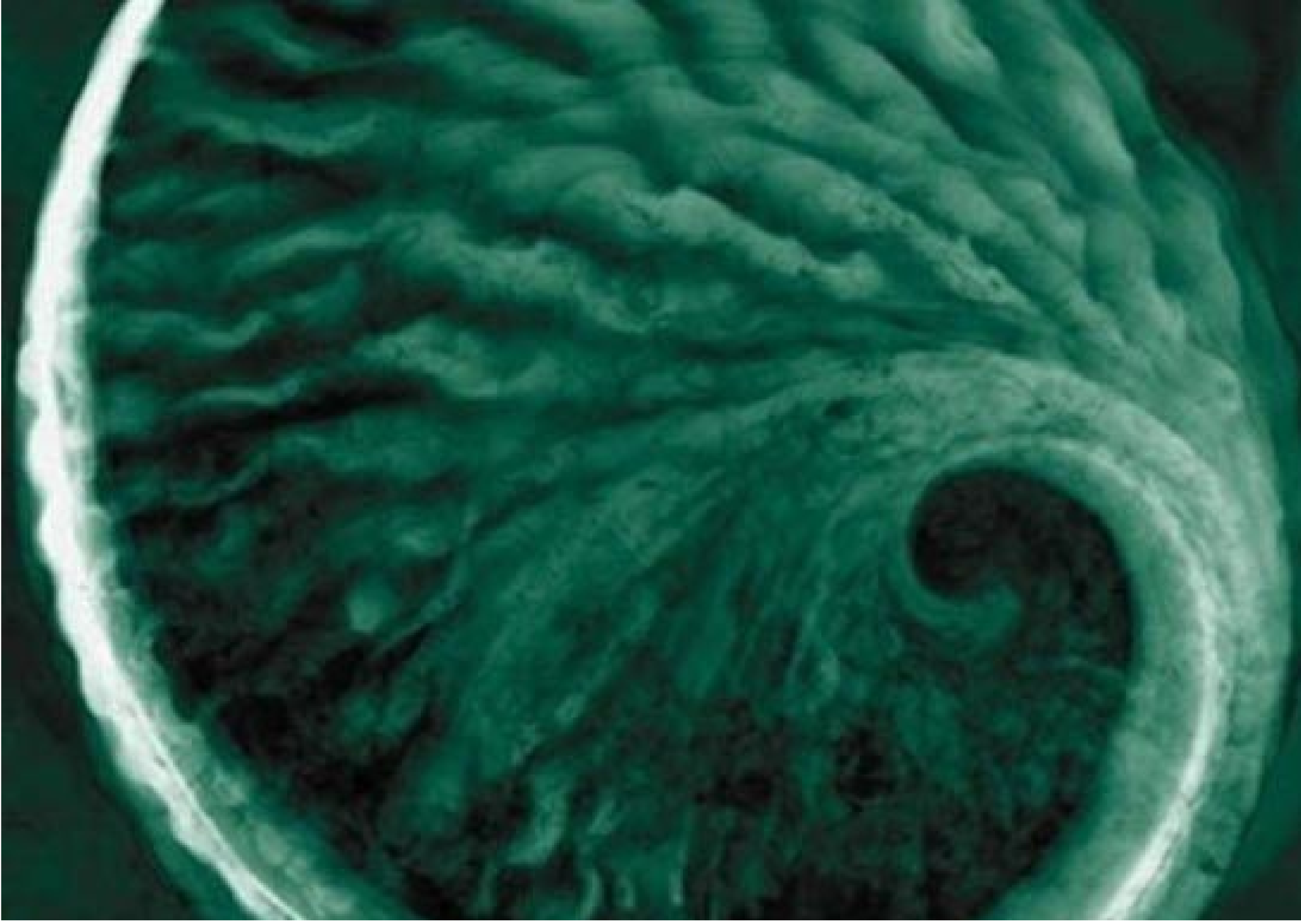

Owenreagh/Craignagapple Wind Farm

Environmental Statement – Volume 1 Non-Technical Summary

Ørsted Onshore Ireland Midco Limited

06 September 2023

Project No.: 0696177

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Owenreagh/Craignagapple Wind Farm

Environmental Statement – Volume 1 Non-Technical Summary

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Acronyms and Abbreviations

Name	Description
D&AS	Design & Access Statement
DBA	Desk-Based Assessment
DCEMP	Decommissioning and Construction Environment Management Plan
DfC	Department for Culture
DfI	Department for Infrastructure
DHMEP	Draft Habitat Management Enhancement Plan
EIA	Environmental Impact Assessment
ERM	Environmental Resource Management

ES	Environmental Statement
ESA	Ecological Study Area
HED	Historic Environment Division
HGV	Heavy Goods Vehicle
HMEP	Habitat Management Enhancement Plan
KOR	Key Ornithological Receptor
kV	kiloVolts
LCT	Landscape Character Type
LCA	Landscape Character Area
LVIA	Landscape and Visual Impact Assessment
NTS	Non-Technical Summary
NVC	National Vegetation Classification
OSA	Ornithological Study Area
PACC	Planning Application Community Consultation
oPMP	Outline Peat Management Plan
PWS	Private Water Supplies
SAC	Special Area of Conservation
SPA	Special Protected Area
ZTV	Zone of Theoretical Visibility

Non-Technical Summary

1. INTRODUCTION

This Non-Technical Summary (NTS) summarises the Environmental Statement (ES) which has been prepared by ERM to accompany the application by Ørsted Onshore Ireland Midco Limited ('the Applicant') for consent to install and operate Owenreagh/Craignagapple Wind Farm ('the Development'). The Development will be located at the Site shown on Figure NTS.1: Site Location. This is anticipated to have a generation capacity between 48.3 and 67.2 megawatts (MW) depending on the turbine model used. The Development includes:

- Initial decommissioning of the operational Owenreagh I and Owenreagh II Wind Farm sites; and,
- Repowering of the Owenreagh I and II sites, and modification and extension of the consented Craignagapple site, through construction of up to 14 wind turbines with tip height up to 156.5 m and rotor diameter up to 136 m and associated ancillary infrastructure.

The Application will be submitted with this ES, which reports the Environmental Impact Assessment (EIA), in accordance with The Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2017 (as amended) ('the EIA Regulations') in order to inform the consideration of the Application.

Ørsted Onshore Ireland Midco Limited is a fully owned subsidiary of Ørsted A/S. Ørsted develops, constructs, and operates offshore and onshore wind farms, solar farms, energy storage facilities, renewable hydrogen and green fuels facilities, and bioenergy plants, and provides energy products to its customers.

