natura 2000 sites within 15KM of the site

Figure 10.3 Labelled Natura 2000 sites within 15km of the site

Figure 10.4 Dromin stream and Drainage ditch

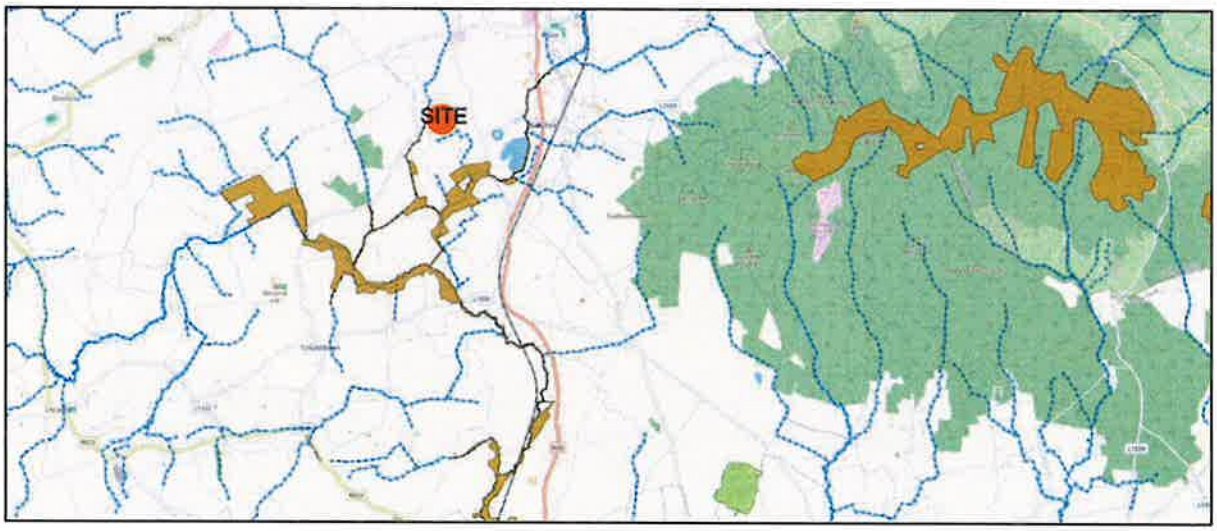


Figure 10.5 River flow directions with relevant SACs and SPAs

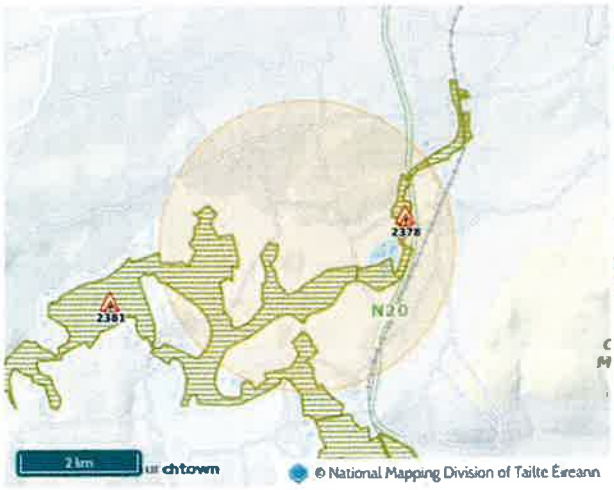
Past Flood Event Local Area Summary Report

OPW

Report Produced: **29/7/2024 14:51**

This Past Flood Event Summary Report summarises all past flood events within 2.5 kilometres of the map centre.

This report has been downloaded from www.floodinfo.ie (the "Website"). The users should take account of the restrictions and limitations relating to the content and use of the Website that are explained in the Terms and Conditions. It is a condition of use of the Website that you agree to be bound by the disclaimer and other terms and conditions set out on the Website and to the privacy policy on the Website.



Map Legend

- Single Flood Event
- Recurring Flood Event
- Past Flood Event Extents
- Drainage Districts Benefited Lands*
- Land Commission Benefited Lands*
- Arterial Drainage Schemes Benefited Lands*

* Important: These maps do not indicate flood hazard or flood extent. Their purpose and scope is explained on Floodinfo.ie

1 Results

	Name (Flood_ID)	Start Date	Event Location
1.	Ballyhea, Buttevant Recurring (ID-2378)	n/a	Approximate Point

Additional Information: Reports (2) Press Archive (0)

Figure 10.6 Flood data

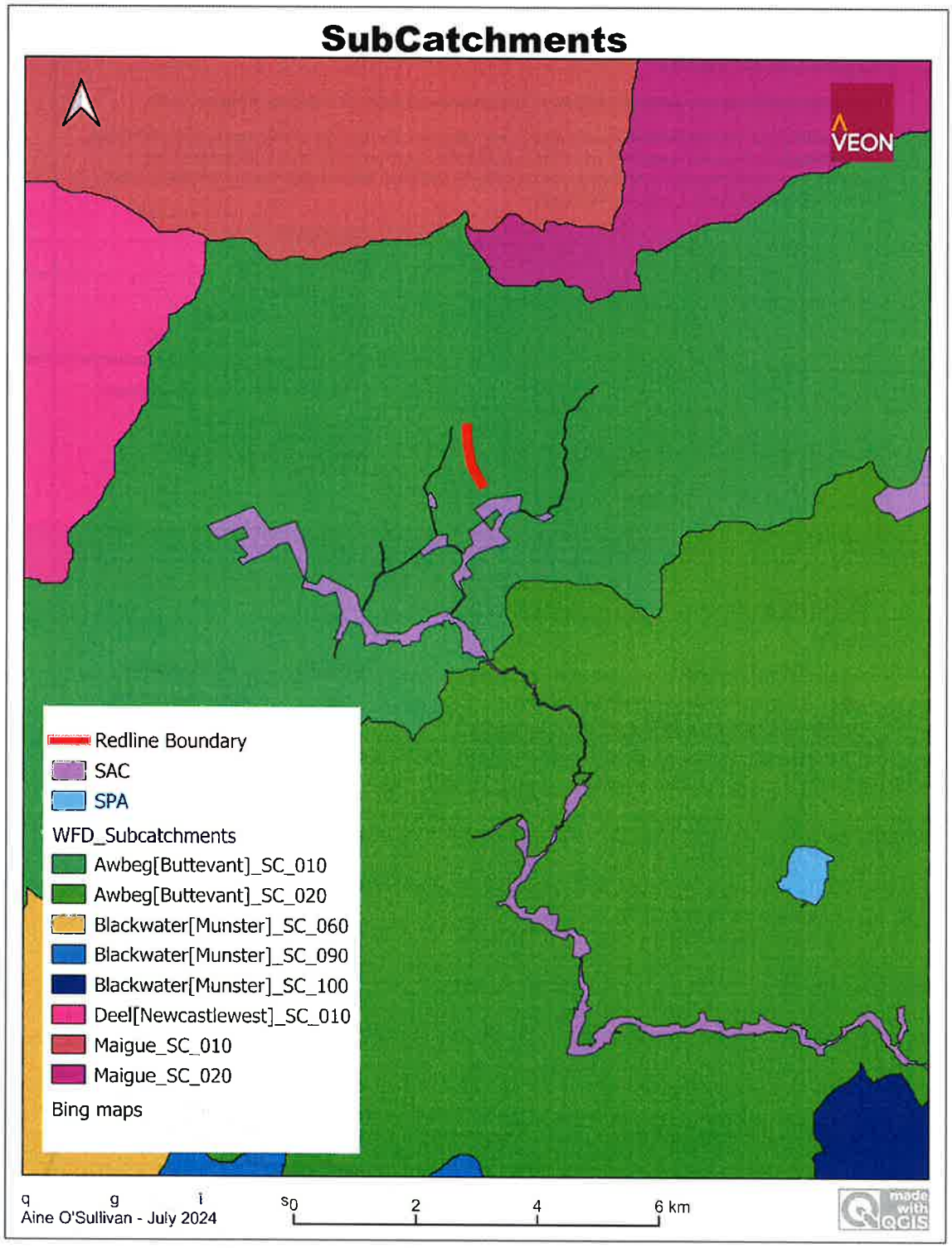


Figure 10.7 Regional Subcatchments

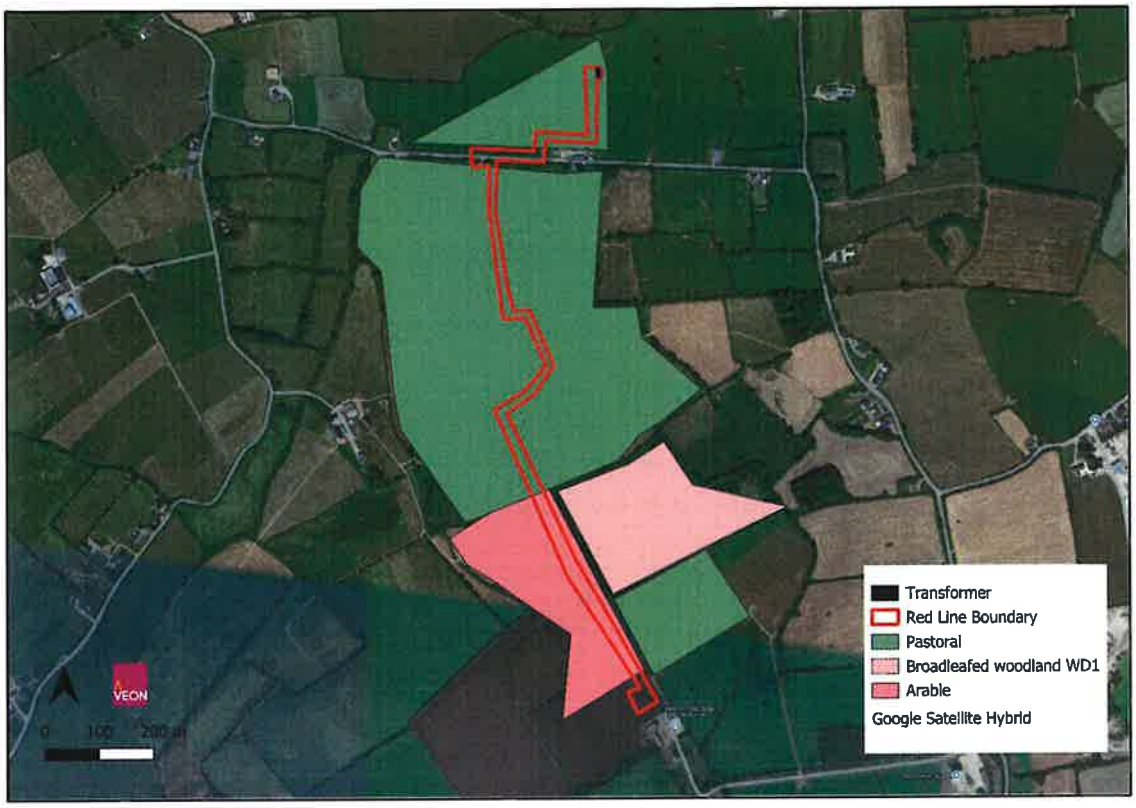


Figure 10.8 Habitat Map of study area

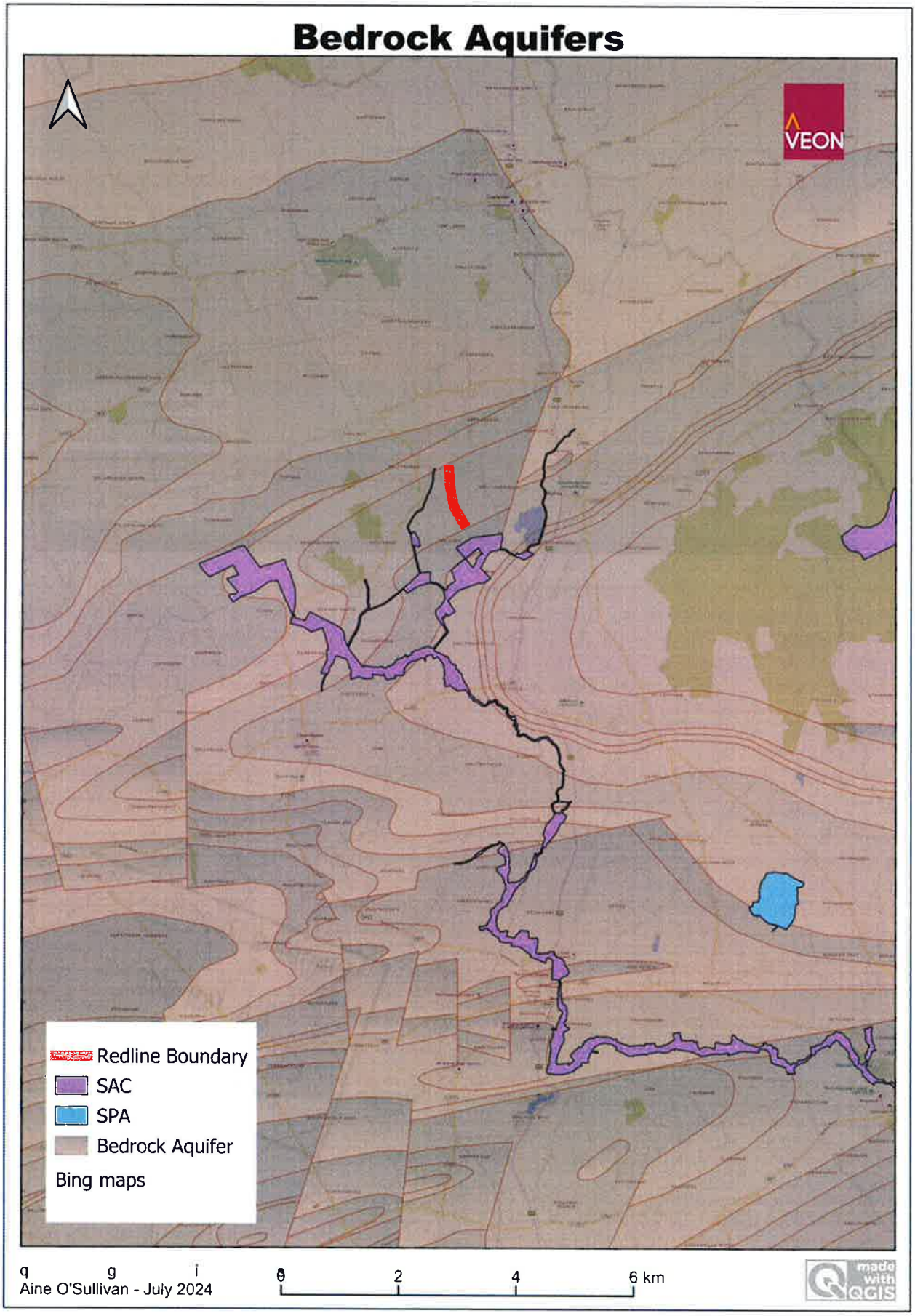
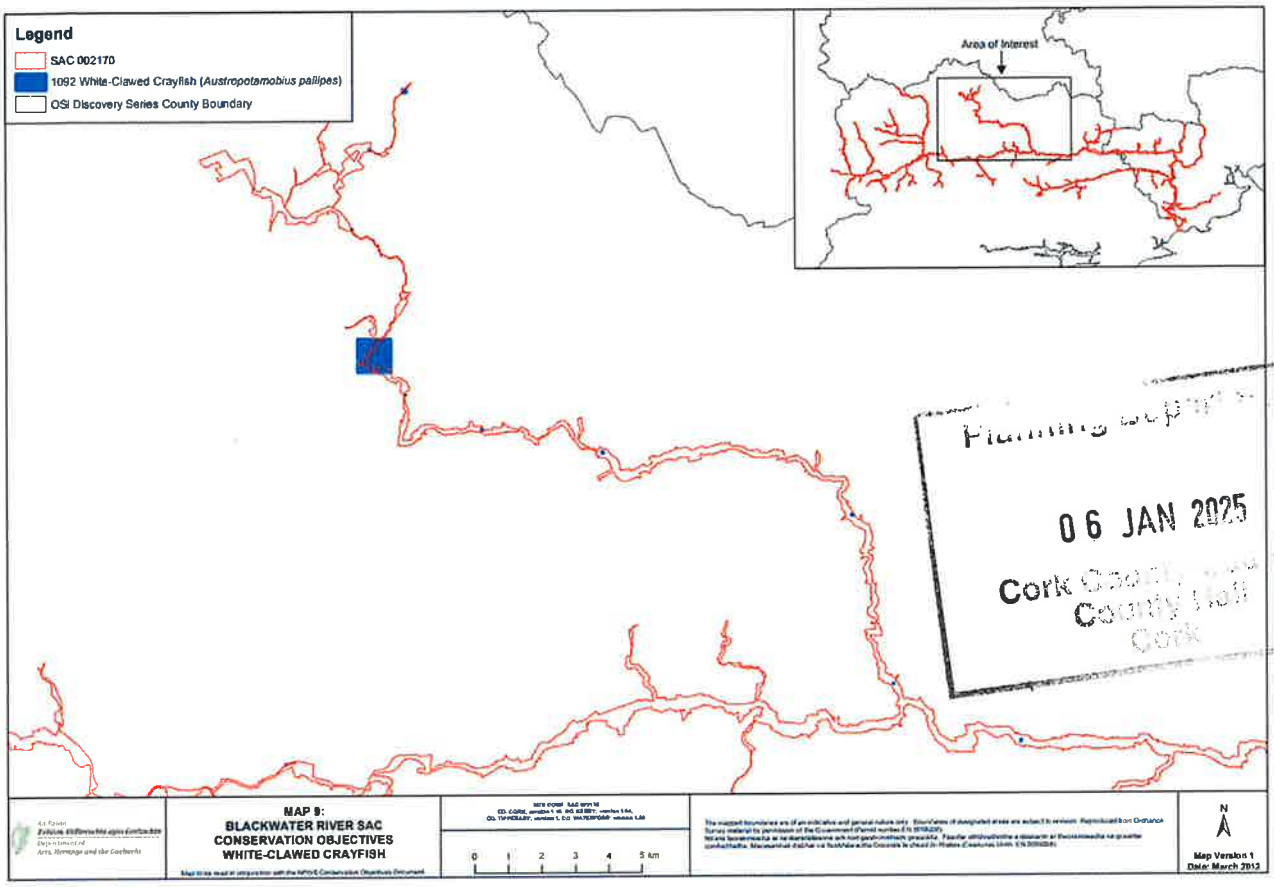
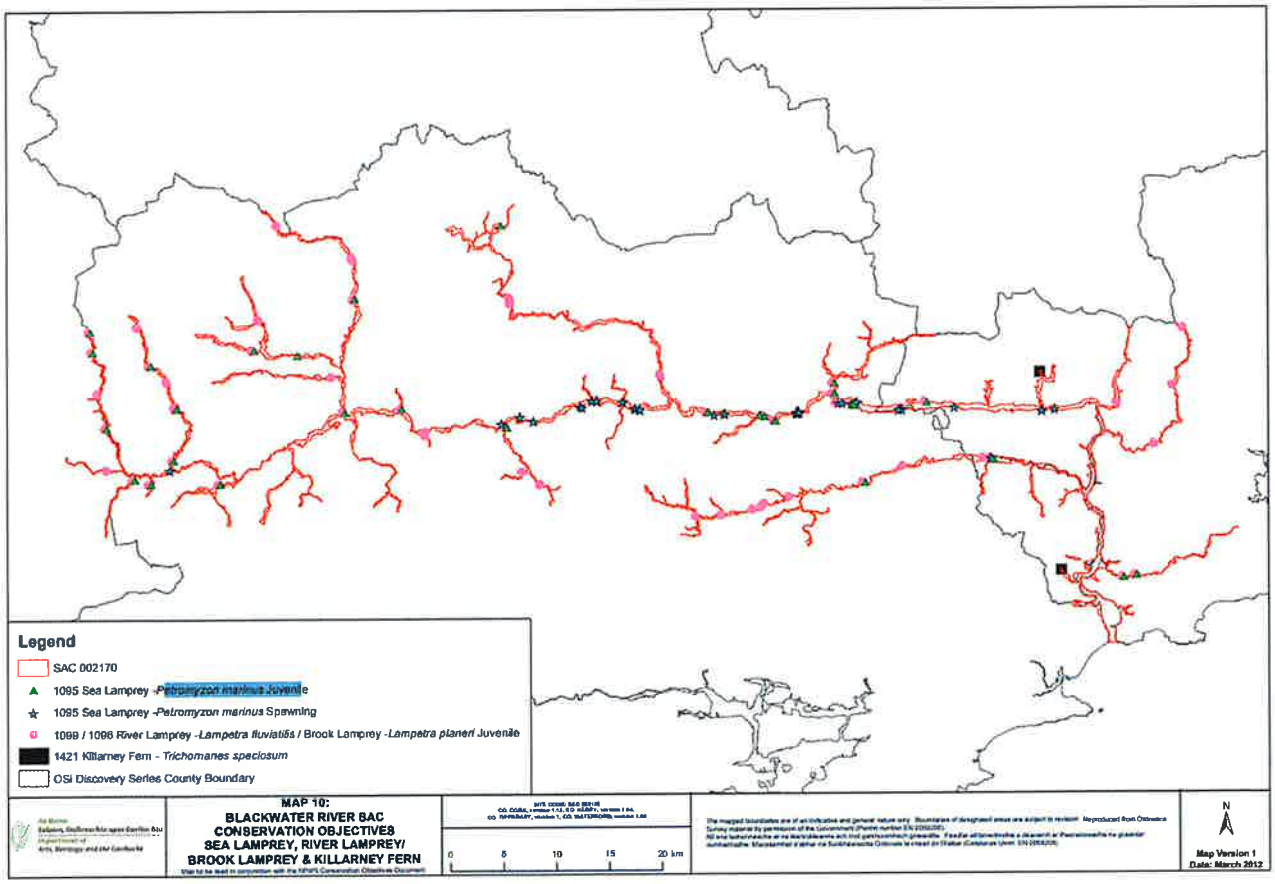


Figure 10.9 Local Bedrock Aquifers



10.10 NPWS White-clawed Crayfish historical recorded distribution



10.11 NPWS Juvenile Sea Lamprey Distribution

Appendix 2 Ecological Appraisal

1.Introduction

This report has been prepared to inform a Screening for Appropriate Assessment (AA) undertaken by Veon Ecology. A detailed desk survey was undertaken on the 29th of July 2024 by Aine O'Sullivan B.Sc. (Hons) in ecology and Environmental Biology at University College Cork. The proposed development site is located within the townland of Ballinadrideen County Cork. It is centred around ITM grid reference: 552551, 617515. An ecological data search for the survey site and the surrounding area was reviewed through the NPWS, EPA, NBDC and biodiversity Ireland Data bases. In addition, aerial mapping and satellite surveys were reviewed to identify any features of interest within and surrounding the survey site (e.g. large ponds).

2. Site Overview

The location of the proposed underground solar interconnector consists predominantly of Grassland habitat. The sight is not directly connected to any Natura 2000 site but is hydrologically connected the Blackwater River (Cork/Waterford) SAC (002170) through the Dromin (18D30) stream and is within close proximity of the SAC at 193.5m. There is two other Natura 200 site located within 15km of the site, Ballyhoura Mountains (002036) and Kilcolman Bog SPA (004095), neither of these have a viable hydrological pathway from the proposed development site.

The habitats within the study area have been assessed, following a detailed desktop study, and were cross referenced with 'A Guide to Habitats in Ireland' (Fossitt, 2000). Photographs illustrating the key areas to which the proposed development are applicable are provided in Appendix 3. The primary habitats within the proposed development area comprise of Pastoral (GA1) and arable grassland (BC1) fields. These fields are lined by hedgerows (WL1) and Treelines (WL2). There is a small Lowland depositing river (stream) (FW2) dissecting the southerly section of the site and a planted Broadleaved Woodland (WD1) in the south easterly section of the site. There is also a drainage ditch (FW4) which runs into the river Dromin.

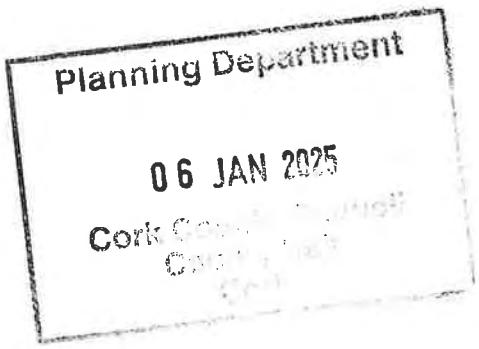
Given the scale of the project and habitats present, species of conservation concern are unlikely to occur within the area of the works footprint and immediately adjacent. However, given the proximity of the site to the River Blackwater SAC they will be seen in the surrounding area.

The most significant hydrological feature in the vicinity of the proposed development site is the Dromin (18D30) which runs into the Awbeg river (18A05) and as such the Blackwater River (Cork/Waterford) SAC. The upper section of the Dromin is the part of the Dromin course which dissects site. This section has no free-flowing water. It consists of shallow interspaced puddles of low water quality and has little to no gradient in its length.

No invasive plant species listed in Part 1 of the Third Schedule of S.I No. 477 of 2011, European Communities (Birds and Natural Habitats) Regulations (2011) were recorded within the $2km^2$ grid square wherein the proposed development site is located (NBDC, 2023). Though the Jenkins Spire Snail (Potamopyrgus antipodaruml) and Ruddy Duck (Oxyura jamaicensis) have been historically reported in the locality.

Habitat and Vegetation Description

The habitats identified within the survey area are outlined below:



- Pastoral grassland (GA1)
- Arable Grassland (BC1)
- Treeline (WL2)
- Depositing Lowland River (FW2)
- Broadleaved Woodland (WD1)
- Hedgerow (WL1)
- Drainage Ditch (FW4)

The features of these habitats and associated micro-habitats are described below with their suitability for biodiversity conservation within the context of the project. Photographs of the individual macro-habitats identified within the survey site are included for illustration purposes in **Appendix 3**.

Pastoral Grassland (GA1)

The site is compromised predominantly of this habitat. It consists mostly of Dairy of Beef farming pastoral fields. The fields are border by Hedgerows (WL1) and Treelines (WL2). The main vegetation was perennial rhy (*Lolium perenne*), White clover (*Trifolium repens*), Docks (*Rumex*), Renunculus. This grassland is of relatively of low biodiverse value.

Arable Grassland (BC1)

Arable grassland was the second most prominent habitat on site. The main vegetation seen in this habitat were Barley (*Hordeum vulgare*). The field tend to be larger than the pastoral fields with more managed and gapped hedgerows. Due to its monocrop nature this grassland is of relatively of low biodiverse value.

Treelines (WL1)

The treeline found on site are mature semi-managed treelines. They consist of broadleaved trees such as Ash (*Fraxinus excelsior*), Elder (*Sambucus nigra*), Elm (*Ulmus procera*), Beech (*Fagus sylvatica*), Sycamore (*Acer pseudoplatanus*), Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*), Crab apple (*Malus sylvestris L. Mill*) Pussy willow (*Salix cinerea L.*). With an understory of immature and stunted trees as well as Gorse (*Ulex europaeus*), Ivy (*sp. Hedera*), Nettle (*Urtica dioica*), Thistles (*Cirsium palustre)*, Cleavers (*Galium aparine*) and Black berry (Rubus fruticosus). Mature treelines offer a lot of resource for local species including shelter, foraging ground, pathways, and roost and nesting sites as such it is considered of high biodiversity value.

Depositing Lowland River (FW2)

The Dromin river as defined by EPA mapping is the only waterbody running through the proposed development site. This upper most section of the course consists of shallow pools with an absence of free-flowing water. The water here is of poor water quality with little to no gradient along its length creating stagnant pools. It is bordered by both Treelines and Hedgerows which provide a dense vegetation cover. It may be suitable for smaller amphibians but is unsuitable for any fish species. The main vegetation was Ivy (*sp. Hedera*) and Ferns (*Blechnum spicant*). Though the habitat is unsuitable for most riverain species it could act as an important pathway for species such as Otter (*Lutra lutra*) which has been historically recorded within 2km^2 of the site. Due to the lack of

biodiversity in which this habitat characteristics promotes this habitat can be classified as of Low biodiversity value.

Broadleaved woodland (WD1)

This square patch of woodland consisted of linear rows of semi mature trees. The main tree line was Beech and Ash intermittent with solitary Pines (Genus *Pinus)*. The understory consists primarily of Bramble, Nettles and Perennial Rhye grass.

Hedgerow (WL1)

The hedgerows are predominantly dense tall mature hedgerows. Thin more gappier Hedgerows are more commonly seen in the arable fields. The vegetation consists of solitary trees in combination with gorse, Ivy, Nettle, Thistles, Cleavers and Blackberry, Bramble and stunted trees. The stunted trees usually consisted of Hawthorn. Hedgerows provide many amenities for the local wildlife including shelter, foraging ground, pathways, and roost and nesting sites as such it is considered of high biodiversity value

Drainage Ditches (FW4)

One drainage ditch dissects the site before joining the Dromin stream, The vegetation comprised of mostly Ivy and Bramble. This habitat would be considered of low biodiversity value.

Ecological Appraisal and Species Recorded

As part of this report the relevant historic records from the National Biodiversity Data Centre (NBDC) were accessed and the findings included as part of the overall biodiversity summary of the site.

Volant and Non-Volant Mammals

Historic NBDC records for protected volant and non-volant mammals were reviewed within the 10km^2 (R51) and 2km^2 (R51I) grid squares surrounding the proposed development site and tabulated below in Further Appendices.

Bat Habitat Appraisal

Historic records of bats were recorded within the 10km^2 grid square on which the site is located. The habitat suitability index for 'All bats' and for each individual species of bat is presented below. The overall suitability of the area for bat activity was relatively moderate (26.11). The area is deemed as moderate for bat activity with no building present within the redline boundary that could pose as a larger roost site with suitable small roost habitats surrounding the survey area through mature treelines, thus it cannot be ruled out that bats may use the site for foraging and/or commuting through the site or along its boundaries, particularly along the hedgerows and treelines or for smaller roost sites.

Previous bat survey conducted by the Veon Ecology in the surrounding areas of Fiddane, Cooliney, Ballynoran, Coolcaum and Ballyroe concluded that the bat activity in these surrounding areas was low.

Suitability index for different bat species:		
Common Name	**Scientific Name**	**Suitability Score**
Saporano pipistrelle	*Pipistrellus pygmaeus*	42
Brown long-eared bat	*Plecotus auritus*	36
Common pipistrelle	*Pipistrellus pipistrellus*	44
Lesser horseshoe bat	*Rhinolophus hipposideros*	1

Leisler's bat	*Nyctalus leisleri*	37
Whiskered bat	*Myotis mystacinus*	18
Daubenton's bat	*Myotis daubentonii*	27
Nathusios' pipistrelle	*Pipistrellus nathusii*	2
Natterer's bat	*Myotis nattereri*	28
Total Score for All Bat Species		26.11

Table 10.1 Suitability index for different bat species:

Eurasian Badger (*Meles meles*)

Badgers were recorded within the 10km^2 grid square on which the site is located. Due to the unsuitability of the habitats surrounding the survey site and lack of any substantial evidence such as snuffle hole and latrines it is unlikely that there is a set located in the area. There are also no historical records of Badger sets been seen within the sight or its immediate surroundings. However, it cannot be ruled out that these species may use the site for passageway between areas.

Otter (*Lutra lutra*)

Otters were recorded within the 10km^2 and 2km^2 grid square in which the site is located. Due to the unsuitability of the habitats within the survey site, it is unlikely that there are Otter sets within the site. They may use the site for passageway between areas with the densely vegetated Dromin habitat providing suitably shelter route for traverse rather then foraging/dwelling.

Red Fox (*Vulpes vulpes*)

Red Fox has been recorded within the NBDC 10km^2 grid squares R51 where the proposed site is located (NBDC, 2023). A vixen was noted during a walkover survey to the southern edge of the site. A den was also noted at 552556.7,617470.6 in the roots of a mature tree (See **Appendix 3**).

Irish Hare (*Lepus timidus hibernicus*)

Irish Hare has been recorded within the NBDC 10km^2 of the sight none were observed during the site survey. Irish hare is a common occurrence on agriculture lands; therefore, it is likely that the species regularly uses the site and the surrounding areas. As there is equally suitable area readily available in the surrounding habitat it is unlikely that the local species will be affected.

Other non-volant mammals

Pygmy Shrew (*Sorex minutus*), Red Squirrel (*Scirus vulgares*) and West European Hedgehog (*Erinaceus europaeus*) were also historically recorded in proposed development. Hedgerows, treelines and the broadleaved woodland do provide possible habitats for these species. As the project will be minimally disturbing these habitats and due to its small scale, it is unlikely to have any significant and long-term effects on these species.

Amphibians

The lowland depositing stream habitat seen on site provides a possibly suitable habitat for Amphibian and lizards. This habitats has poor water quality and would likely be used as a transitional habitat rather than as a domicile. No Amphibians or lizards have historically been recorded within the NBDC 2km^2 of the sight. The Common frog was the only species to have been recorded within the NBDC 10km^2.

Birds/Avifauna

Bird activity within the proposed development site and its surrounding environs was typical of the habitat assemblages present i.e., areas comprised of improved grassland, linear hedgerow habitats and drainage channels.

The highest level of bird activity was associated with habitats affording suitable cover, i.e., hedgerows and adjacent linear treelines. The open areas of improved agricultural grassland, which makes up much of the proposed development footprint, are largely unsuitable for nesting birds, habitats such as these and their associate fauna are commonly used by hunting raptors such as Buzzards.

Species protected under the EU Birds Directive (2009/147/EC) and/or listed as a species of concern on the Birds of Conservation Concern in Ireland (BoCCI) list have been recorded within the 2km^2 grid squares. These include Black-headed Gull (*Larus ridibundus*), Common Coot (*Fulica atra*), Common Goldeneye (*Bucephala clangula),* Common Kestrel (*Falco tinnunculus*), Common Kingfisher (*Alcedo atthis*), Common Pochard *(Aythya ferina*), Common Sandpiper (*Actitis hypoleucos*), Eurasian Curlew (*Numenius arquata)* and Whooper Swan (*Cygnus cygnus*). No habitat on site would be considered one of significance to these species with similar habitat making up the majority of the surrounding landscape.

Bird species recorded during the Phase 1 Walkover survey included Buzzard (*Buteo buteo),* Siskin (*Spinus spinus),* Willow wabler *(Phylloscopus trochilus),* Chaffinch (*Fringilla coelebs),* Robin (*Erithacus rubecula*), Wood pigeon (*Columba palumbus*), Wren (*Troglodytes troglodytes*), Chiff chaff (*Phylloscopus collybita*) and Goldcrest (*Regulus regulus*).

Protected birds recorded in the NBDC 2km^2 grid squares which may utilise the site, wider site, or adjacent habitats are listed below in **Further Appendices.**

Freshwater Aquatic Fauna

The proposed development site is located within the Munster Blackwater Margaritifera SAC Catchment. Freshwater Pearl Mussel (*Margaritifera margaritifera*) has not been recorded within the 10km^2 or 2km^2 grid squares (NBDC, 2023).