The ES consists of the following volumes:

- **Volume 1 – ES Non-Technical Summary** (this document);
- **Volume 2 – ES Main Text**;
- **Volume 3 – ES Figures**, including:
    - **Volume 3a – Figures excluding Landscape and Visual Impact Assessment (LVIA)**;
    - **Volume 3b – LVIA Figures**;
    - **Volume 3c – LVIA Visualisations**; and,
- **Volume 4 – ES Technical Appendices**.

A Planning Statement has been prepared to accompany the application. The Planning Statement sets out an assessment of the Development in the context of national planning, energy policy, the local development plan, and emerging planning policies. It also considers the potential benefits and harm which may arise and concludes as to the overall acceptability of the proposal in relation to the planning context. Also included are the Design & Access Statement (D&AS) and the Pre-Application Community Consultation (PACC) report.

The Planning Statement, D&AS and PACC report do not form part of the ES.

2. METHODOLOGY

EIA is a process aimed to ensure that permissions for developments with potentially likely significant effects on the environment are granted only after assessment of the likely significant environmental effects has been undertaken. Best practice is for the assessment to be carried out following consultation with statutory consultees, other interested bodies and members of the public.

The ES has been prepared following a systematic approach to EIA and project design. The process of identifying environmental effects is iterative and cyclical, running at the same time as the design process, whereby the design of the Development is refined in order to avoid or reduce likely significant effects using mitigation as necessary.

The EIA process follows a number of stages broadly in line with the following:

- Site selection and feasibility;
- Screening – to determine if an EIA is required (unless an Applicant volunteers an ES, as is the case with the Development);
- Scoping and ongoing consultation, including consideration of responses and how these should be addressed;
- Technical environmental assessments, including baseline studies, input to the design process and identification of potential significant environmental effects;
- Mitigation to avoid or reduce the effects through iterative design process and assessment of residual effects;
- Preparation of an ES;
- Submission of the application including the ES to the Department for Infrastructure (DfI);
- Consideration of application and environmental information by the DfI and statutory and non-statutory consultees;
- Determination of the application; and,
- Implementation and monitoring.

The aim of the Scoping process is to identify key environmental issues at an early stage; determine which elements of the Development are likely to cause likely significant environmental effects; and identify issues that can be 'scoped out' of the assessment. This exercise for the Development established the work and level of detail required to inform the ES.

In addition to the formal Scoping process, where appropriate, authors of technical assessments within this ES engaged directly with statutory and non-statutory consultees throughout the duration of the ES preparation stage to further refine the scope for each assessment. Two rounds of public consultation were held in November 2021 and March 2022 for local residents, through print and digital formats, as well as in-person consultation.

A number of environmental disciplines have been assessed to identify any effects that may be significant in the context of the EIA Regulations. Significant effects occur when the magnitude of effect – which is derived from the receptor's sensitivity and magnitude of impact – is assessed as being "major" or "moderate". Appropriate mitigation measures are discussed within each technical chapter following the identification of significant effects, including any proposed monitoring.

In the first instance, the strategy of this ES has been to avoid or minimise any potentially significant effects in line with the IEMA EIA Guide to Delivering Quality Development Report[1]. This follows the mitigation hierarchy, where the strategy of avoidance, reduction, and remediation seeks to:

- First to avoid potential effects;
- Then to reduce those which remain; and,
- Lastly, where no other measures are possible, to propose mitigation measures.

[1] IEMA (2016) Environmental Impact Assessment Guide to: Delivering Quality Development. Available online at: https://www.iema.net/assets/newbuild/documents/Delivering%20Quality%20Development.pdf [Accessed 28/11/2022]

In accordance with the EIA Regulations, the assessment has considered cumulative effects where applicable. A cumulative effect is the incremental effect on an aspect of the environment, caused by adding the Development to a potential future baseline including all other proposed but not constructed developments. For the purposes of this EIA, these 'cumulative developments' were deemed to comprise other wind farms and the Dalradian gold mine grid connection (Planning Ref: LA11/2019/1000/F).

3. DEVELOPMENT DESCRIPTION

The main Development components are shown in Figure NTS.2: Development Layout. This shows the components of the proposed Development at the Site. Figure NTS.3: Comparison of the Development, Operational Wind Farms, and the Consented Windfarm shows the Development in the context of the operational Owenreagh I and II and consented Craignagapple Wind Farms.

3.1 Previous Wind Farm Development at the Site

The operational Owenreagh I Wind Farm was constructed in 1997, comprising ten turbines with 40 m hub height and 40 m blade diameter. One of the turbines from the operational Owenreagh I Wind Farm has since been decommissioned, and another turbine is in the process of being decommissioned. The operational Owenreagh II Wind Farm comprises six turbines, operational since 2008, with 40 m hub height and 52 m blade diameter.

Planning permission (Planning Ref: J/2010/0481/F) for Craignagapple Wind Farm was granted in January 2018. The consent included for up to six turbines with tip height up to 111 m. However, these turbines were not constructed, and the planning application consent period expired in January 2023.

3.2 Overview of the Development

The Development comprises the decommissioning and repowering of the Operational Owenreagh I and II Wind Farms.

The Development will comprise of the following main components:

- Initial decommissioning and removal of the existing turbines;
- Two temporary construction compound/laydown areas (some areas may be reinstated temporarily if required for future operational and decommissioning purposes);
- Removal and restoration of the existing crane hardstandings, access tracks and any other above-ground infrastructure;
- Construction and/or upgrading of seven Site access points onto the public highway;
- Construction of approximately 3,947 m of new access tracks;
- Upgrade of approximately 382 m of existing access tracks;
- Construction of turning heads and passing places on the access tracks;
- The erection of up to 14 three bladed horizontal axis wind turbines of up to 156.5 m tip height;
- Construction of temporary and permanent hardstanding areas for each turbine to accommodate turbine component laydown areas, crane hardstanding areas and internal or external transformers and/or switchgear;
- Construction of turbine foundations;
- There are no upgraded water crossings and two new water crossings;

- Installation of buried underground electrical and communication cables;
- Construction of a substation and control building, and associated compound, including windfarm and grid connection operating equipment; and,
- Associated ancillary works.

The decommissioning and construction phase will be regulated using Decommissioning and Construction Environmental Management Plan (DCEMP), which is a comprehensive suite of monitoring and control measures. These are in accordance with normal best practice and go beyond these in aspects where the site is particularly sensitive, such as regarding peat and watercourses. Performance against these measures will be monitored by the Applicant's Construction Project Manager throughout the decommissioning and construction phase. An outline of this document is provided in **Technical Appendix A3.1**.