White-clawed Crayfish (*Austropotamobius pallipes*) have been recorded within the 2km^2 grid squares (NBDC, 2023). An Aquatic Report was completed as part of the application for the proposed Coolcaum Solar Farm on the Rathnacally stream in August 2022 by members of Veon Ecology (Veon Ltd). This survey recorded no White-clawed Crayfish or Freshwater Pearl Mussel, both qualifying interests of the Blackwater River (Cork/Waterford) SAC (002170). NPWS has recorded the species within 5km of the proposed development (See **Appendix 1**).

The main channel of the Blackwater River is an established Salmonid Water designated under the European Communities (Quality of Salmonid Waters) Regulations of 1988 (S.I. No. 293 of 1988), with some of its tributaries important for salmon spawning and nursery. Atlantic Salmon (*Salmo salar*) require EPA Class A water: Q values Q4 to Q5 to thrive (Curtis *et al.,* 2009). Neither the water quality, nor the habitat type found in the watercourses to be crossed by the proposed interconnector route are suitable for Atlantic salmon reproduction. While there is some suitable instream habitat for salmon spawning and nursery in the Awbeg river, the current biological water quality there is also unsuitable. A salmon parr was caught in a kick sample taken in the nearby Awbeg river in June 2019, when water quality was better.

Adult Sea Lamprey (*Petromyzon marinus*), Brook Lamprey (*Lampetra planeri*) and River Lamprey (*Lampetra fluviatilis*) have not been recorded within the 10km^2 and 2km^2 grid squares (NBDC). Juvenile sea Lamprey have been recorded within 5km^2 of the site (NPWS) (See **Appendix 1**).

The most significant hydrological feature on site is the River Dromin as defined by EPA maps. The uppermost course of this river is what seen on sight. The Section of the Dromin river does not have any free flowing water it consists of shallow stagnant puddles of poor water quality consisting primarily of mud. This section of the river Dromin has little to no gradient. These unfavourable characteristics make it an unsuitable habitat for the above listed QIs.

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Further Appendices

Bird species recorded in 2km^2	
Species Name	Designations/Conservation Status
Black-billed Magpie (Pica pica)	
Black-headed Gull (Larus ridibundus)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Blue Tit (Cyanistes caeruleus)	
Chaffinch (Fringilla coelebs)	
Common Blackbird (Turdus merula)	
Common Bullfinch (Pyrrhula pyrrhula)	
Common Coot (Fulica atra)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Goldeneye (Bucephala clangula)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Kestrel (Falco tinnunculus)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Kingfisher (Alcedo atthis)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Moorhen (Gallinula chloropus)	
Common Pochard (Aythya ferina)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List

Common Redshank (Tringa totanus)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Common Sandpiper (Actitis hypoleucos)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Snipe (Gallinago gallinago)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section III Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Starling (Sturnus vulgaris)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Dunlin (Calidris alpina)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Eurasian Curlew (Numenius arquata)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Eurasian Jackdaw (Corvus monedula)	
Eurasian Teal (Anas crecca)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Eurasian Wigeon (Anas penelope)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
European Robin (Erithacus rubecula)	
Fieldfare (Turdus pilaris)	
Great Cormorant (Phalacrocorax carbo)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List

Great Crested Grebe (Podiceps cristatus)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Great Tit (Parus major)	
Green Sandpiper (Tringa ochropus)	
Grey Heron (Ardea cinerea)	
Grey Wagtail (Motacilla cinerea)	
Hedge Accentor (Prunella modularis)	
Hooded Crow (Corvus cornix)	
House Sparrow (Passer domesticus)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Lesser Black-backed Gull (Larus fuscus)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Little Grebe (Tachybaptus ruficollis)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Mallard (Anas platyrhynchos)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section I Bird Species
Mute Swan (Cygnus olor)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Northern Lapwing (Vanellus vanellus)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Northern Shoveler (Anas clypeata)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section III Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Redwing (Turdus iliacus)	
Rook (Corvus frugilegus)	

Ruddy Duck (Oxyura jamaicensis)	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> EU Regulation No. 1143/2014 || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Song Thrush (Turdus philomelos)	
Tufted Duck (Aythya fuligula)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
White Wagtail (Motacilla alba)	
Whooper Swan (Cygnus cygnus)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Winter Wren (Troglodytes troglodytes)	

Protected Mammal species recorded in 10km²		
Common Name	**Scientific Name**	**Designations/Conservation Status**
Brown Long-eared Bat	*(Plecotus auritus)*	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Eurasian Badger	*(Meles meles)*	Protected Species: Wildlife Acts
Eurasian Pygmy Shrew	*(Sorex minutus)*	Protected Species: Wildlife Acts
Eurasian Red Squirrel	*(Sciurus vulgaris)*	Protected Species: Wildlife Acts
European Otter	*(Lutra lutra)*	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex II || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Fallow Deer	*(Dama dama)*	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland) || Protected Species: Wildlife Acts
Lesser Noctule	*(Nyctalus leisleri)*	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
West European Hedgehog	*(Erinaceus europaeus)*	Protected Species: Wildlife Acts

Protected Mammal species recorded in 2km²	
European Otter (Lutra lutra)	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex II || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts

Protected Amphibian species recorded in 10km²

Common Name	Scientific Name	Designations/Conservation Status
Common Frog	*(Rana temporaria)*	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex V || Protected Species: Wildlife Acts

Table 9.1: Protected freshwater species recorded in 2km² grid surrounding the site (NBDC, 2023).

Protected Freshwater species recorded in 2km²		
Common Name	**Scientific Name**	**Designations/Conservation Status**
Freshwater White-clawed Crayfish	*(Austropotamobius pallipes)*	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex II || Protected Species: EU Habitats Directive >> Annex V || Protected Species: Wildlife Acts

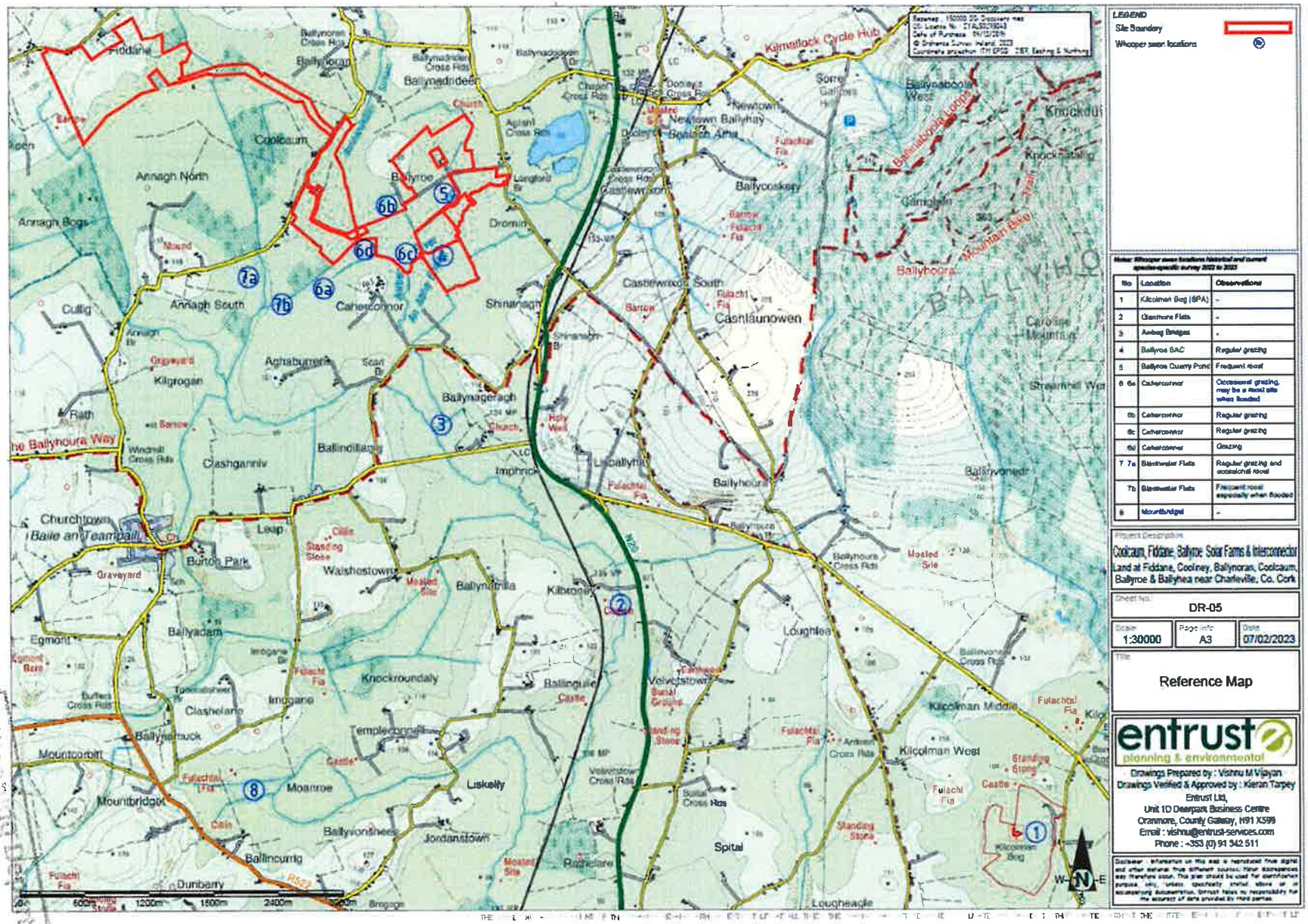
Wintering Whooper Swan Survey 2022/ 2023											
Survey Date and Period	Duration	Mountbridget	Kilcolman	Glanmore Flats	Awbeg Bridges	Caherconnor	Blackwater Flats	Ballyroe Quarry	Comments	Flightlines	Other birds
22/10/2022	16:00						18				
23/10/2022	06:30-13:15	None					39*		*39 Whooper swans on the north bank. Remained to roost	None	200 Lapwing at Blackwater Flats
25/10/2022	15:20			2			42		Dawn at Blackwater Flats, Whooper Swan left roost and flew across to graze on the north side of the Awbeg river.	1 Mute Swan flew downstream at low altitude <10m	21 Greylag, 1 Mute Swan, Curlew, Lapwing, Mallard, Teal, Heron
25/10/2022	16:30	None									
07/11/2022	09:45						42*		*42 Whooper Swan on the north bank. Remained to roost	None	1 Mute Swan, 10 Greylag
17/11/2022	09:05-17:00	None	None		12		19*		*BW Flats: 19 Whooper swan grazing on north bank, remained in the area to roost after dusk, Awbeg Br 2 flocks of 6 at different locations		
18/11/2022	3rd party report	None	6	None	None		None	None	No swans at any of the regular sites		
25/11/2022	07:25						Present		Pre-dawn and partly hidden, no count		
25/11/2022	07:51						2			2 in low flight to north shore to graze	
25/11/2022	07:55						9			9 took-off to West and turn in low flight to East	
25/11/2022	07:57						9			9 took-off to West and turn in low flight to East	4 Greylag low flight downstream
25/11/2022	08:00						4			short low flight to south bank	
25/11/2022	08:04						4		Short flight from fields on the south bank to grazing on the north side of the river		
25/11/2022	08:13						8		Flew east	Destination unknown but possibly to	6 Greylag fly WSW

Wintering Whooper Swan Survey 2022/ 2023											
Survey Date and Period	Duration	Mountbridget	Kilcolman	Glanmore Flats	Awbeg Bridges	Caherconnor	Blackwater Flats	Ballyroe Quarry	Comments	Flightlines	Other birds
										Caherconnor grazing area	
25/11/2022	08:19						4		Flew east	Destination unknown but possibly to Caherconnor grazing area	
25/11/2022	08:21						7		Flight east	Destination unknown but possibly to Caherconnor grazing area	
25/11/2022	08:28						6		Flight east	Destination unknown but possibly to Caherconnor grazing area	
25/11/2022	09:16								Total count of 53 Whooper Swans at Blackwater Flats for November 25th, 2022.		15 Greylag flew southwest downstream
25/11/2022	09:30-15:00	None	None	None	None						
09/12/2022	15:00	3							Disturbance at Mountbridget site by slurry spreader		
09/12/2022	15:13						None		Not flooded. Deployed Audio recorder		
12/12/2022	13:30			None					Not flooded		
12/12/2022	14:30						None		Dense fog, no visibility. Retrieved Audio recorder		
16/12/2022	3rd party report		7								
18/12/2022	14:00-20:00	None		None	None		None		Audio recorder deployed		
19/12/2022	3rd party report		2				75				
20/12/2022	13:30-19:00		20+			c.30	26	99	Roost flights from Caherconnor to Ballyhea 16:50 to 17:30.	Caherconnor fields to Ballyhea	Greylag: c.200 at Kilcolman, 1 at Blackwater Flats, 73 to roost Ballyroe

Wintering Whooper Swan Survey 2022/ 2023											
Survey Date and Period	Duration	Mountbridget	Kilcolman	Glanmore Flats	Awbeg Bridges	Caherconnor	Blackwater Flats	Ballyroe Quarry	Comments	Flightlines	Other birds
									Whooper Swan counts at Caherconnor and Blackwater Flats for not make up the roost count at Ballyhea. Some Whooper Swan arrived from the south-east after dark.		Quarries; Curlew: 46 Ballyroe Quarry
23/12/2022	14:00-18:30	12	47				70		Audio recorder retrieved		Greylag: 54 Mountbridget, 45 Blackwater Flats. Mute Swan: 1 Blackwater Flats
28/12/2022	14:00-20:30	20				94+	Roost flock		Some Whooper Swan arrived at Blackwater Flats roost after dark. Audio recorder deployed	Caherconnor to Blackwater Flats	Greylag: 112 Mountbridget,
02/01/2023	14:00-20:00		None	None	None	34	Roost flock	19	c.20 Whooper swan arrived at Blackwater Flats to roost after dark. Audio recorder deployed	Flightlines: F1 19 WS to roost at Ballyroe Quarry; F2 not witnessed but birds were audible at Blackwater Flats after dark	
06/01/2023	12:00-19:00	51+		None	None	None	79	Roost	Note flight to roost flew over the southern section of the Coolcaum site	Flew to roost (49 birds) at Ballyroe Quarry overflew the southern section of Coolcaum site	
16/01/2023	11:00-18:00	8+		2	76	None	19		Mountbridget swans partly out of view. 2 at Glanmore Flats were Mute Swans. Audio Recorders deployed.		Greylag: 25 at Mountbridget, Blackwater Flats 118, Awbeg Br 76.
25/01/2023	11:00-17:30	None	55+	None	None	64+	None		Whooper swan grazing in 'new" fields at Caherconnor, 2 Mute Swan at Awbeg Br. Audio recorders recovered		No Geese at any of the sites checked

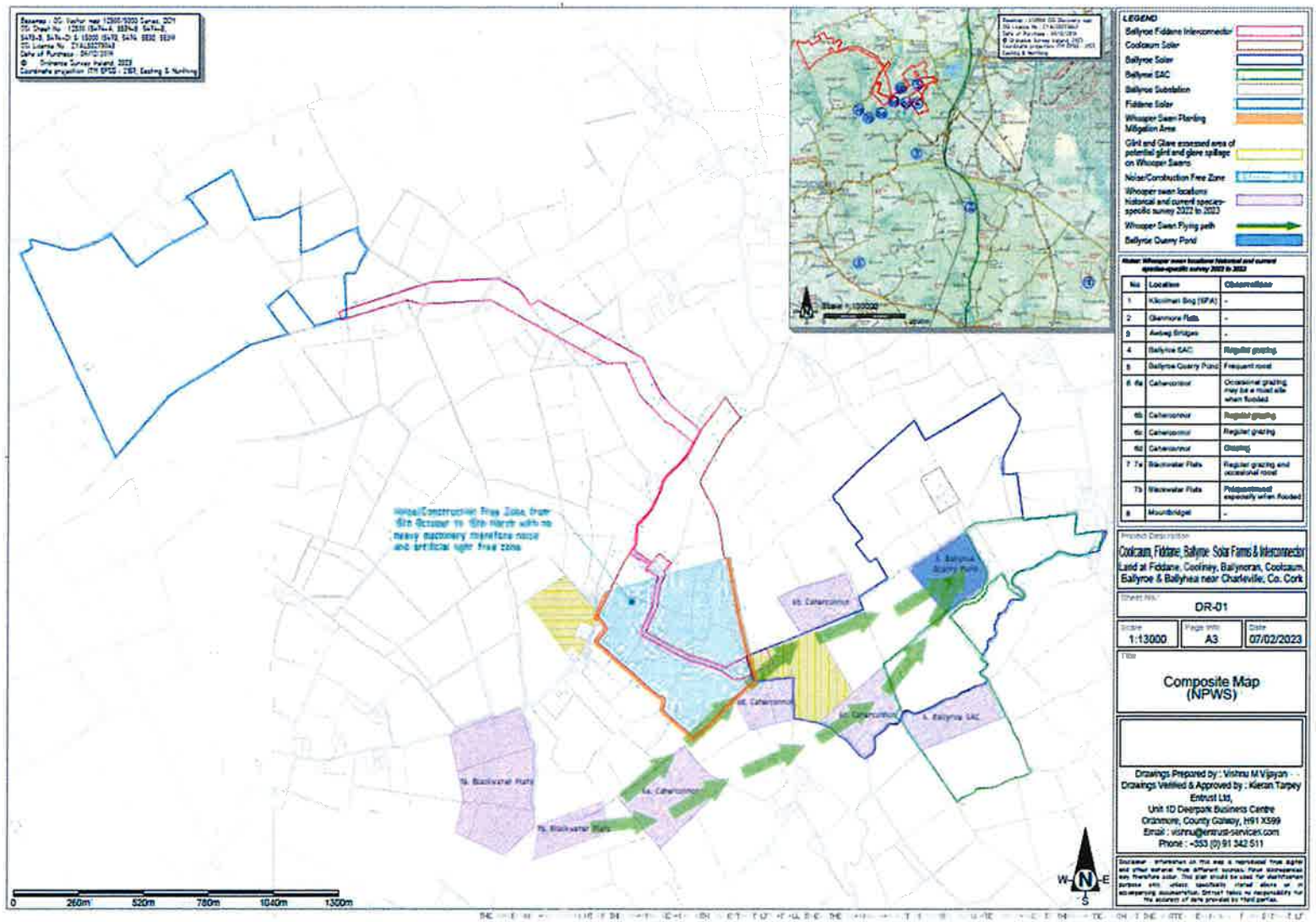
Wintering Whooper Swan Survey 2022/ 2023											
Survey Date and Period	Duration	Mountbridget	Kilcolman	Glanmore Flats	Awbeg Bridges	Caherconnor	Blackwater Flats	Ballyroe Quarry	Comments	Flightlines	Other birds
30/01/2023	13:00-18:30	5	c.50	None	None	None	44		Dusk watch at Kilcolman 17:30-18:20. Whooper swan flew inwards to roost, all arrivals from West. Audio recorder deployed near the Fiddane OHL	Groups of 8 to 25 arrived from the west and northwest after sunset	Up to 100 Greylags arrived from East into Kilcolman after sunset
09/02/2023	11:00-16:30	None	21+	None	None	48	None		Whooper swans at Caherconnor grazing in field 10 ('new' field, see map file). Audio recorder checked. At Kilcolman, min. 3 birds in distant fields to the south, 18 in Kilcolman pond.	Eleven birds departed Kilcolman south-eastwards in two groups after sunset	c 50 Greylags arrived at Kilcolman after sunset (too dark to get an accurate count)
15/02/2023	15:00-21:00	None	61	None	None		None	34+	No swans at Kilcolman on arrival. 17:50-19:00 swans flew in from West in groups of 9-12. Ballyroe count after dark were roosting birds (inaccurate count)	All flightlines appear to be from West	
20/02/2023	13:00-20:00	36	11**/c.102	None	None	24	66		**Kilcolman min 11 Whooper swan in fields to the south. Roost watch at dusk 18:00-19:00 - 66 Whooper swan arrived from south.	Flightline approach to Kilcolman was from the south. This may have been only the final approach	25 Greylag at Blackwater Flats, c.100 at Kilcolman
25/02/2023		55	<10*			125	none	Roost 125	Large herd at Caherconnor. Kilcolman count at 21:00 (dark) few swans, only 6 seen with thermal imager but no vision at longer range. Recorder retrieved	Caherconnor birds flew to Ballyroe Quarry pond after sunset	

Wintering Whooper Swan Survey 2022/ 2023



No	Location	Observations
1	Kilcolman Bog (SPA)	-
2	Glanmore Flats	-
3	Awbeg Bridges	-
4	Ballyroe SAC	Regular grazing
5	Ballyroe Quarry Pond	Frequent roost
6 6a	Cahercornor	Occasional grazing, may be a roost site when flooded
6b	Cahercornor	Regular grazing
6c	Cahercornor	Regular grazing
6d	Cahercornor	Grazing
7 7a	Ballinwaller Flats	Regular grazing and occasional roost
7b	Ballinwaller Flats	Frequent roost especially when flooded
8	Mountbridget	-

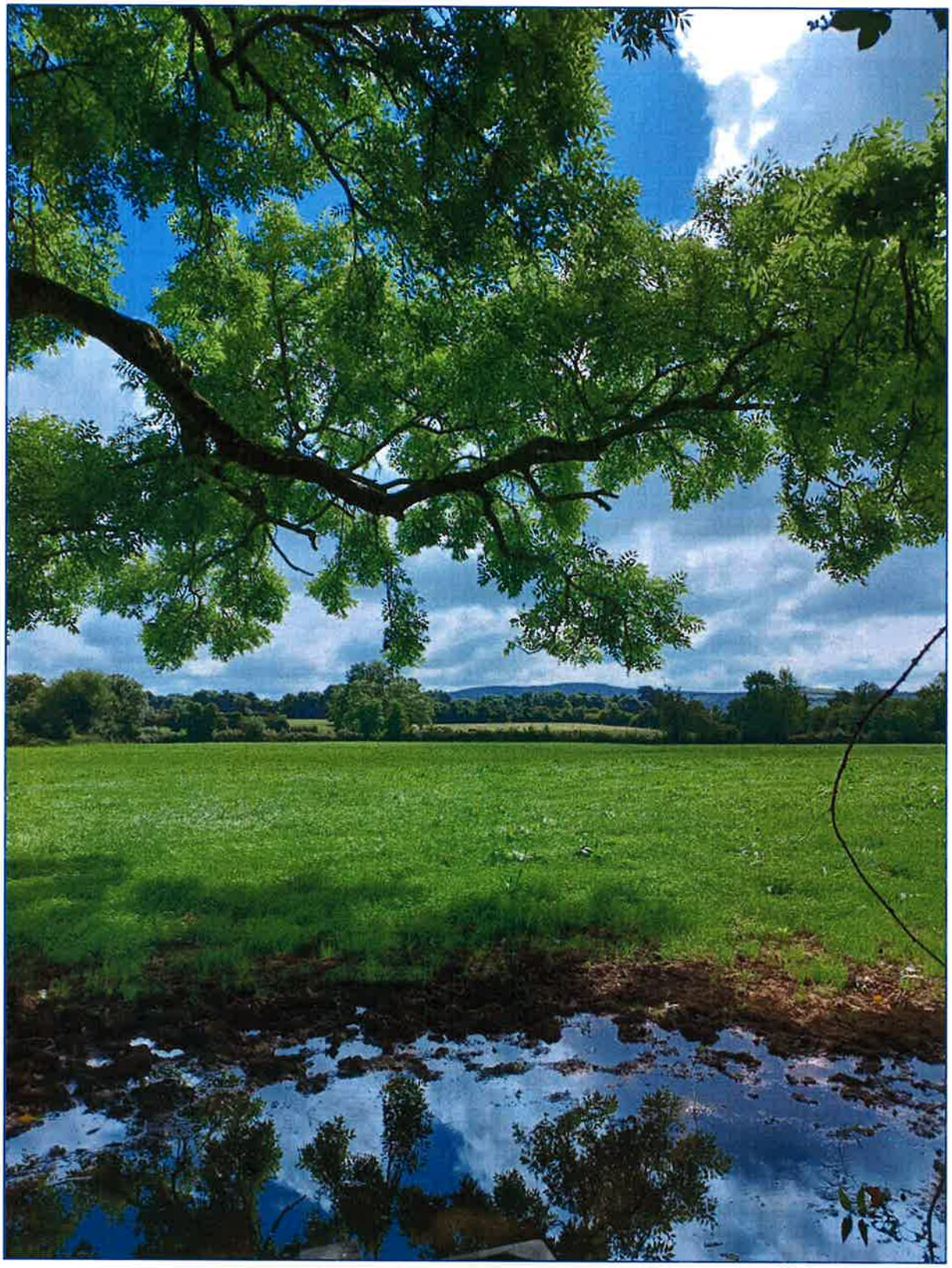
Whooper Swan Sightings



Whooper Swan Flight Path

Appendix 3 Photographs

Pastoral Grassland



Hedge/Treelined Fields

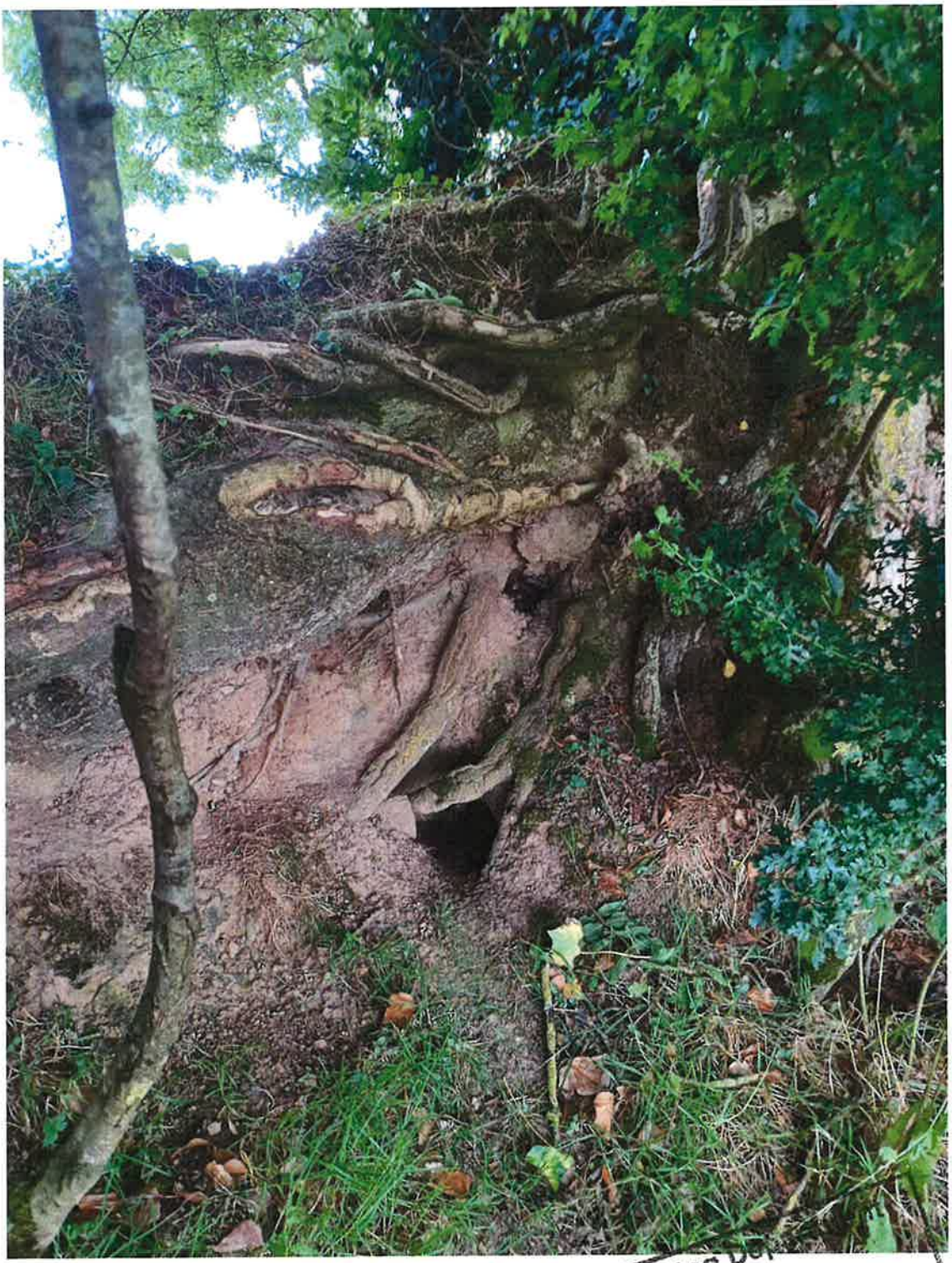
Arable Grassland

Drainage Ditch

Hedgerow

Planted woodland

Lowland river ditch



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CONSULTING ENGINEERS

OUTLINE CONSTRUCTION METHODOLOGY

ARDNAGEEHY-BALLYROE CABLE ROUTE

SOLEIRE RENEWABLES SPV LTD

24196-RP-XXXX-FL01 | DECEMBER 2024

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STRUCTURAL
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QUALITY CHECK SHEET

DOCUMENT TITLE: OUTLINE CONSTRUCTION METHODOLOGY

PROJECT TITLE: ARDNAGEEHY-BALLYROE CABLE ROUTE

EMPLOYER: SOLEIRE RENEWABLES SPV LTD

DOCUMENT REF: 24196-RP-XXXX-FL01

REVISION	DESCRIPTION	ISSUE DATE	PREPARED BY	CHECKED BY	APPROVED BY
DR01	Draft	22nd November 2024	LB	TMcH	JL
DR02	Draft for Issue	03rd December 2024	LB	TMcH	JL
FL01	Final Issue	09th December 2024	LB	TMcH	JL

AUTHOR, CHECKER AND APPROVER DETAILS

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1 INTRODUCTION

Langan Consulting Engineers has been appointed to prepare an Outline Construction Methodology as part of the planning application process for the construction of an Interconnector between the approved Ardnageehy Solar Farm (Pl. Ref. 236099) and the 110kV Ballyroe Substation SID (Pl. Ref. ABP-314431-22) located in Ballynadrideen & Ballyroe Townlands, Co. Cork.

The project involves the installation of a 33 KV underground cable for a distance of 1.83 KM to facilitate the grid connection between the Ardnageehy Solar Farm and the Ballyroe substation SID. The proposed grid connection will consist of approximately 1.83 km of an underground cable, with a total Horizontal Direct Drilling (HDD) length of 94.25 m, crossing a public road for 6.4m. The approximate minimum width of the redline is 10 m with a total development area of 1.8097 Ha/4.4719 Acres.

This report provides an outline of the typical practices that may be involved in the construction of an Underground Cable (UGC) interconnector through agricultural land, agricultural roadways/tracks, secondary road crossings and minor watercourse crossings.

Prior to commencement of any construction activities, detailed Method Statements should be requested from the contractor describing each aspect of construction and the environmental protection measures that will be established.

Given the nature of the area – this report should be read in conjunction with the associated environmental and archaeological assessments which have been previously completed.

1.1 PURPOSE OF DOCUMENT

The purpose of this document is to present an Outline Construction Methodology for the construction of the proposed 33kV UGC interconnector between Ardnageehy Solar Farm and Ballyroe Solar Farm.

The main objective of this document is to:

- Provide an overview of the typical construction techniques which would be expected to be implemented during construction.
- Detail standardised methodologies/ sequence of works that would be carried out during the construction phase.

1.2 ABBREVIATIONS AND DEFINITIONS

1.2.1 ABBREVIATIONS

ATV	All Terrain Vehicle
CAT	Cable Avoidance Tool
CEMP	Construction Environmental Management Plan
EIAR	Environmental Impact Assessment Report
ESB	Electricity Supply Board
GNI	Gas Networks Ireland
HDD	Horizontal Directional Drilling
HSA	Health and Safety Authority
ITM	Irish Transverse Mercator
LCE	Langan Consulting Engineers
NIS	Natura Impact Statement
SSE	South-Southeast
TMP	Traffic Management Plan
UGC	Underground Cable

WMP	Waste Management Plan

1.2.2 DEFINITIONS

Contract:	Ardnageehy-Ballyroe Cable Route
Employer:	Soleire Renewables SPV LTD

1.3 ASSUMPTIONS

The following lists the reports assumptions which may be subject to correction/change:

- The route provided in entrust drawing No. AB-DR-01 is correct and accurate.
- The approximate location of existing infrastructure (road crossings, canal crossing, existing farm tracks, existing services) detailed along the route (as shown in drawings No. AB-DR-02 to AB-DR-06) is correct and accurate.
- The interconnector will consist of 3 No. 110mm diameter uPVC power cable ducts, 1 No. 110mm diameter uPVC communications duct and 1 No. 63mm diameter duct for an earth continuity conductor.
- The location of all known existing services will be shared with the contractor prior to commencement of the works.
- The necessary archaeological and environmental reports have been completed for the proposed route.

2 PROPOSED INTERCONNECTOR ROUTE

- The proposed interconnector between Ardnageehy (ITM – 552633, 618290) and Ballyroe (ITM – 552785, 617094) is approx. 1.83km in length. The proposed route commences within existing agricultural land, follows an agricultural path, then runs beneath the L5519-16 secondary roadway. Continuing through fields and along farm paths, the UGC crosses a small canal and stream before reaching its termination point at Ballyroe Substation.
- The existing proposed UGC route is subject to modification following consultation with Cork County Council, stakeholders, having regard to the environmental protection measures outlined in the planning application, and accompanying technical reports.
- During the detailed design stage of the project – all service providers operating within close proximity to the interconnector should be consulted regarding the proposed UGC route.