Other aspects of the site will be managed specifically for the purposes of enhancing the habitats in the area, and these would be put in place during the initial decommissioning and construction phase. These are set out in a Draft Habitat Management and Enhancement Plan (DHMEP). This document is provided in **Technical Appendix A3.2**.

3.3 Development Components

3.3.1 Development Parameters

Details of the Development components are set out in Table 1 below. The figures referenced below can be found in **Volume 3a** this ES.

Table 1. Components of the Development

Element	Details
Wind Turbines Figure 3.4a and 3.4b	Up to 14 three-bladed turbines, each with a maximum tip height of 156.5 m. The turbines will be light grey in colour and include an external transformer and/or switchgear. The final choice of turbine will be guided by the market conditions at the time of procurement, however it is likely that turbines up to 4.8 MW capacity will be available within the aforementioned parameters. As the turbines are expected to be of height over 150 m to tip, in accordance with aviation rules they will have to be lit with flashing red lights. The brightness of these lights will depend on discussion with aviation operators and regulators that will take place following consent for the Development but would be a maximum of 2000 candela (a unit of light brightness), with an alternative scenario being 200 candela.
Turbine Foundations and Crane Hardstandings Figure 3.1, 3.5, and 3.6	Foundations will be determined by ground investigation, typically 20-25 m in diameter. Final foundation designs will be specific to the chosen turbine. Crane hardstandings will be a maximum of 173.75 m by 62.8 m and will be determined by turbine selected, erection process, and specification of cranes. Hardstanding and turning areas will stay in place during operational phase to facilitate maintenance
Transformer, switchgear and cabling	Switchgear may be located within the turbine hub, or at the base of the turbine depending on turbine model selected. An external transformer will be placed at the base of the turbine in protective housing. Transformers increase the voltage typically from 690 Volts to 33 kiloVolts (kV).

Figure 3.7, 3.8, 3.9, and 3.10	Turbines will be connected by 3 no. single phase power cables alongside access tracks. Copper cables will connect each turbine to the substation to protect from electrical damage from lightning strikes.
Substation Compound Figure 3.1, 3.9, 3.10, and 3.11	The substation will be located within the Substation Compound and designed to the standard required by Northern Ireland Electricity (NIE). With NIE approval, the existing operational substation will be decommissioned. The proposed substation will be a maximum of 180 m by 90 m to account for future design specifications. The area for the substation will contain a substation building, a control room, and ancillary equipment, including the transformers, switch gear, fault protection, metering, component storage, car parking and other ancillary elements necessary for the operation of the Development.
Temporary Construction Compound Figure 3.1, 3.12a and 3.12b	Two temporary construction compounds measuring 100 m by 80 m and 70 m by 35 m will be created. The compounds will be used for parking, receipt and storage of equipment and materials, and form a laydown area for decommissioned turbine components. A waste management area will be set up, as well as a temporary office and welfare facilities.
Site Access Figure 3.1, 13.1, 13.14, and 13.15	Access to the site will be via seven access points along Glenmornan Road and Napple Road. On-site tracks will consist of a mixture of new and improved existing tracks. The number of watercourse crossings has been minimised through the design process.
Site Signage	During the decommissioning and construction phase, the Site will have suitable signage to protect the health and safety of workers, contractors, and the general public. During the operational phase, there will be a sign giving the operator's name, the name of the Development and an emergency contact telephone number.

3.3.2 Grid Connection

The grid connection will be subject to a separate application, which will be accompanied by its own ES if required. This will either be done by SONI (Northern Ireland's transmission system operator) or by the Applicant.

In initial discussions with SONI, they identified two potential grid connection points: Strabane 110kV substation and Killymallaght 110kV substation.

3.4 Decommissioning and Construction

The first phase of the Development will be the decommissioning and removal of the existing turbines, and associated infrastructure from the Site. This will likely commence in 2025 at the earliest. Initial decommissioning of Owenreagh I and II is expected to take three months, following a four-week period to prepare the Site.

The construction phase is expected to run in parallel with the decommissioning phase and take approximately 12 months in total. This estimate is likely to change based on site and weather conditions. In general, working hours for the decommissioning and construction phase will be from 07:00 to 19:00 throughout the week, with reduced working hours at weekends.

Following construction activities, areas of land used temporarily will be restored. This forms an integral part of the post-construction restoration programme. Should future works be required to maintain the Development the temporary construction areas may be reused and temporarily reinstated as required for maintenance purposes.

3.5 Operational Phase

A 40-year operational lifespan of the Development has been assumed for the purposes of this assessment. If a turbine is non-operational for a period of 1 year or more, it will be decommissioned. When the last turbine is decommissioned, the whole Development (including tracks and other infrastructure) will be decommissioned.

3.6 Final Decommissioning

It is assumed that the Development will at some point require to be decommissioned, whether because the maintenance of the turbines becomes too expensive or for other reasons. When this happens, the process would be similar to the decommissioning of the operational Owenreagh I and II Wind Farms.

4. SITE SELECTION AND DESIGN

The Site contains the operational Owenreagh I and II Wind Farms which have been operational since 1997 and 2008, respectively. Additionally, the Site includes the land that was subject to the planning permission for the Craignagapple Wind Farm. There are no reasonable alternative locations for the Development since the advantage/benefit of repowering an existing site removes the need to consider alternative sites.

The removal of existing Owenreagh I and II turbines and installation of new turbines allows an existing wind farm to continue operating and contributing towards renewable energy targets with more modern turbines that can generate much more power. The benefit of this is an increased overall generating capacity and output, contributing to the local economy and Northern Ireland's climate targets. Alongside the generation of renewable energy, agriculture, such as cattle and sheep farming, is the other principal land use, and this can continue with the new turbines.

If the Development was not to proceed, the operational Owenreagh I and II Wind Farms would continue to operate as they do at present, with a generation capacity of 4.4 MW and 5.1 MW, respectively. The operational Owenreagh I and II Wind Farms are consented in perpetuity and for the purposes of the baseline scenario it is assumed that they would continue to operate and be maintained.

The following principles informed the design iterations to ensure that the final design of the Development was the most suitable for the Site:

- The avoidance of inconsistent turbine spacing leading to relatively large gaps, outliers and excessive turbine overlapping to minimise visual confusion and ensure a balanced/compact array from key views;
- Achieving an appropriate scale of turbine, taking account of the landscape context;
- The maintenance of turbine manufacturers recommended spacing between turbines in order to minimise turbulence and turbine fatigue, leading to reductions in energy yield, taking account of the prevailing wind direction for a site;
- Understanding and respecting the ground conditions and topography of the Site, taking account of turbine manufacturers' specifications;
- Maximising the separation from residential dwellings; and,
- Respecting other environmental constraints such as active peat.