Appendix A and Figure 2-1 detail the proposed interconnector route

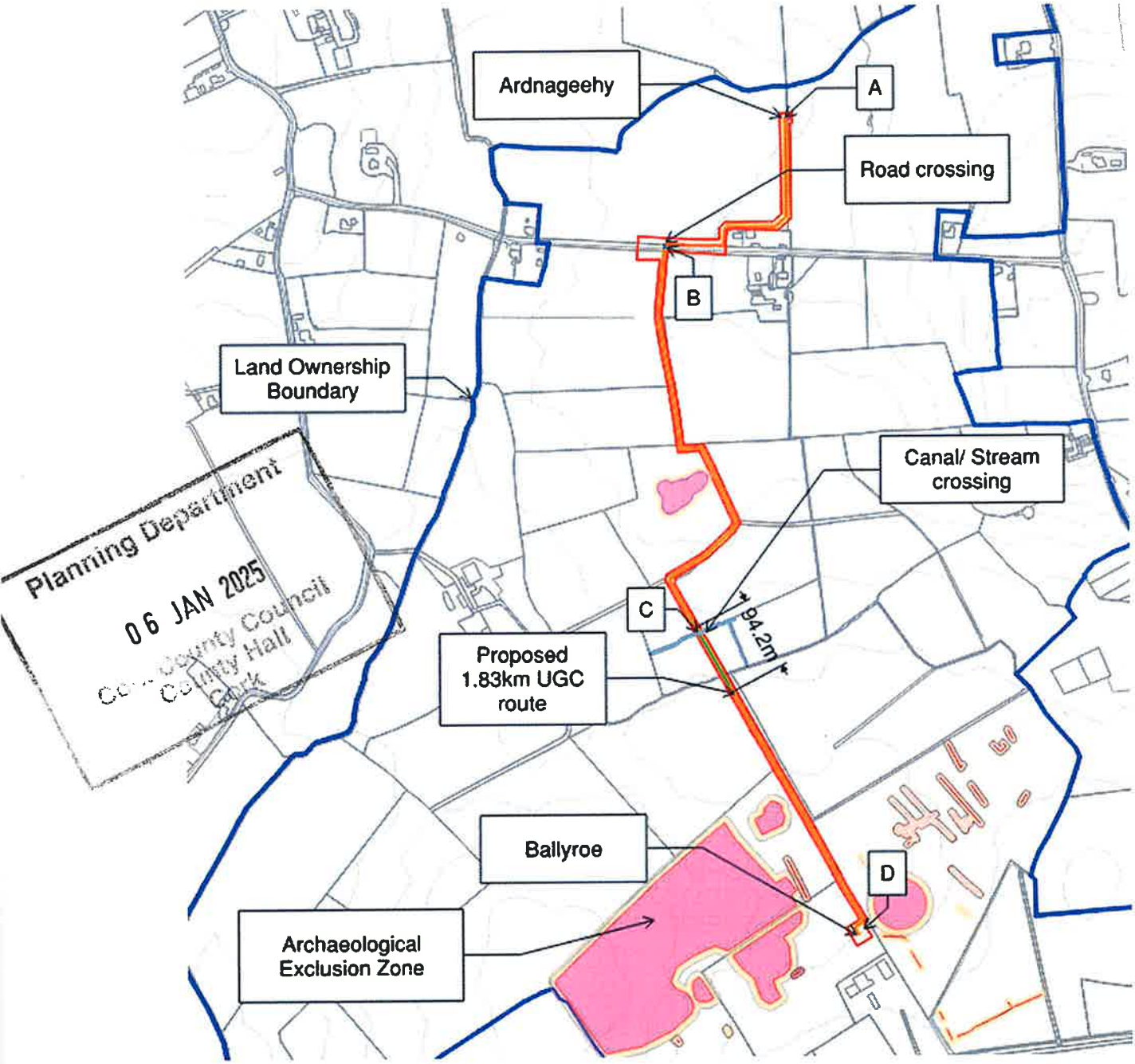


Figure 2-1 Interconnector Route Location Ardnageehy to Ballyroe

Table 2-1 Summary of proposed Ardnageehy – Ballyroe interconnector 33kV Design Route

Section	Description (NOTE: all lengths are approximate and subject to change at detailed design stage.)
Section 1 Ardnageehy Solar Farm transformer to Local	Point A to Point B The UGC 33kV begins at the Ardnageehy transformer and travels South along an existing hedgerow. The UGC turns West and follows the permitter

Secondary road crossing Approx. 485m	of an existing dwellings curtilage before emerging at the roadway. The UGC travels parallel with the existing L-5519-16 secondary road for approx. 85m. An Open cut in the roadway will be required for the road crossing. Backfill as per Figure 5-1 If HDD is necessary, the HDD rig will require the construction of both a Launch and Receiver pit prior to drilling.
Section 2 Local Secondary road crossing to Canal/Stream crossing Approx. 720m	Point B to Point C The UGC heads South from the road crossing for approx. 600m. This section traverses owned agricultural lands. There is 4 No. approx. 90 degree turns along this section – the minimum bend radius of the UGC should be considered at detailed design stage to ensure the UGC can follow the proposed route. Consideration should be given to the reinstatement of farm tracks as per the relevant guidance documents upon completion of the works. HDD Launch/Receive pit for Canal/Stream crossing It is proposed to continue HDD for an approx. distance of 94.25m to pass under both the existing Canal and Stream located towards the end of section 2. Joint bay locations to be confirmed during detailed design stage on confirmation of cable reel length and on confirmation of safe cable pulling locations.(Joint bays are typically placed apart at a max distance of 900m) Joint bays to be located below ground and finished/reinstated to Local Authority specification.
Section 3 Canal/Stream crossing to Ballyroe Solar Farm Approx. 625m	Point C to Point D The UGC continues in a SSE direction towards Ballyroe Solar Farm via an existing farm access road. The UGC terminates at the Ballyroe 110kv Solar Farm Substation. Detailing of the connection point to be confirmed at detailed design stage.
Total	Approx. 1830m of 33kV underground cable 1 No. HDD crossings The approx. min width of the redline boundary is 10m with a total development area of 4.4712 Acres.
Refer to Figure 2-1 and planning drawings submitted for location details.	

3 PRELIMINARY SITE INVESTIGATIONS

It is proposed to carry out additional preliminary site investigations along the proposed interconnector route in order to validate the design assumptions. Section 3.1 details the items which are typically carried out.

3.1 UNDERGROUND CABLE (UGC) ROUTE

The following would be beneficial to validate design assumptions:

- Detailed desk study – to consider environmental constraints and highlight the relevant stakeholders (service provides and local residents) in the area.
- Several trial holes along the route to determine ground conditions and thermal resistivity.
- Inspection pits carried out to determine the depth/condition of existing services (if present within the planned route). See Section 5.2 below for a non-exhaustive list of services which could be located along the proposed interconnector route).

The following equipment would typically be required to carry out ground investigations in the area:

- Rubber tracked Excavator
- 4x4 vehicle with small plant trailer
- Wheeled dumper / ATV with small trailer.
- Soil compactor

Traffic management may be required if a set down area cannot be identified to complete the works within the site ownership boundary as defined on entrust drawing No. AB-Dr-01.

4 ACCESS ROUTES TO WORK AREA

The majority of the UGC is to be installed in existing owned Soleire Renewables SPV LTD agricultural lands and agricultural paths. The existing public road network will provide access to the proposed interconnector route. The use of local public roadways should be limited to providing access for labour, materials and plant delivery where necessary. The movement of heavy plant machinery along public roadways should be avoided if possible.

Prior to commencement of construction, the contractor should assess all access routes and provide information regarding additional access requirements in the form of a method statement. All plant and equipment required to carry out the works (tracked machines, excavators, site dumpers, etc) should be inspected prior to arrival on site and cleaned where necessary prior to leaving the site to prevent the spread of invasive plant species.

For works taking place along the existing roadway, traffic management measures should be implemented in accordance with those included in the Traffic Management Report submitted as part of this planning application. A detailed Traffic Management Plan should be approved prior to construction works by Cork County Council.

If road closures are necessary, a suitable diversion plan should be implemented using appropriate signage, following consultation with Cork County Council.

5 UGC CONSTRUCTION METHODOLOGY

The proposed interconnector will consist of 3 No. 110mm diameter uPVC power cable ducts, 1 No. 110mm diameter uPVC communications duct, 1 No. 63mm diameter duct for earth continuity conductor. Cable ducts are typically installed in an open-cut style excavated trench (typical trench dimensions – 940mm wide by 1220mm deep). Trench dimensions can vary relative to the types of existing infrastructure and environmental constraints along the interconnector route (e.g. Canal / Stream crossing, Road crossings, existing Services, etc).

The following provides a brief overview of the proposed interconnector infrastructure:

- The 3 No. cable ducts will accommodate 3 No. electrical cables.
- The communications duct will accommodate a fibre cable to allow communications between the solar farms.

Typically the cable ducting is to be installed and the trench reinstated prior to cable pulling operations.

NOTE: The UGC should be installed as per the technical specifications and requirements set out during the detailed design stage of the project. This report details a typical outline construction methodology for the interconnector traversing the terrain described above and does not take into consideration the detailed limitations associated with material specifications and contractor specific construction methods. The contractor should submit detailed construction method statements that conform to the specifications and requirements defined during detailed design.

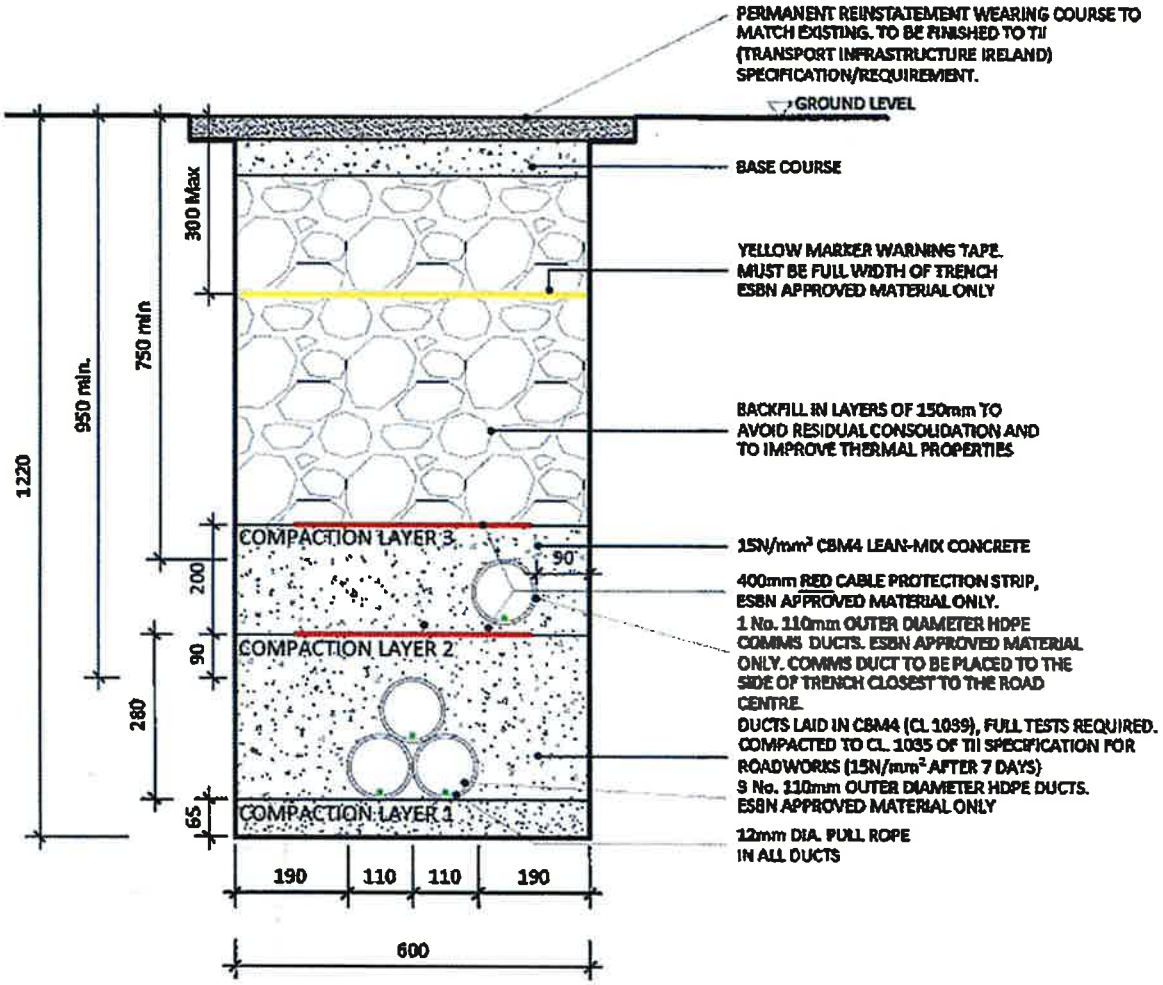


Figure 5-1 Typical Trench Cross Section in Roadway

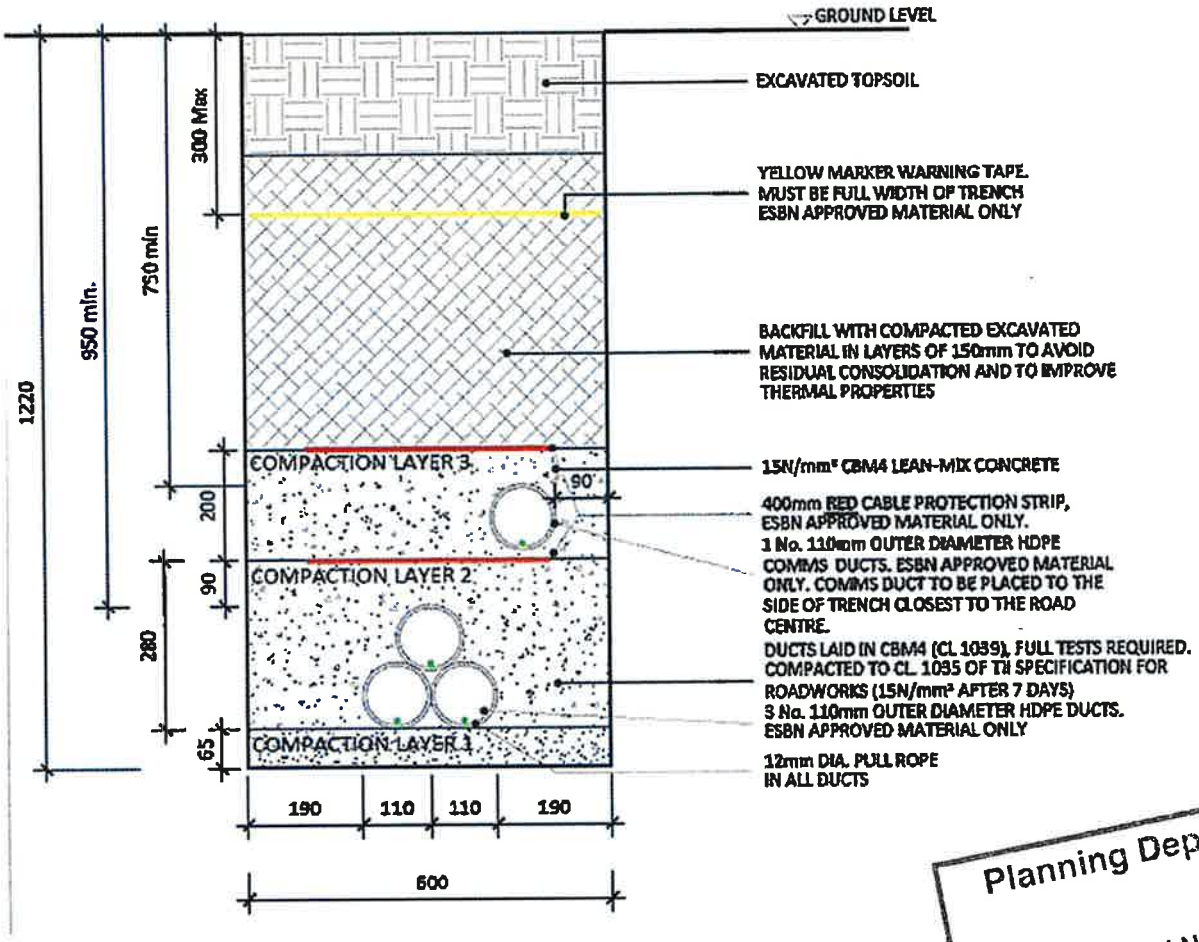


Figure 5-2 Typical Trench Cross Section in Off Road Section

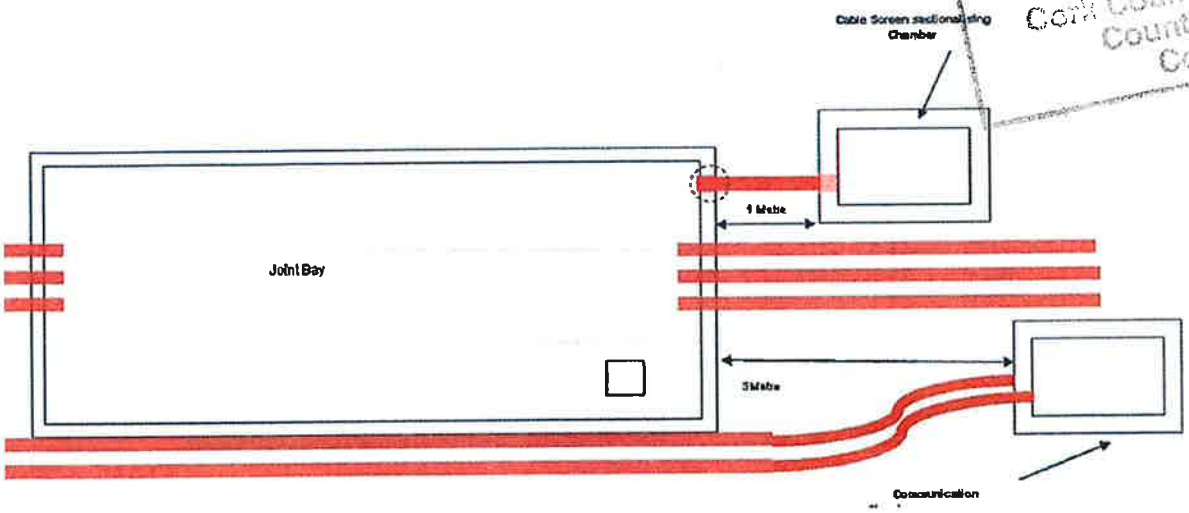


Figure 5-3 Typical Joint Bay and Link Box Plan Detail

5.1 STORAGE OF PLANT MACHINERY

All plant, machinery and equipment should be stored on site within a defined contractor construction compound area or stored within the works area during the construction works. Fuels should be stored in an appropriately bunded fuel bowser and oils/other chemicals should be stored in an appropriate double bunded site container within the contractor's compound.

5.2 EXISTING SERVICES

To facilitate the installation of the UGC, it will be necessary to locate existing underground services (if identified) along the proposed interconnector route. The proposed interconnector route is shown in Figure 2-1 above. The proposed route runs within close proximity to existing overhead lines within section 1 as denoted in Table 2-1. In advance of any construction activities, the contractor should locate all existing services (underground and overhead) within the works area.

A typical methodology for locating underground services involves:

- Requesting service mapping from relevant service providers and stakeholders (ESB, EIR, GNI, Uisce Eireann, Group Water schemes, Local Authority infrastructure, and local farmers).
- Identifying service location using surveying methods in combination with local knowledge.
- Use of Cable Avoidance Tool (CAT) and other scanning equipment to locate approximate location of the service.
- Mark the surface using markers and line marker paint.
- (if required) Excavate carefully within the area and expose the service as per the recommendations and guidelines set out in the service providers technical guidance documents.

A detailed desk study should be carried out to identify the existing services (underground and above ground) prior to detailed design and the proposed interconnector design presented to the relevant service provider for comment prior to construction works.

5.2.1 UNDERGROUND CABLES

The following is an non-exhaustive list of underground cables which could potentially be located along the proposed interconnector route:

- ESB
- EIR

5.2.2 LAND DRAINAGE PIPES

Local farmer/s and farm workers should be consulted regarding the existing land drainage network within the agricultural lands section of the proposed interconnector route.

5.2.3 GAS NETWORKS

Gas Networks Ireland (GNI) infrastructure may be located within the proposed interconnector route.

5.2.4 WATER MAINS

The following is a non-exhaustive list of the water related infrastructure which could potentially be located along the proposed interconnector route:

- Irish water mains and dwelling/farm connections
- Group water scheme mains and dwelling/farm connections
- Farm fresh water network for animal water drinkers and irrigation
- Farm fresh water network from local well supply

5.3 RELOCATION OF EXISTING SERVICES

To enable the installation of the proposed UGC, potential existing underground services as described in Section 5.2 may need to be moved/relocated. Before commencing construction activities, the contractor should carry out additional surveys along the proposed route to confirm the presence of any such services.

If services are identified, the relevant service providers should be contacted to determine the necessary excavation or relocation methods and to coordinate an appropriate schedule for the required works.

5.4 TRENCHING METHODOLOGY

The following section outlines a typical trenching methodology:

- The contractor, in coordination with the appointed site manager, shall prepare a detailed method statement that clearly outlines the construction methodology, incorporating all mitigation and control measures specified in the Environmental Impact Assessment (EIAR) and in accordance with the stipulated planning conditions. The method statement shall be approved by the relevant parties prior to any construction taking part within the project boundary.
- Prior to commencement of construction works, the locations of all existing underground utilities along the UGC route shall be verified.
- At Canal/Stream crossings the contractor should adhere to the EIAR and any additional constraints described in the Construction Environmental Management Plan (CEMP).
- Traffic management measures should be implemented in accordance with those included in the Traffic Management Report submitted as part of this planning application. Cork County Council should be consulted prior to construction works to approve a detailed Traffic Management Plan.
- The base of the excavated trench is typically lined with sand bedding, the uPVC cable duct is then placed into the excavated trench and back filled as per typical details shown in Figure 5-1 and Figure 5-2.
- Stockpiles of excavated material should be positioned a minimum of 50m away from surface water features. All stockpile locations should be subject to approval by the site manager and the relevant ecological/environment officers.
- Excavated material is typically used to reinstate the trench and any surplus material should be transported to a licensed disposal facility.
- Any hedgerows, earth embankments and grass areas should be carefully removed to allow for re-instatement on completion of trenching.
- Where dewatering is necessary, the excavated trench should be dewatered via a sump installed at the lowest point of the trench. All water extracted, should be properly attenuated using silt bags or other appropriate measures to remove suspended solids, prior to discharge in a controlled manner to vegetation.
- Where necessary, if the original sod could not be re-laid to a satisfactory standard, grass reinstatement is typically achieved through either seeding or placement of grass turf.
- No more than 100m of trench is typically open at any given time. Excavation of an additional 100m section should only proceed once reinstatement work has been substantially completed on the first section.
- A typical crew would be expected to complete approx. 100m of complete trench per day including excavation, cable duct installation and reinstatement.
- No in-stream works are planned as part of this interconnector route. Watercourses would be expected to be by-passed by means of HDD underneath the watercourse.
- In locations where the UGC is to pass under a roadway, temporary reinstatement may be provided to facilitate the movement of vehicles. The Local Authority should be consulted to specify the requirements for road re-instatement.
- Following the installation of ducting and re-instatement of the excavated trench, the cable pulling procedure typically takes place.
- It is expected that works will only be conducted during normal working hours – Monday to Friday 08:00 to 20:00 and Saturday 08:00 to 18:00, with no works on Sundays or Bank holidays except in exceptional circumstances in the event of an emergency.

The following labour and equipment typically used during trenching works are:

- 2-3 General Operatives
- Excavator and operator
- Tractor with dump trailer and operator

The following material is typically required:

- Plant fuel and oil
- Sand for pipe bedding

- Ready-mix concrete (where required)
- Trench backfilling material (excavated material and/or additional aggregate to relevant specification)
- 110mm diameter uPVC ducting
- Temporary Surface Reinstatement Materials

Figure 5-4 Typical 33KV Underground Duct Installation

5.5 JOINT BAYS AND ASSOCIATED CHAMBERS

Joint Bays (typically pre-cast concrete chambers) are required in locations where lengths of cable will be joined to form one continuous cable. They are typically located at various points along the UGC route, generally between 600-1000m intervals or as otherwise required by the specifications and requirements. Joint bays are typically sized during the detailed design stage of the project.

5.6 HORIZONTAL DIRECTIONAL DRILLING (HDD)

Horizontal Direction Drilling (HDD) is a method of drilling under obstacles (bridges, gas lines, water courses, etc.) in order to install cable ducts. This method is employed where installing ducts using standard installation methods (e.g. trenching) are not possible. The mobilisation of HDD equipment will be required along the proposed route at the Canal and Stream crossings as shown on entrust drawing No. AB-DR-06. HDD may also be required at the public road crossing shown on AB-DR-04 – this will be determined during the detailed design stage of the project, taking into consideration the associated planning conditions.

The proposed HDD methodology is as follows:

- A works area of approx. 40m2 is typically required for an HDD entry point and approx. 20m2 required for HDD exit point. This area should be securely fenced off during drilling works.
- Entry and exit pits (approx. 2m x 3m x 1m (Length x Width x Depth)) are typically excavated using a small excavator. The excavated material is typically stored within the works area and used for reinstatement on completion of the works or disposed of at a licensed waste facility.
- The HDD pilot bore will be drilled to the pre-determined profile and alignment as per the specified requirements completed during the projects detailed design stage.
- Pilot boring is typically carried out using a wireline guidance system. The assembly is ideally set up by the drilling team and steering engineer.
- The steering engineer and drill team should monitor ground stresses and pressures to ensure the modelled values are not exceeded.

- The drilled cuttings are removed from the entry pit and typically treated for re-use or removed and disposed of at a licensed disposal facility.
- On completion of the pilot hole, a reamer is fitted at the exit pit and pulled back to the entry pit to widen the hole to the specified size.
- On completion of hole opening, a reamer of a slightly greater diameter then the duct is installed on the drill string as shown in the Figure 5-5 below. The ducts are then attached to the reamer at the exist pit and pulled to the entry pit.
- The drilling fluid used in the process should be collected and disposed of in a licensed disposal facility. The interior of the ducts are typically cleaned after installation and the ducts proven to ascertain their suitability.
- The entry and exit pits are typically reinstated as per ESB and Cork County Council requirements and specifications.
- A joint bay/transition chamber/transition coupler is typically installed at either side of the drill shot, following the HDD procedure, as per ESB specifications, to act as an interface between HDD ducts and standard ducts.

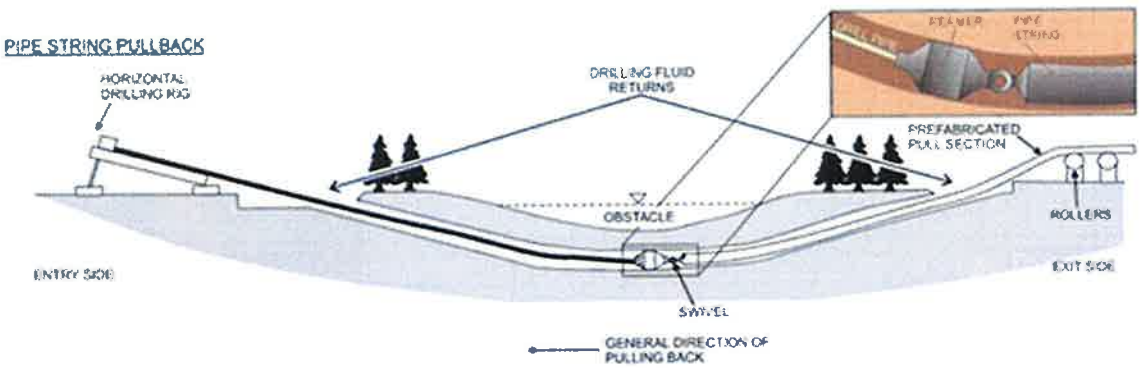


Figure 5-5 Typical HDD Installation

5.6.1 WATERCOURSE CROSSING

The proposed cable route requires 1 No. Stream / Canal crossing.

The watercourse crossing will be carried out over a proposed 94.25m section as shown on Drawing No AB-DR-05.

Prior to commencement of construction, a detailed construction method statement should be prepared by the contractor for review and approval by the Local Authority and relevant environmental agencies.

Inland Fisheries guidelines relating to construction works along water bodies should be adhered to during the construction works.

Other minor water crossings including open and piped drains should be identified and surveyed as part of the detailed design process.

5.7 CABLE PULLING

On completion of ducting installation, the electrical cables (situated on a drum) are pulled through the ducting by a specialised mechanical winch. Typically these specialised winches used for this application can monitor the tension on the cables being pulled as a precautionary measure to prevent damage to the cables.

A guide rope is installed with the ducting to assist in the cable pulling process. The guide rope is also used for proving the ducts by attaching a mandrel, sponge, or brush for cleaning the duct after installation.

Cable lubricant is applied to the outside of the cables being pulled through the duct. The lubricant assists in the pulling process by reducing friction between the cable and the ducting.

5.8 MARKER POSTS

ESB marker posts are typically used in areas where the UGC depth is unavoidably shallow as a result of existing services to identify the precise location of the UGC.

Marker posts are used along non-roadway routes to delineate the duct route and joint bay locations. The exact locations of marker posts (if required) should be confirmed during the detailed design stage of the project.

A typical marker post is shown in Figure 5-6 below. The attached sign should be triangular in shape manufactured from corrosion proof aluminium, with a lightning symbol centred on a fluorescent yellow background as per ESB specification.

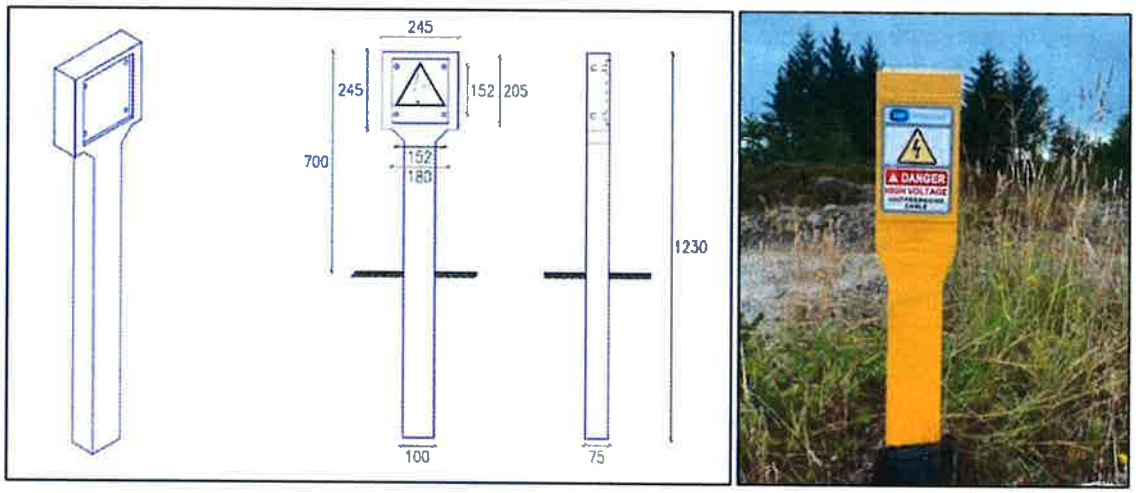


Figure 5-6 Standard ESB Marker Post

6 EMERGENCY RESPONSE PLAN

All site personnel should be inducted to the provisions set out in the Emergency Response Plan. The following briefly outlines a non-exhaustive list of the types of emergencies, which must be communicated to site staff:

- Release of hazardous substances – Oils and fuels
- Concrete spills – release of concrete to the environment
- Flood event – extreme rainfall event
- Environmental and agricultural buffer zones around exclusion areas
- Housekeeping of materials and waste storage areas
- Stop works procedure due to accident/ environmental issue

The emergency response plan must be completed by the appointed contractor prior to commencement of construction.

7 DESIGN AND CONSTRUCTION & ENVIRONMENTAL MANAGEMENT METHODOLOGY

Prior to commencement of construction works the contractor should prepare detailed method statements taking into consideration the project specific constraints and details described in this document (Outline Construction Methodology), environmental protection measures included within the EIAR, measures proposed within the Construction Environmental Management Plan (CEMP), the guidance documents, stipulated planning conditions and best practice measures listed below.

Each method statement should be presented to and reviewed by each operative onsite. The method statement is to be adhered to by the contractor's employees and the work should be overseen by a project manager, environmental manager and Ecological Clerk of Works (ECoW) where relevant.

The following documents typically contribute to the preparation of method statements in addition to those measures outlined in Section 10 Implementation of Environmental Protection Measures and Section 12 Waste Management:

- Inland Fisheries Ireland (2016) Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters. Inland Fisheries Ireland, Dublin
- National Roads Authority (2008) Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes. National Roads Authority, Dublin
- Murnane, A. Heap and A. Swain. (2006) Control of water pollution from linear construction projects. Technical guidance (C648). CIRIA
- E. Murnane et al., (2006) Control of water pollution from linear construction projects. Site guide (C649). CIRIA.
- Murphy, D. (2004) Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites. Eastern Regional Fisheries Board, Dublin
- H. Masters-Williams et al (2001) Control of water pollution from construction sites. Guidance for consultants and contractors (C532)
- Enterprise Ireland (unknown). Best Practice Guide (BPGCS005) Oil storage guidelines
- Law, C. and D'Aleo, S. (2016) Environmental good practice on site pocket book. (C762) 4th edition. CIRIA
- CIRIA Environmental Good Practice on Site (fourth edition) (C741) 2015

The proposed works should be carried out by employing accepted good work practices during construction, and environmental management measures set out in the EIAR and Natura Impact Statement (NIS).

The following is a non-exhaustive list of the typical environmental protection measures which should be included in a contractor's method statements and should form part of the detailed CEMP:

- All materials shall be stored at the contractor's construction compound and transported to the works zone immediately prior to construction
- Weather conditions should be taken into consideration when planning construction activities to minimise risk of run off from site
- Provision of 50m exclusion zones and barriers (silt fences) between any excavated material and any surface water features to prevent sediment washing into the receiving water environment as specified in the CEMP and NIS
- If dewatering is required as part of the proposed works (e.g. in wet areas), water must be treated prior to discharge
- The contractor shall ensure that silt fences are regularly inspected and maintained during the construction phase
- If very wet ground must be accessed during the construction process, bog mats/aluminium panel tracks should be used to enable access to these areas by machinery. However, works should be scheduled to minimise access requirements during winter months
- The contractor shall ensure that all personnel working on site are trained in pollution incident control response. A regular review of weather forecasts of heavy rainfall is required, and the contractor is required to prepare a contingency plan for before and after such events
- The contractor should carry out visual examinations of local watercourses from the proposed works during the construction phase to ensure that sediment is not above baseline conditions. In the unlikely event of water quality concerns, the Environmental Manager and ECoW should be consulted

- Excavations should only be left open for minimal periods to avoid acting as a conduit for surface water flows.
- Only emergency breakdown maintenance should be carried out on site. Emergency procedures and spillage kits should be available and construction staff should be familiar with emergency procedures.
- Appropriate containment facilities should be provided to ensure that any spills from vehicles are contained and removed off site. Adequate stocks of sand or commercially available spill kits shall be available
- Concrete or potential concrete contaminated water run-off should not be allowed to enter any watercourses. Any pouring of concrete (delivered to site ready mixed) should only be carried out in dry weather. Washout of concrete trucks shall not be permitted on site
- Entry by plant equipment, machinery, vehicles and construction personnel into watercourses or wet drainage ditches shall not be permitted. All routes used for construction traffic shall be protected against migration of soil or wastewater into watercourses
- Cabins, containers, workshops, plant, materials storage and storage tanks shall not be located near any surface water channels and should be located beyond the 50m hydrological buffer at all times.