The iterative design process has refined the original layout to achieve the optimum design and scale of turbine for the Development, helping avoid and mitigate effects on the landscape and visual receptors, peat disturbance, ecological receptors, telecoms infrastructure and aviation wherever possible. In total, the iterative design process produced 4 different layouts, the last of which is the final design for the Development.

5. POLICY AND LEGISLATIVE CONTEXT

Chapter 5 of the ES sets out legislative planning and policy background of the application. The legislative basis for a decision by the Department for Infrastructure Strategic Planning Directorate (DfI Planning), is set out, and an overview of planning policy at a local level and at a regional level is provided. The Planning Statement is submitted alongside the ES.

Northern Ireland's first law to tackle climate change, the 'Climate Change Act (Northern Ireland) 2022'[2] (the Climate Change Act), received Royal Assent on 6 June 2022. The Act aims to have Northern Ireland play its part in the global and UK effort to tackle climate change by creating a framework that will establish a pathway to achieving emission reduction targets. This will help to ensure that Northern Ireland develops a greener, low carbon circular economy in which the environment can prosper and be protected.

In December 2021, the Department for the Economy published the 'Northern Ireland Energy Strategy - The Path to Net Zero'[3] which detailed Northern Ireland's (NI) energy future over the next ten years and set the renewable electricity targets for 2030- identifying that 70% of electrical energy needed to be sourced from renewables by 2030, with flexibility to increase this target.

The Regional Development Strategy 2035[4] (RDS 2035) strategic guidance actively promotes the shift to a lower carbon economy, the adaptation to climate change and the delivery of a secure and sustainable energy supply. Through an aim to *"deliver a sustainable and secure energy suppy"* the RDS 2035 puts a clear focus on reducing carbon emission through a shift to renewable energy.

The Development will help Northern Ireland reach both national and regional renewable energy goal, whilst upgrading existing infrastructure at the operational Owenreagh I and II Wind Farms.

6. LANDSCAPE AND VISUAL IMPACT ASSESSMENT

Chapter 6 of the ES assesses the potential landscape and visual effects from the Development. The Landscape Study Area for the Development covers a radius of 30 km and within this area, those aspects with the potential to be significantly affected have been assessed in detail. These aspects included one landscape element (the Site itself), nine landscape character areas (LCAs), one designated landscape area (the Sperrin Area of Outstanding Natural Beauty), and 25 viewpoints.

In respect of the physical effects on landscape elements, the assessment found **no significant** effects would arise in relation to the loss of the rough grass moorland as a result of the construction of the Development.

The assessment of effects on landscape character found that **significant** effects, during the decommissioning and construction and operational phases would arise as a result of the Development within parts of three of the LCAs that occur in the Landscape Study Area. Collectively, these significant effects would extend out to a radius of approximately 5 km from the Site.

The effect of the Development on all other landscape character areas during the initial decommissioning and construction and operation phases would be **not significant**.

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2 Northern Ireland Executive, 2022, The 'Climate Change Act (Northern Ireland) 2022, Available at:
https://www.legislation.gov.uk/nia/2022/31/contents/enacted

3 Department of the Economy (2021) Northern Ireland Energy Strategy- The Path to Net Zero. Available at:
https://www.economy-ni.gov.uk/publications/energy-strategy-path-net-zero-energy

4 Department for Regional Development, 2010, The Regional Development Strategy 2035, Available at: https://www.infrastructure-ni.gov.uk/sites/default/files/publications/infrastructure/regional-development-strategy-2035.pdf

A detailed assessment of the effects on the Sperrin AONB found that the Development would give rise to **significant** effects on those parts of the AONB that correspond with the extent of the significant effects on the three LCAs as described above, i.e., within approximately 5 km of the Site.

The assessment of the effects of the Development found that **significant** effects would occur during the decommissioning and construction and operational phases at 11 of the 25 viewpoints. The viewpoints significantly affected during the decommissioning and construction, and operational phases all lie within an approximate 6 km radius of the Development and were selected because they had clear views towards the Development.

In respect of the principal visual receptors, settlements within approximately 6 km to the north and east, and within approximately 5 km to the south and west, are considered likely to experience **significant** effects during the decommissioning and construction, and operational phases. These effects would be localised within the settlements in relation to the extent and level of actual visibility. Road users within approximately 5 km would experience **significant** effects when driving towards the Development, and the NCR 92 would experience **significant** effects across a short (1 – 2 km) section of the route to the south of the Site, within 6 km.

The wind farms most relevant to the cumulative assessment are operational and these form part of the baseline situation. The assessment of the Development in addition to the cumulative situation is, therefore, partly covered by the main assessment as this takes into account all the operational wind farms, including developments within the Slieve Kirk range to the north. Cumulative effects are assessed as **not significant** as a result of the Development, due to the limited intervisibility of the Development with consented and application stage wind farms across the Landscape Study Area.

Technical Appendix A6.2: Residential Visual Amenity Assessment (RVAA) sets out the assessment of effects on residential visual amenity. The RVAA has assessed 54 of the 79 residential properties within the RVAA Study Area which will experience **significant** visual effects. However, the Development is not considered to lead to the 'Residential Visual Amenity Threshold' being reached in respect of any of these properties. That is to say, the Development does not have the potential to give rise to overbearing or overwhelming effects on any of the properties in respect of the visual amenity of residents at the property.

Technical Appendix A6.3: Assessment of Visible Aviation Lighting sets out the assessment of night-time effects as a result of visible aviation lighting on the peripheral turbines. At night the turbines would not in themselves be conspicuous during times of darkness. Nevertheless, the assessment of night-time effects for the Development has predicted a **significant** effect for one of the three representative night-time viewpoints, namely at Viewpoint 4: Moor Lough as a result of the 2000 candela scenario and the 200 candela scenario. For the other representative viewpoints, the effect is assessed as **not significant**.

In summary, the Development would give rise to **significant** effects on landscape character during the decommissioning and construction and operation phases of the Development, albeit contained within the localised extent of approximately 5 km. It would also give rise to **significant** effects on visual amenity from residential properties that have clear views towards the Site out to approximately 6 km during the decommissioning and construction and operation phases of the Development.

While landscape and visual receptors beyond these ranges may be affected by the influence of the Development, these effects would be **not significant**. Furthermore, not all landscape and visual receptors within these ranges would be significantly affected, for example tracts of landscape enclosed by forest cover or where screening by landform occurs. **No significant** cumulative effects would occur.