8 TRAFFIC MANAGEMENT

Traffic management and road signage should be completed in accordance with the Department of Transport: Traffic Signs Manual - Chapter 8: Temporary Traffic Measures and Signs for Road Works and in agreement with Cork County Council.

The public road should be checked regularly and maintained free of mud and debris. Road sweeping should be carried out as appropriate to ensure construction traffic does not adversely affect the local road condition.

All traffic management measures should comply with those outlined in the accompanying Traffic Management Report and should be incorporated into a detailed Traffic Management Plan to be prepared, in consultation with Cork County Council, and approved prior to the commencement of development.

Table 8-1 Estimated Public & Construction Traffic

Proposed UGC Route	Vehicles
Underground Cable Route	Local residents inclusive of - cars, vans, motorcycles, trucks, jeeps and tractors
	Truck deliveries of equipment including dumpers, tractors and dump trailers, excavators, and HDD equipment
	Truck deliveries of materials including crushed aggregate, concrete sand, ducting, joint bays and cable reels.
	Contractor employee vans and equipment e.g. Quad bikes and trailer
	Cable pulling rig

9 ROAD OPENING LICENCE

Underground cable works within a public roadway will necessitate obtaining a road opening licence under Section 254 of the Planning and Development Act 2000-2015 from Cork County Council. Prior to the commencement of the development, a Traffic Management Plan (TMP) should be developed and agreed upon with Cork County Council. The TMP should detail the location of traffic management signage, any required road closures, and the routing of appropriate diversions. In cases where diversions are necessary, these routes should be agreed upon with Cork County Council before finalising the TMP.

10 IMPLEMENTATION OF ENVIRONMENTAL PROTECTION MEASURES

All environmental protection measures outlined in the environmental reports (e.g. CEMP and NIS) accompanying the planning application should be integrated into the construction method statement before commencement of development. These measures should be fully implemented during the construction phase. The project manager and site manager should oversee the implementation of these measures, consulting with the Environmental Manager and ECoW as required.

11 INVASIVE SPECIES BEST PRACTICE MEASURES

Invasive species can be introduced to a site through contaminated vehicles and equipment, particularly tracked vehicles previously used in an area containing invasive species. To mitigate this risk, good site organisation and hygiene practices should be maintained throughout construction activities.

The following, non-exhaustive list, of best-practice measures are typically included in the construction methodology to prevent the introduction or spread of invasive species:

- All machinery and equipment used for the works, such as excavators, tracked vehicles and footwear, should be thoroughly cleaned using a power washer unit. Cleaning should be conducted in a designated area before equipment arrives on site and upon leaving the site to prevent the spread of invasive species such as Japanese Knotweed and Himalayan Balsam. The contractor should maintain a sign-off sheet to document the cleaning process.
- Any material collected in the designated clean-down area should be treated as contaminated and managed appropriately on-site.
- All materials entering the site must be accompanied by supplier assurances confirming they are free of invasive species.
- All site personnel should be made aware of the invasive species management plan and associated treatment methodologies through pre-works "toolbox talks."
- Clear and adequate signage should be installed on-site to promote adherence to hygiene protocols related to the management of non-native invasive species.

12 WASTE MANAGEMENT

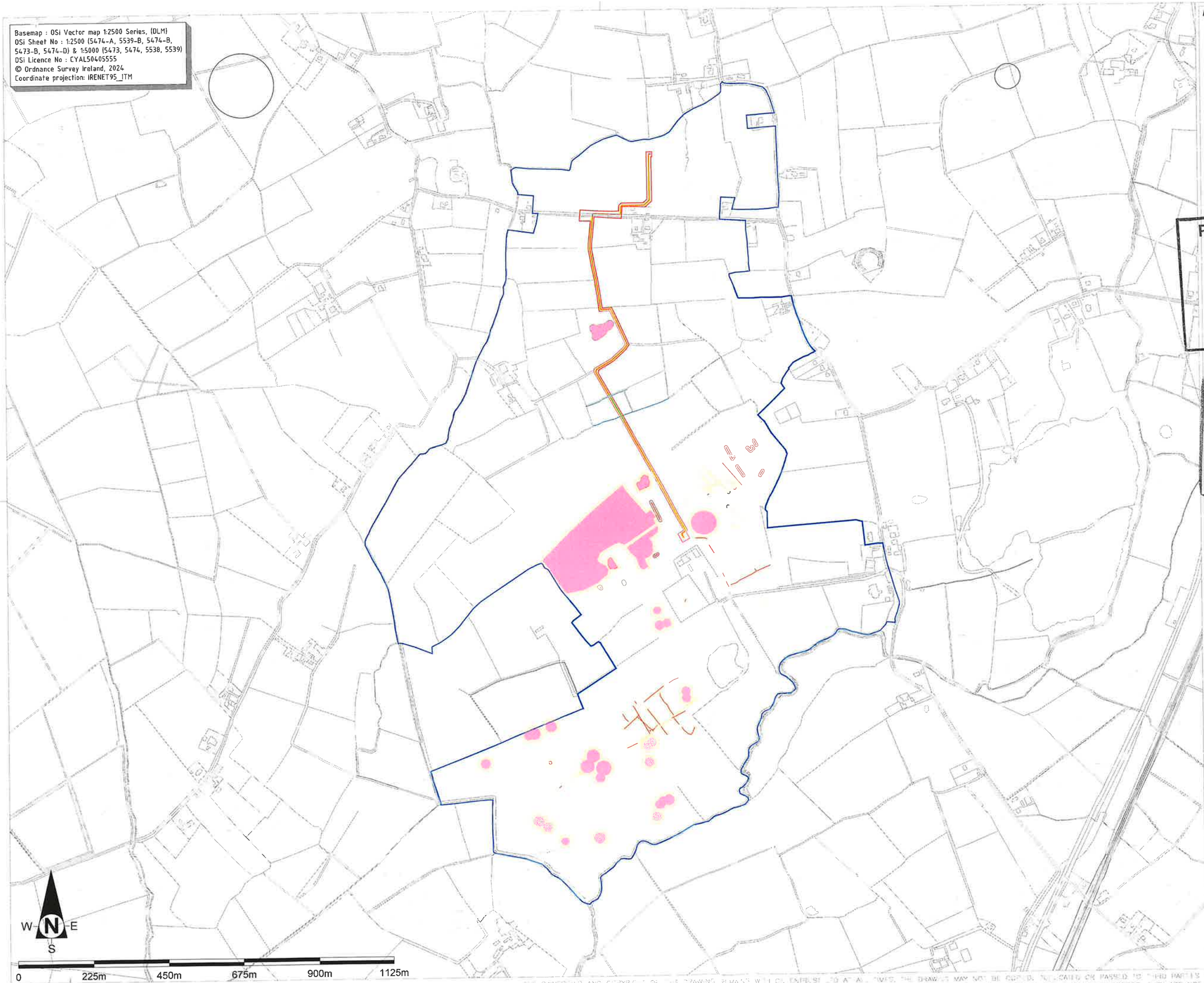
All waste products (e.g., general waste, plastic, timber, etc.) generated during the construction phase should be managed and disposed of in accordance with the Waste Management Act 1996, its associated amendments and regulations, and the provisions outlined in the Construction Environmental Management Plan (CEMP). A Waste Management Plan (WMP) should be included as an appendix to the live CEMP , which should be prepared by the contractor prior to the commencement of construction. Waste materials should be segregated, recorded, and disposed of at fully licensed disposal facilities to ensure compliance with regulatory requirements.

13 PROGRAMME

Table 13-1 Estimated Construction Duration

Proposed UGC Route	Estimated Construction Duration
Underground Cable Route	8 - 12 weeks

Appendix A
Ardnageehy-Ballyroe Cable Route



LEGEND

- Site Boundary
- Site Ownership Boundary
- Archaeological Exclusion Zone
- Archaeological Buffer Zone
- Transformer
- Proposed Cable Route
- Proposed Cable Route (HDD)
- Public Road Crossing
- Internal Access Track

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Notes:

Approx. Site Centre
ITM (552551, 617515)

Approx. Site Area
4.47189 Acre

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Ardnageehy-Ballyroe Cable Route
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Site Location Map

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Coordinate projection: IRENET95_ITM

AB-DR-03

AB-DR-04

94.2m

W N E S

0m 100m 200m 300m 400m 500m

LEGEND

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Sheet No.: AB-DR-02

Scale	Page Info	Date
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Cable Route Map

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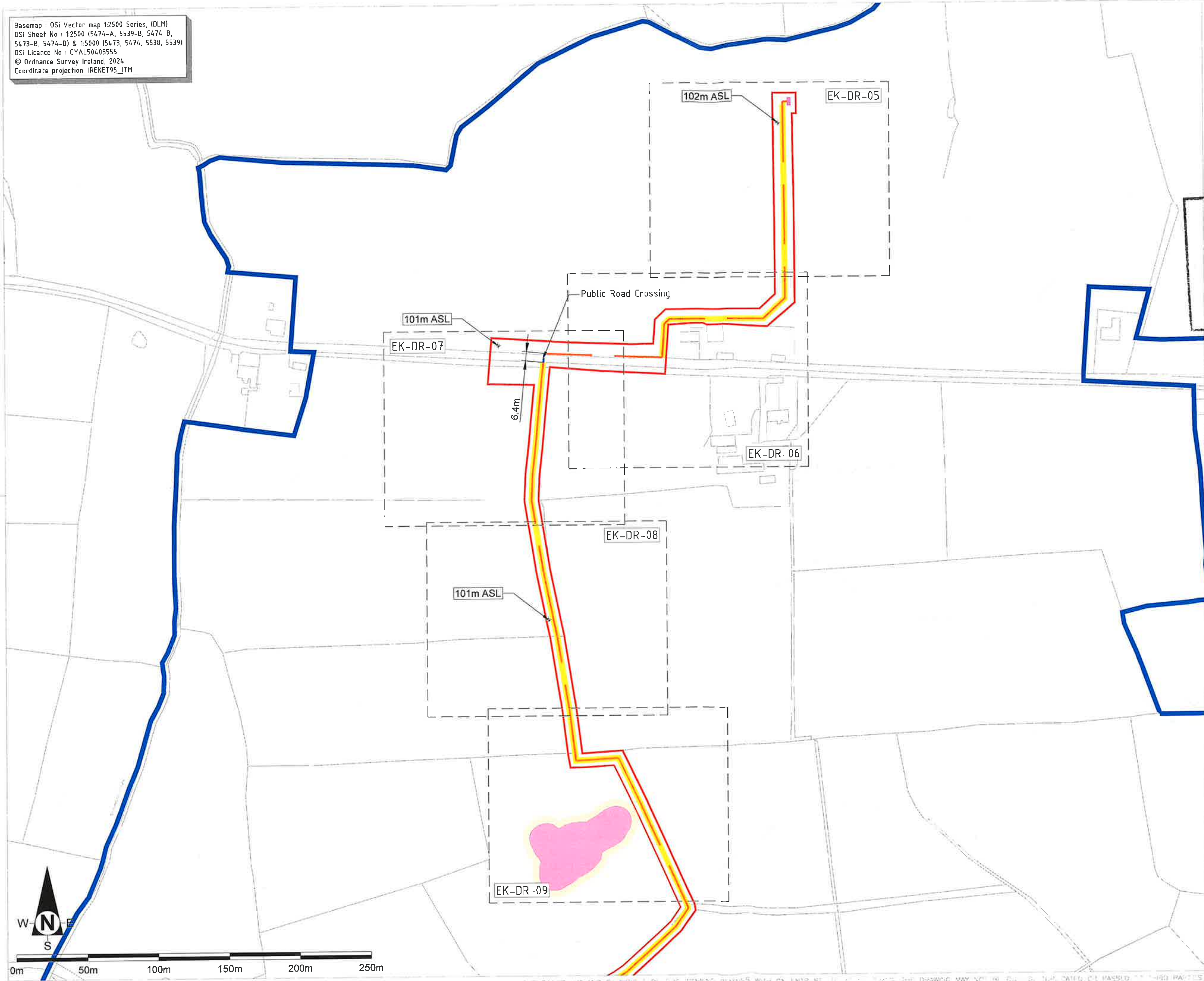

LEGEND

- Site Boundary
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Approx. Site Area
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Project Description

Ardnageehy-Ballyroe Cable Route

Land at Ballynadrideen & Ballyroe Townlands, Co. Cork

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Cable Route Map: Section 1

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Coordinate projection: IRENET95_ITM

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14.1m
97m ASL
94.2m
EK-DR-11
EK-DR-12
10m
EK-DR-13
10m
94m ASL
EK-DR-14

W N E S
0m 50m 100m 150m 200m 250m

LEGEND

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Ardnageehy-Ballyroe Cable Route
Land at Ballynadrideen & Ballyroe Townlands, Co. Cork

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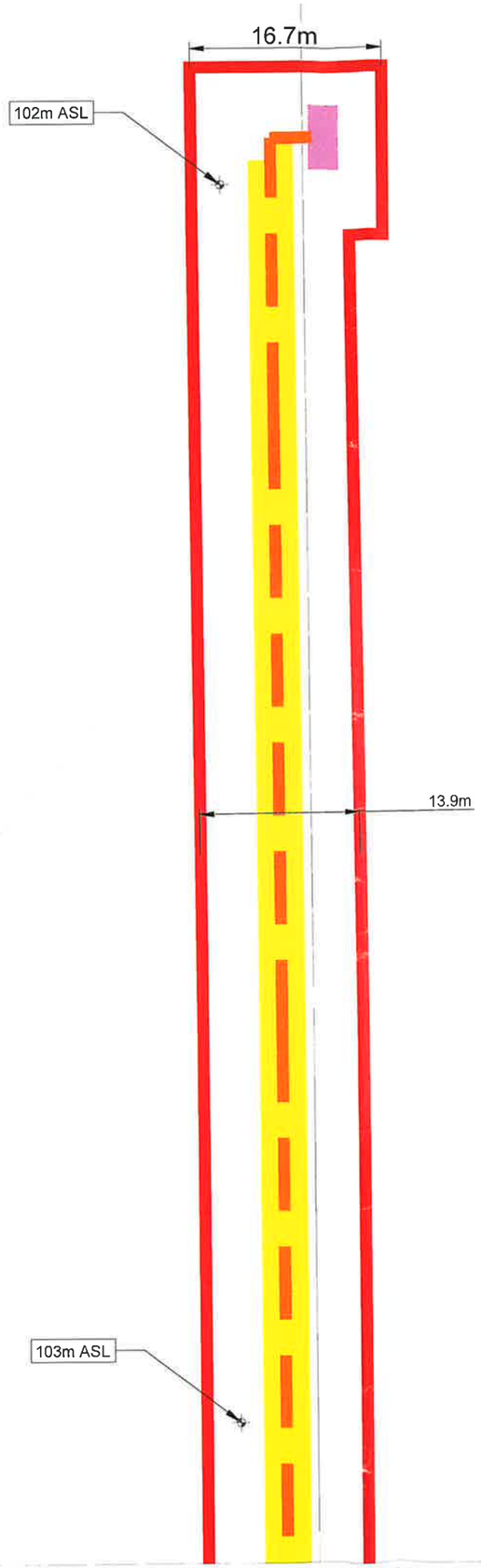

0m 10m 20m 30m 40m 50m

W N E S

LEGEND

- Site Boundary
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Ardnageehy-Ballyroe Cable Route
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104m ASL

10.6m

20m

101m ASL

0m 10m 20m 30m 40m 50m

W N E S

LEGEND

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LEGEND

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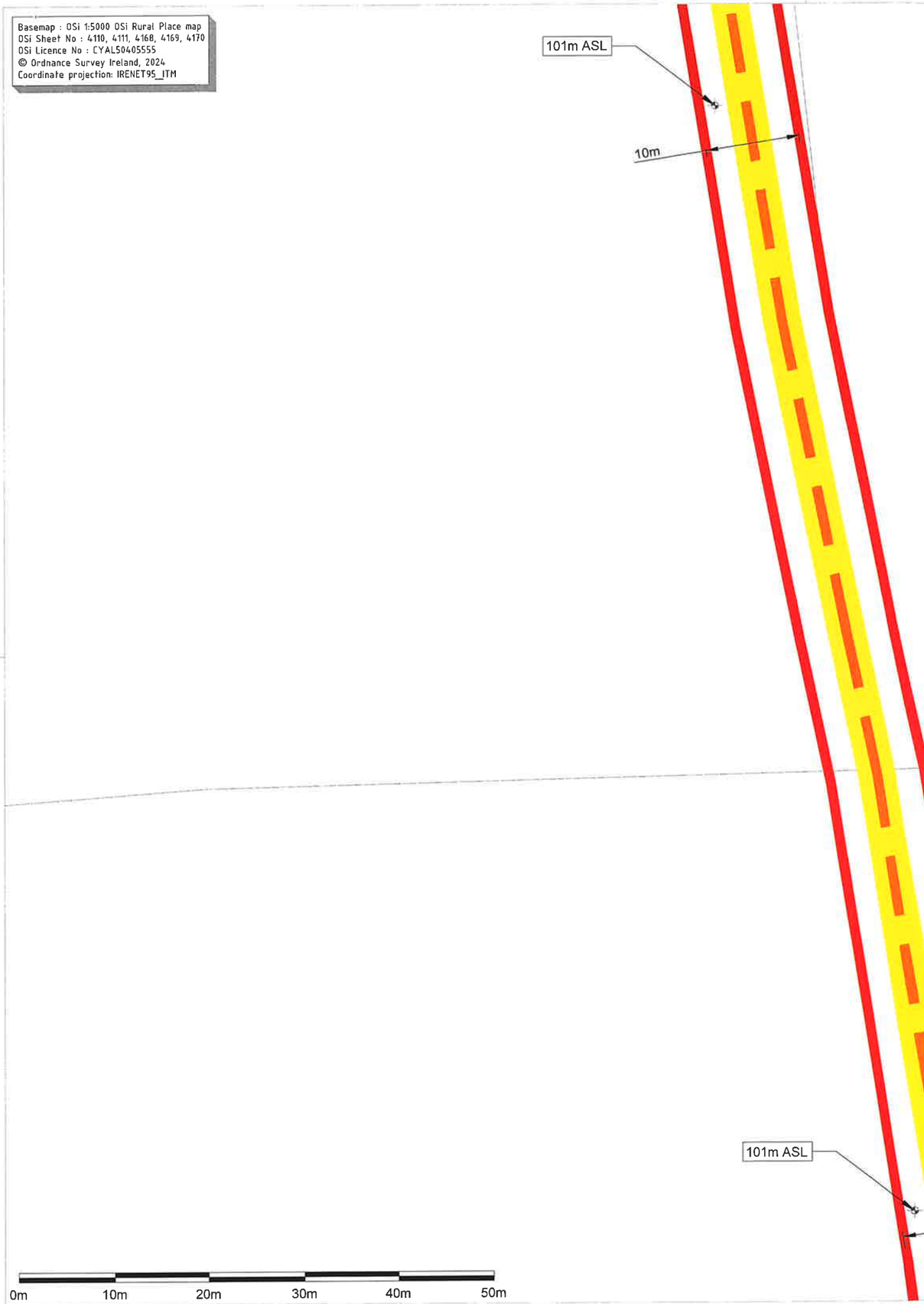

LEGEND

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Ardnageehy-Ballyroe Cable Route
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101m ASL

12.3m

101m ASL

10m

0m 10m 20m 30m 40m 50m

N

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LEGEND

- Site Boundary
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Notes:

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ITM (552551, 617515)

Approx. Site Area
4.47189 Acre

Project Description
Ardnageehy-Ballyroe Cable Route
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Sheet No.: AB-DR-09

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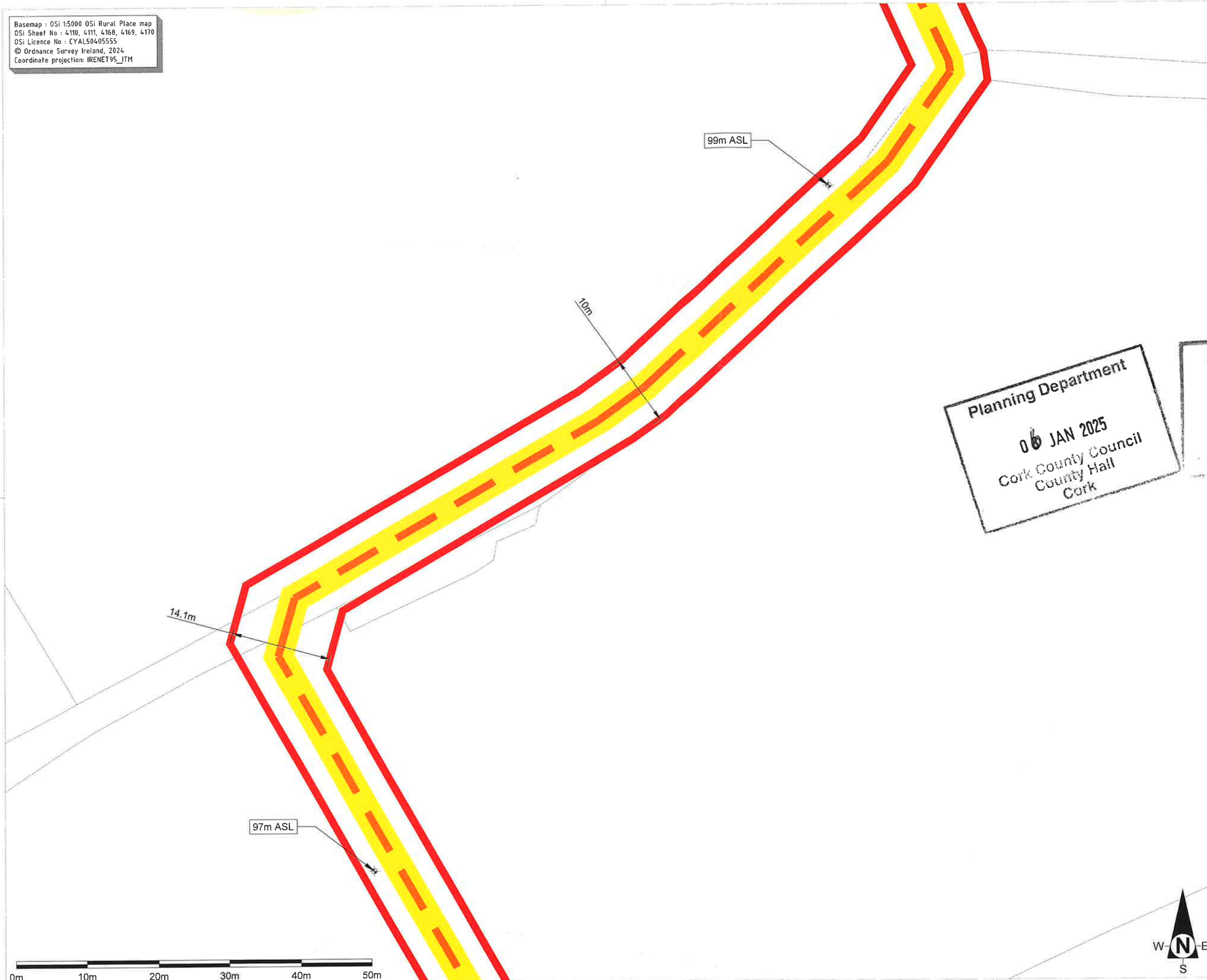
OSi Licence No : CYAL50405555

Coordinate projection: IRENET95_ITM



LEGEND

- Site Boundary
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- Archaeological Exclusion Zone
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Approx. Site Centre
ITM (552551, 617515)

Approx. Site Area
4.47189 Acre

Project Description
Ardnageehy-Ballyroe Cable Route
Land at Ballynadrideen & Ballyroe Townlands, Co. Cork

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OSi Licence No : CYAL50405555

Coordinate projection: IRENET95_ITM

98m ASL
10m
HDD
97m ASL
94.2m
10m

0m 10m 20m 30m 40m 50m

N E S W

LEGEND

- Site Boundary
- Site Ownership Boundary
- Archaeological Exclusion Zone
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- Proposed Cable Route
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Notes:

Approx. Site Centre
ITM (552551, 617515)

Approx. Site Area
4.47189 Acre

Project Description
Ardnageehy-Ballyroe Cable Route
Land at Ballynadrideen & Ballyroe Townlands, Co. Cork

Sheet No.: AB-DR-11

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Cable Layout Plan

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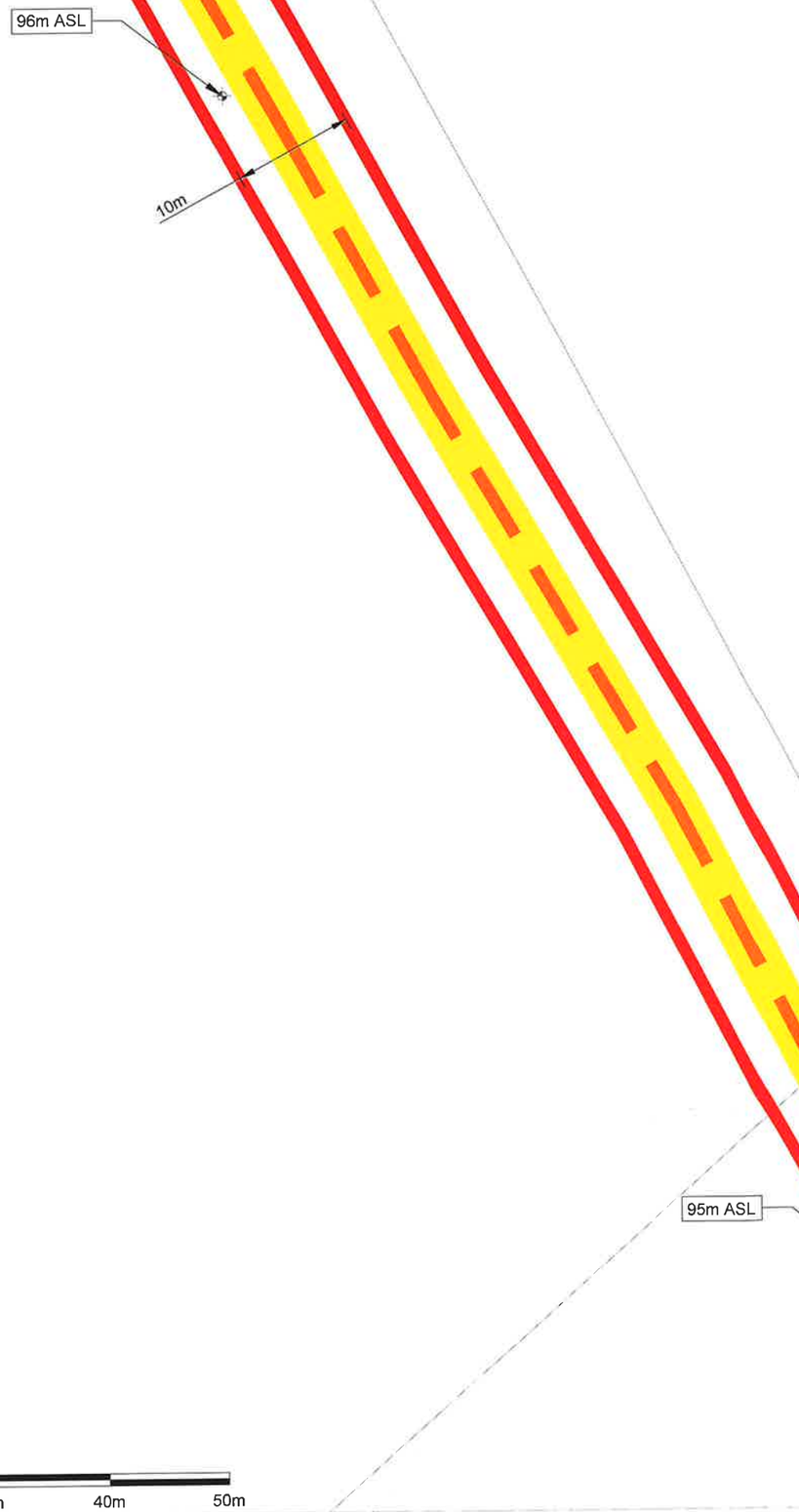
Unit 1, First Floor, Oranmore Business Park,
Oranmore, County Galway, H91 P7X8
Email : contact@entrust-services.com
Phone : +353 (0) 91 342 511

Basemap : OSi 1:5000 OSi Rural Place map
OSi Sheet No : 4110, 4111, 4168, 4169, 4170
OSi Licence No : CYAL50405555

Coordinate projection: IRENET95_ITM



0m 10m 20m 30m 40m 50m

W N E S

LEGEND

- Site Boundary
- Site Ownership Boundary
- Archaeological Exclusion Zone
- Archaeological Buffer Zone
- Transformer
- Proposed Cable Route
- Proposed Cable Route (HDD)
- Public Road Crossing
- Internal Access Track
- Ditch/Drain/River

Planning Department
06 JAN 2025
Cork County Council
County Hall
Cork

Planning Department
16 DEC 2024
County Hall
Cork

Notes:

Approx. Site Centre
ITM (552551, 617515)

Approx. Site Area
4.47189 Acre

Project Description
Ardnageehy-Ballyroe Cable Route
Land at Ballynadrideen & Ballyroe Townlands, Co. Cork

Sheet No.: AB-DR-12

Scale	Page Info	Date
1:500	A3	13/12/2024

Title
Cable Layout Plan

entrust
planning. environmental. technical.

Drawings Prepared by : Ananthulal S
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Oranmore, County Galway, H91 P7X8
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Basemap : OSi 1:5000 OSi Rural Place map
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OSi Licence No : CYAL50405555

Coordinate projection: IRENET95_ITM

98m ASL

10m

98m ASL

0m 10m 20m 30m 40m 50m

W N E S

LEGEND

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Planning Department
06 JAN 2025
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County Hall
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County Hall
Cork

Notes:

Approx. Site Centre
ITM (552551, 617515)

Approx. Site Area
4.47189 Acre

Project Description
Ardnageehy-Ballyroe Cable Route
Land at Ballynadrideen & Ballyroe Townlands, Co. Cork

Sheet No.: AB-DR-13

Scale	Page Info	Date
1:500	A3	13/12/2024

Title
Cable Layout Plan

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Drawings Prepared by : Ananthulal S
Drawings Verified & Approved by : Kieran Tarpey
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Basemap : OSi 1:5000 OSi Rural Place map
OSi Sheet No : 4110, 4111, 4168, 4169, 4170
OSi Licence No : CYAL50405555
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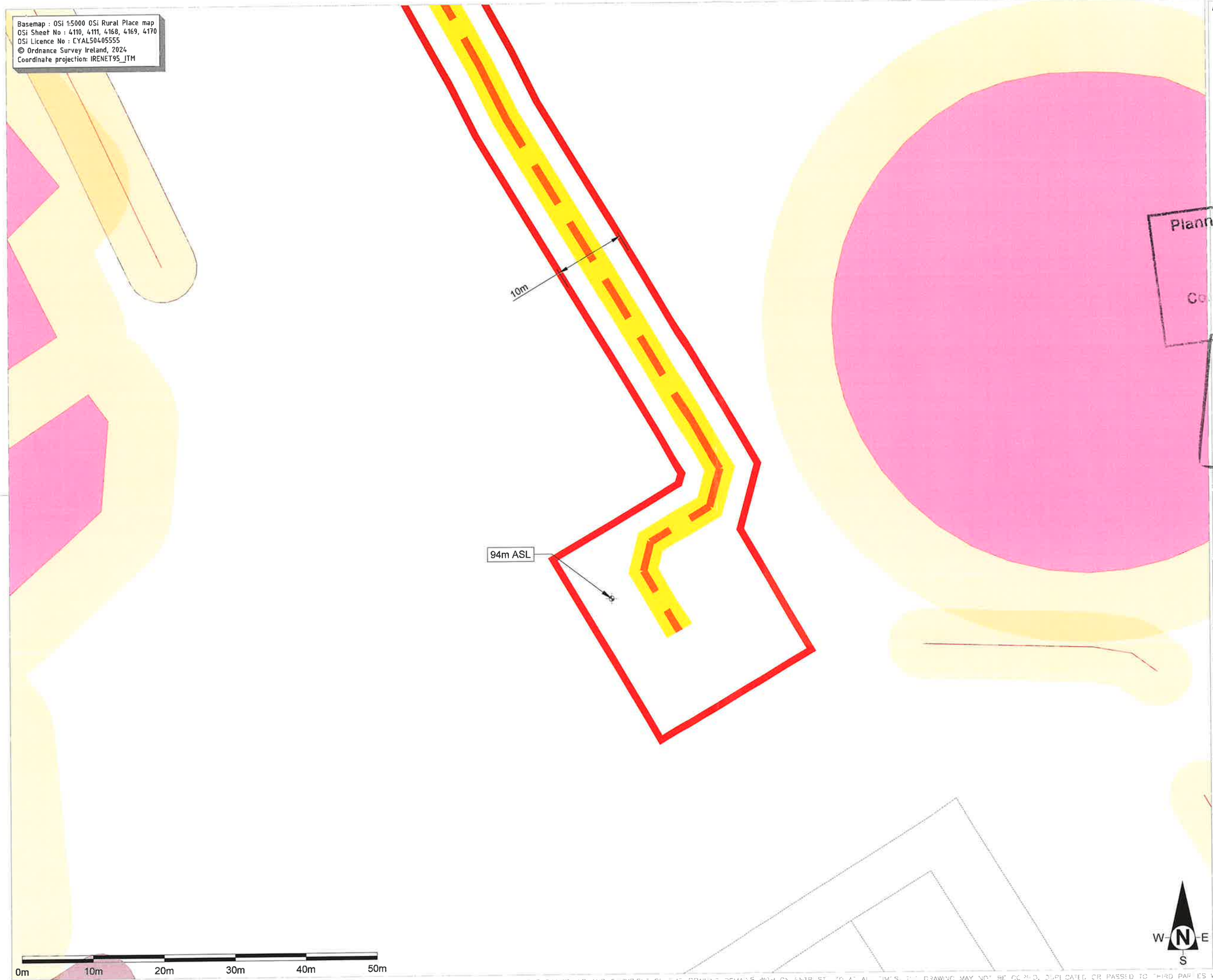
Coordinate projection: IRENET95_ITM



0m 10m 20m 30m 40m 50m

W N E S

LEGEND

- Site Boundary
- Site Ownership Boundary
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Planning Department
06 JAN 2025
County Council
County Hall
Cork

Planning Department
16 DEC 2024
County Hall
Cork.

Notes:

Approx. Site Centre
ITM (552551, 617515)

Approx. Site Area
4.47189 Acre

Project Description
Ardnageehy-Ballyroe Cable Route
Land at Ballynadrideen & Ballyroe Townlands, Co. Cork

Sheet No.: AB-DR-14

Scale	Page Info	Date
1:500	A3	13/12/2024

Title
Cable Layout Plan

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