All effects during the decommissioning and construction phase of the Development would be short-term and reversible and all effects during the operation of the Development would be long-term and reversible. Landscape effects during the final decommissioning of the Development is likely to be of a similar nature to that during initial decommissioning and construction, although the duration of final decommissioning will be shorter. Any legislation, guidance or best practice relevant at the time of decommissioning would be complied with. These effects would be adverse in nature.

7. ARCHAEOLOGY AND CULTURAL HERITAGE

Chapter 7 of the ES evaluates the effects of the Development on archaeological and cultural heritage receptors.

The assessment of archaeological and cultural heritage effects accounts for both potential direct effects arising from proposed initial decommissioning and construction activities, as well as indirect (primarily visual) effects as a result of changes to the settings of cultural heritage assets. Consultation was undertaken periodically with Historic Environment Division (HED) of the Department for Culture (DfC) throughout the design process.

The archaeological and cultural heritage assessment was informed by a Desk-Based Assessment (DBA) and a site walkover (**Technical Appendix A7.1: Archaeological Desk-Based Assessment)**. This aided in understanding the effects on known archaeological remains within the Site, and the potential for unknown (buried) archaeological remains to be present. The DBA revealed that there are no Designated Assets (legally protected historic features, such as scheduled monuments or listed buildings) recorded within the Site. Within 1 km of the Site there are three Designated Assets, inclusive of a likely Bronze Age stone circle, an early Christian burial site and a Post-Medieval Listed Building.

The nearest known asset (not legally protected) is a likely modern clearance cairn located 100 m south-west of turbine T1 and within the locale of the associated access track.

Direct effects can only occur from construction activities within the footprint of the Development. Based on baseline assessment and site walkover, the archaeological potential for previously unknown assets within the Development site is low.

Mitigation is proposed to ensure avoidance or preservation by record. This would include a pre-construction walkover survey of the final infrastructure layout; a photographic survey of key assets; barrier fencing around key assets; and archaeological monitoring of selected groundworks by an archaeological clerk of works. Following mitigation, potential direct effects were assessed as being **not significant**.

The assessment also considered the potential indirect effects of the Development on the setting of heritage receptors (the largely visual surroundings of a heritage asset that can contribute to the understanding and importance of the asset).

Technical Appendix A7.2: Setting Sieving Exercise for Designated Assets Between 5 and 15 km details the sieving exercise that was undertaken to determine the designated heritage assets that lie within the Zone of Theoretical Visibility (ZTV) and / or for which their cultural significance relies on long distance views and distant landscape context.

Between 5 and 15 km from the site and in Northern Ireland there are 231 nationally designated assets. These assets consist of 70 Scheduled Monuments or Monuments in State Care, 2 Conservation Areas (Sion Mills and Newtownstewart), 153 Listed Buildings (3 Category A, 2 Category B, 20 Category B+, 55 Category B1 and 73 Category B2); and 6 Parks and Gardens. 172 of these were scoped out of consideration because they had very limited or no visibility of the turbines.

Between 5 and 15 km of the site and in the Republic of Ireland there are 115 assets from the National Inventory of Architectural Heritage (NIAH). These consist of 4 Nationally Important structures and 111 Regionally Important structures. A further 136 assets are recorded within the Sites and Monuments Record (SMR) and Records of Monuments and Places (RMP). 88 of these were scoped out of consideration, plus 97 SMR/RMP records, because they had very limited or no visibility of the turbines.

Those heritage assets between 5 and 15 km from the Development footprint that were not scoped out during the sieving exercise and identified as having potential to receive indirect effects were assessed in **Technical Appendix A7.4: Assessment of Indirect Effects Between 5 and 15 km**.

Technical Appendix A7.3: Assessment of Indirect Effects within 5 km evaluated potential indirect effects to designated cultural heritage assets within 5 km of the Development footprint. There are 36 heritage assets assessed within 5 km of the site, consisting of two scheduled monuments and a single listed building within 1 km, as well as a further 13 scheduled monuments, 19 listed buildings and a single Park and Garden within 1-5 km.

All effects on settings (i.e. indirect effects) were assessed as being of negligible to minor significance, which is **not significant** in terms of the EIA Regulations.

Mitigating the indirect effects on the settings of heritage features from operating a wind farm is limited to redesigning the layout or less commonly screening sensitive views. All indirect visual effects upon these cultural heritage features will continue throughout the operational phase of the Development and are long-term but reversible upon decommissioning. Potential effects from final decommissioning would be less than those from the decommissioning and construction phase. As no significant indirect effects were identified, no mitigation is proposed.

The cumulative effects from the Development were assessed as being **not significant**.

8. HYDROLOGY AND HYDROGEOLOGY

The potential effects of the Development on water quality and quantity (hydrological and hydrogeological resources) have been assessed in Chapter 8 of the ES. Good practice construction methods are proposed as part of the Development, which will effectively mitigate the risk of the Development causing effects on the surrounding water environment.

Design measures to reduce the risk to the environment included maintaining a 50 m separation between surface watercourses and proposed activities and minimising the requirement for access tracks to be crossing watercourses. These measures also include implementing the good practice construction methods provided in the outline DCEMP (**Technical Appendix A3.1**).

All infrastructure associated with the Development is located within Glenmornan River and Burn Dennet catchments. All turbines, and substation infrastructure are located within areas identified as low risk of flooding from all sources.

The Development does not lie within the vicinity of a public drinking water abstraction. Consultation with the Council, consultation with landowners and residents and site walkovers confirmed that there are two private water supplies (PWS) within 2 km of the Development boundary that are hydrologically connected and have the potential to be impacted by the Development. The water at these two locations is proposed to be monitored during the construction phase, so that any changes, though unlikely, can be identified quickly and remedial actions taken.

There are several watercourses and other features that rely on water that are protected by a specific status given to them, and which lie downstream of the Site (generally many kilometres downstream). These include the River Foyle and Tributaries SAC, Lisnaragh ASSI, Silverbrook Wood ASSI and Corbylin Wood ASSI. However, these are highly unlikely to be affected by the Development because of the limited scale of development activity and the best practice control measures that will be in place.

Effects on hydrology and hydrogeology during final decommissioning of the Development are likely to be of a similar nature to those occurring during decommissioning and construction, although the duration of final decommissioning will be shorter. As such, these potential effects are likely to be lesser than those occurring during decommissioning and construction; therefore, potential hydrological effects during final decommissioning are considered **not significant** and were not assessed further. Any legislation, guidance or best practice relevant at the time of final decommissioning would be complied with.

Potential cumulative effects are unlikely, and in the event they were to occur the implementation of the mitigation measures within DCEMP (**Technical Appendix A3.1**) are assessed to be **not significant.**

All hydrological effects from the Development have been assessed as **not significant**.

9. GEOLOGY AND PEAT

Chapter 9 of the ES evaluates the potential for likely significant effects from the decommissioning and construction, operational and final decommissioning phases Development on geology and peat resources.

The assessment for the Development was based on a desk study and site surveys. Deep peat was identified as a sensitive receptor following peat probing surveys, with approximately 53% of probes recording peat depths at 1 m or less. One of the key design objectives was to ensure that infrastructure was located in areas with no greater than 1 m of peat and where active peat is not present, which was largely achieved although encroachment by infrastructure into deeper areas of peat was not totally avoidable.

As peat is a soil with very high water content, where it is present on sloping ground there is a potential for it to slide down the slope; such events are rare, but it can happen naturally (typically following very heavy rain) and the risk of it can be increased by construction activity on such slopes. A risk assessment was carried out to inform the design and appropriate mitigation of this risk. **Technical Appendix A9.1: Peat Slide Risk Assessment (PSRA)** indicated that most of the survey area is generally of low and negligible risk, although localised medium and high risk areas were identified. No infrastructure is proposed in areas of medium or high risk. Notwithstanding this, all infrastructure locations and existing site conditions shall be checked at the time of construction and micro-siting adopted if required to maintain the design objective of avoiding any potential deep peat and minimise peat slide risk.

Construction mitigation will allow for the micrositing of infrastructure (re-locating, relative to the positions shown on Figure NTS.2) by up to 50 m to avoid areas of deep peat. The adoption of best practice for storage and reuse of peat on site as well as drainage measures will be developed throughout the construction period to include robust peat management and a monitoring programme.

In addition to best practice mitigation and other specific mitigation, peatland restoration is proposed to reverse some of the historic changes to peat quality from human use of the land, with details included in outline **Technical Appendix A3.2: DHMEP** and **Technical Appendix A3.3: Outline Peat Management Plan (oPMP)**.

Effects on geology and peat occurring during final decommissioning of the Development are likely to be of a similar nature to those experienced during decommissioning and construction, although the duration of final decommissioning will be shorter. As such, these potential effects are likely to be lesser than those occurring during decommissioning and construction; therefore, potential effects to geology and peat resources from final decommissioning are **not significant** and were not assessed further. Any legislation, guidance or best practice relevant at the time of final decommissioning would be complied with.

Cumulative effects were assessed and found to be **not significant** for geology and peat resources.

Through the implementation of the proposed mitigation measures and undertaking the construction works in accordance with best practice measures as outlined in **Technical Appendix A3.1: oDCEMP** will ensure that there are **no significant** residual effects on geology, soils and peat from the Development.

10. ECOLOGY

Chapter 10 of the ES assesses the potential effects of the Development on ecology (except for birds, which are assessed separately in Chapter 11).

Surveys were undertaken within and surrounding the Ecological Study Area (ESA), in order to ascertain the status of ecological features, including habitats and protected species (mammals, bats, fish, molluscs and invertebrates, such as marsh fritillary butterfly (*Euphydryas aurinia*) and other local lepidoptera species).

The Development lies upstream of internationally and nationally protected areas, including River Foyle and Tributaries SAC and River Foyle and Tributaries ASSI. As noted in the hydrology section, above, these are highly unlikely to be affected by the Development because of the limited scale of development activity and the best practice control measures that will be in place.

In the absence of any mitigation, the main potential impacts of the initial decommissioning and construction and operational phases of the Development on ecological receptors are:

- Direct loss of peatland habitats (but note there is no direct effect on active peat, which is a term used to describe areas of vegetation that actively create peat and which is protected in planning policy);
- Indirect impacts on habitats through dewatering including EU Annex I habitat;
- Degradation of habitats;
- Disturbance of protected species and loss of habitat; and,
- Bat collision with turbines or barotrauma.

Surveys included:

- Habitat classification mapping and National Vegetation Classification (NVC) quadrat surveys (**Technical Appendix A10.3: NVC Quadrats**). There is 0.133 ha of the most valued habitats occurring close to, or immediately adjacent to the proposed infrastructure, which will be potentially affected by drainage from the Development to facilitate construction.
- A freshwater pearl mussel (*Margaritifera margaritifera*) suitability survey was undertaken along watercourses. The survey found that surrounding watercourses are unsuitable for this species.
- Electrofishing was undertaken along watercourses within the Ecology Study Area, however, no evidence of salmon (*Salmo salar*) or brown trout (*Salmo trutta*) were recorded and, consequently, due to the design of the site and the lack of these species occurring nearby, they are unlikely to be affected by the Development.
- Bat surveys were undertaken using transects, roost surveys and, primarily, static bat detectors. Results showed that the site is used by bats only to a limited extent, and that bat barotrauma risk is **not significant** at the site. Mitigation proposed as part of the scheme includes removal of a mature, but defunct Hawthorn hedgerow which runs towards turbine T13. This feature is utilised by small numbers of soprano pipistrelle (*Pipistrellus pygmaeus*) and common pipistrelle (*Pipistrellus pipistrellus*) for foraging and commuting, as they are known to be roosting nearby. Consequently, 0.4 ha of native woodland trees (in-keeping with the environs of the site) has been included as replacement habitat. This is likely to offer increased foraging and commuting habitat, as well as surface water filtering, as the proposed planting area is part of a wider riparian corridor.
- Surveys for protected mammals such as badgers (*Meles meles*) and otter (*Lutra lutra*) found that, although badger occurred on the Site, they were unlikely to be significantly affected by the Development, with no badger setts within 300 m of the proposed infrastructure or working corridor. Otter, on the other hand, were observed, with potential effects on otter assessed as being **not significant**.

- Other mammal surveys included red squirrel (*Sciurus vulgaris*), a species on which it was deemed there would be **no significant effects**, and Irish hare (*Lepus timidus*), which were observed using the Ecology Study Area, with potential effects on Irish hare assessed as being **not significant**. Pine marten (*Martes martes*) was not observed but are assumed to inhabit the coniferous woodland patches adjacent, but outside of, the Ecology Study Area – and have the potential to forage within the Ecology Study Area. Potential effects on Pine Marten were assessed as being **not significant**.
- Reptile surveys found that the Ecology Study Area holds a small population of common lizard (*Zootoca vivipara*), as three individuals were observed. Potential effects on reptiles were assessed as being **not significant**.
- Surveys for marsh fritillary (*Euphydryas aurinia*) identified the foodplant devil's-bit scabious just outside the Ecology Study Area. No evidence of marsh fritillary was identified during surveys. There is no suitable habitat for this species within the footprint of the works, and they will not be affected by the Development. The large heath butterfly (*Coenonympha tullia*), the small heath butterfly (*Coenonympha pamphilus*) and the argent and sable moth (*Rheumaptera hastata*) were identified as using the site and measures for enhancement of the site for these species is included as part of the **Technical Appendix A3.2: DHMEP.**

Standard best practice design has been incorporated into the Development, including a proposed Outline Drainage Strategy for the Site (**Technical Appendix A8.5**), which includes measures to avoid downstream pollution. A number of mitigation measures are also proposed that include, minimisation of the works footprint (embedded design-stage mitigation), seasonal restrictions on certain works to avoid disturbance or potential direct mortality of species (such as bats, common lizard and/or otter), and removal of a 100 m stretch of hedgerow near turbine T13 to prevent use by bats. Additionally, habitat restoration and enhancement measures have been proposed (described in **Technical Appendix A3.2: DHMEP**).

It is assessed that the ecological effects of the Development can be fully negated in time with the successful implantation of these plans, and the monitoring regime outlined therein.

It is anticipated, particularly early on, that some level of residual impact cannot be avoided at the site, notably in the shorter term until habitat restoration is in place and functioning in ecological terms. However, the combination of the use of the existing infrastructure, and the provision of habitat restoration and enhancement measures means that residual impacts on protected habitats can be reduced as far as possible, and an overall positive impact on the site could be achieved in the longer term subject to successful mitigation / compensation in the form of habitat restoration, sensitive habitat and site management. This is intended to occur across c. 155 ha of proposed land for habitat management and enhancement.

During final decommissioning of the Development effects on Ecological receptors are likely to be of a similar nature to those experienced during decommissioning and construction, although the duration of final decommissioning will be shorter. As such, these potential effects are likely to be lesser than those occurring during decommissioning and construction therefore, potential effects to ecology from final decommissioning are **not significant** and were not assessed further. Any legislation, guidance or best practice relevant at the time of final decommissioning would be complied with.

Cumulative effects on ecological receptors are assessed to be **not significant**.

11. ORNITHOLOGY

An assessment of the effects on birds was carried out in Chapter 11 of the ES on existing available data, literature and field surveys undertaken within the Ornithological Study Area (OSA) between 2018 and 2022. Consultations were also undertaken with NIEA and RSPB.

The Development does not occur within close proximity to any areas protected for their value to birds (Special Protection Areas (SPAs) or Ramsar sites). There is, however, a downstream hydrological connection (40 km via watercourse) to the River Foyle SPA and Ramsar site via the Glenmornan River and Owenreagh Burn, although as noted in the hydrology section, above, these are highly unlikely to be affected by the Development because of the limited scale of development activity and the best practice control measures that will be in place.

Seven bird species were identified as 'Key Ornithological Receptors' (KORs) that were subject to detailed assessment of potential effects, namely red grouse, golden plover, snipe, merlin, kestrel, sparrowhawk and buzzard. Additionally, the potential for significant effects was considered in the case of riverine species, ground-nesting passerines and other breeding red-listed passerines.

The Development was assessed alone and cumulatively with other wind farms. Potential habitat loss, disturbance, displacement or barrier effects on any of the KORs was assessed as being **not significant**.

Mitigation measures have been proposed within the ES in order to avoid or reduce the effects on the KORs. Measures which will be implemented (described in detail in **Technical Appendix A3.2: DHMEP**) include species-specific enhancement for red grouse and snipe and have the potential to have a positive effect on other bird species utilising the area. Mitigation measures proposed for the construction phase include pre-planned site preparation such as the removal of vegetation outside of the bird breeding season prior to carrying out construction activities on the site. Where feasible, operations which have the potential to disturb birds will be timed accordingly to minimise any potential for impacts. This will be carried out in accordance with the advice of the appointed Ecological Clerk of Works (a qualified ecologist that has independence from the construction contractor) and based on monitoring during construction at the Site.

During the operational phase, post-construction monitoring will be carried out, and bird surveys will continue at the locations used pre-construction. The monitoring plan will evolve based on the results of post-construction monitoring surveys and carried out in line with best practice guidelines.

Analysis of the potential effects of collision risk and disturbance/displacement, with consideration given to proposed mitigation measures resulted in residual effects that are **not significant** on the ornithological features of this site.

Effects on ornithological receptors occurring during final decommissioning of the Development are likely to be of a similar nature to those experienced during decommissioning and construction, although the duration of final decommissioning will be shorter. As such, these potential effects are likely to be lesser than those occurring during decommissioning and construction; therefore, potential effects to ornithology from final decommissioning are **not significant** and were not assessed further. Any legislation, guidance or best practice relevant at the time of final decommissioning would be complied with.

Cumulative effects on ornithological receptors are assessed to be **not significant**.

Considering the successful implementation of the mitigation and enhancement measures and full implementation of the prescribed mitigation measures throughout the initial decommissioning and construction phase, operational phase, and final decommissioning phase of the project, **no significant** residual effects on Key Ornithological Receptors (KORs) are expected as a result of the Development.

12. NOISE

An assessment of the potentially significant effects of noise due to the Development has been undertaken in Chapter 12 of the ES.

During the decommissioning and construction phase, noise may result from the use of plant and machinery to carry out decommissioning and construction activities. However, **no significant** effects are anticipated. Notwithstanding this, best practice mitigation measures will be adopted to minimise noise emissions, including restrictions on working hours during this phase of the Development.

During operation, wind turbines can generate noise from the machinery housed within the turbine and from the movement of blades through the air. Modern turbines are designed to minimise noise and planning conditions are used to ensure compliance with specified noise limits. The assessment has been undertaken in accordance with the recommendations of ETSU R-97, the method of assessing wind turbine noise recommended by Government guidance and following the current best practice methods described in the GPG, as endorsed by the Department of the Environment. It has been shown that noise due to the Development, in conjunction with surrounding cumulative developments, would comply with the requirements of ETSU-R-97 and the GPG at all receptor locations. As such, **no significant** noise effects from the Development and **no significant** cumulative noise effects are anticipated.

Noise produced during final decommissioning of the Development is likely to be of a similar nature to that during decommissioning and construction, although the duration of final decommissioning will be shorter; therefore, potential noise effects from final decommissioning are **not significant** and were not assessed further. Any legislation, guidance or best practice relevant at the time of final decommissioning would be complied with.

13. TRAFFIC AND TRANSPORT

The impact of traffic generated during the decommissioning and construction phase of the Development on the area surrounding the site has been assessed in Chapter 13 of the ES, focussing on those roads which form the Abnormal Load Route and General Construction Traffic Route. These routes are from Foyle Port, southwest on the A2, A514 and A5 to Ballymagorry, before turning left (east) on local, minor roads to reach the site, as shown on Figure NTS.4: Haul Route.

A detailed overview of the predicted increase in traffic during the construction phase was undertaken. This identified the peak month of the decommissioning and construction phase as month 4 and predicted that total traffic would increase by 251 vehicle movements per day during this month excluding concrete delivery. A further 126 daily HGV movements will occur on 14 non-consecutive days when concrete is delivered.

Whilst traffic flow levels are predicted to increase by a high percentage above baseline, the absolute change in traffic is low and will be distributed across the day. During the peak month 35 additional HGV movements per hour are expected during working hours. The above changes are temporary and are fully reversible following the completion of decommissioning and construction. Embedded mitigation in the form of passing bays and construction traffic management measures will also be implemented to lessen potential driver delays and further improve traffic safety during decommissioning and construction.

Potential traffic and transportation effects at the time of final decommissioning are expected to be less than those during decommissioning and construction; therefore, potential effects to traffic and transport during final decommissioning are **not significant** and were not assessed further. Any legislation, guidance or best practice relevant at the time of final decommissioning would be complied with. **No significant** effects in relation to traffic and transportation were identified.

14. LAND USE, SOCIO-ECONOMICS, TOURISM, AND RECREATION

The potential effects of the decommissioning and construction phase and operational phase of the Development on land use, socio-economics, tourism and recreation have been identified and assessed in Chapter 14 of the ES through desk-based collection of data, site visits and consultation with local stakeholders.

During the decommissioning and construction and operational phases, the effects of the Development on the amenity of tourism and recreation receptors would be minor or negligible, and **not significant**, as a result of the absence of direct effects and the limited visual effects. It is noted that visual amenity is only one component, and typically not the main component, of recreational amenity, so effects on recreational amenity are generally smaller than effects on visual amenity.

Land use effects of the Development on the Development footprint during the decommissioning and construction phase would be minor, with effects arising from a temporarily increased land-take and reduction in moorland within the construction site. During the operational phase, the land value would increase as a result of the new wind turbines and the restoration of the Site where the former wind turbines have been removed, resulting in a minor, positive effect on land use within the Development footprint.

In advance of the decommissioning and construction phase, the Applicant may hold a series of meet-the-buyer events, allowing local contractors to learn about opportunities to bid for contracts, time to upskill and time to prepare prior to bidding. The Applicant has significant experience in organising these types of events and has a good understanding of the local area's capacity given that it has operated Owenreagh I since 1997. It was estimated that Derry and Strabane District Council benefit from total spending worth £12.4 million, which is equivalent to 13% of capital expenditure and bring wider benefits to Northern Ireland estimated to be worth £31 million. Effects on the economy during decommissioning and construction would be minor, both direct and indirect, and positive, due to the creation of job opportunities and subsequent spending of income in the local area and within Northern Ireland as a whole. This effect would last for the duration of the decommissioning and construction phases.

A number of positive, socio-economics, recreation, and tourism potential effects will result from the Development's operational phase. The operational Owenreagh I and II Wind Farms have already supported a series of projects across the community to support recreational amenities, including the installation of a defibrillator at Tristan Road, Evish and funding to Owen Roes' GAA Club, Clan na Gael GAA Club, Artigarvan Hall, and the Drummond Centre.

Once operational, the Development will require routine maintenance and servicing. It is estimated that the Derry and Strabane District Council area could secure 25% of operation and maintenance contracts worth £0.3 million annually. It is estimated that turnover generated by the operation and maintenance could support 10 jobs in Derry City and Strabane and be worth £56 million over an illustrative 40 year period to Northern Ireland. Given the long duration of the operational phase, effects on the economy during operation would be minor, both direct and indirect, and positive, due to the creation of job opportunities and subsequent spending of income in the local area and within Northern Ireland as a whole.

The decommissioning phase of the operational Owenreagh I and II Wind Farms, and the construction phase, are likely to occur partly in tandem and would have a greater effect than if the two processes were to arise at different times. This represents the worst-case assessment parameters, when compared with the final decommissioning of the proposed wind turbines and associated infrastructure alone. Therefore, effects during this final decommissioning phase were not assessed separately.

Cumulatively, together with other proposed wind farm developments in the region, if these are progressed, the effects would be positive but **not significant** (in EIA terms) at the District Council, Northern Ireland and UK level.

15. OTHER ISSUES

Chapter 15 of this ES presents an assessment of the potential likely significant effects on several ‘other issues’ due to the Development, that are not assessed in their own separate chapters including telecommunications/utilities, shadow flicker, aviation, human health (including major accidents and disasters), and climate.

It is assessed that, after the implementation of appropriate mitigation measures, which are detailed in Chapter 15, that the Development will result in **no significant** effects on telecommunications/utilities, shadow flicker, aviation, and human health (including accidents and disasters).

The Development will however likely produce a **significant**, positive effect upon carbon savings, with and anticipated saving of approximately 2.7m tonnes of CO_2 when compared to a fossil-fuel mix of electricity over the 40-year lifetime of the Development. Further details can be found in **Technical Appendix A15.2: Carbon Calculator Assessment**. This will be driven primarily by the displacement of electricity generation from other sources which are emitters of carbon dioxide.

Chapter 15 of the ES also assesses interrelationships where two or more effects arise that have the potential to affect the same receptor during any particular phase of the Development. Individually these effects would not be significant, but the combined effect could be significant. For example, residents in the vicinity of the Development have the potential to experience non-significant effects from noise and traffic associated with decommissioning and construction activities, which when combined could be potentially significant.

The interrelationships assessment identified the following the receptors that would experience potentially **significant** effects without the implementation of mitigation measures:

Residential visual receptors

- 33 and 35 Koram Road, and 12 Ballykeery Road

Residential shadow flicker receptors

- 33 and 35 Koram Road

While it is assessed that these receptors have the potential to experience significant effects, with the application of appropriate mitigation measures for shadow flicker (e.g. control at the source, provision of blinds to affected residents, etc.), these effects will be **not significant** in terms of the EIA Regulations.

Any effects experienced by the receptors assessed in this chapter during final decommissioning are expected to be of lesser magnitude than those experienced during decommissioning and construction; therefore, potential effects during this final decommissioning phase were not assessed separately and are considered **not significant**.

APPENDIX A FIGURES

Planing Application Boundary

0 1 2 3 4 5
Kilometres

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SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: MW
PROJECT: 4172-REP-087	CHECKED:
DATE: 8/14/2023	APPROVED:

Figure NTS.1 - Site Location

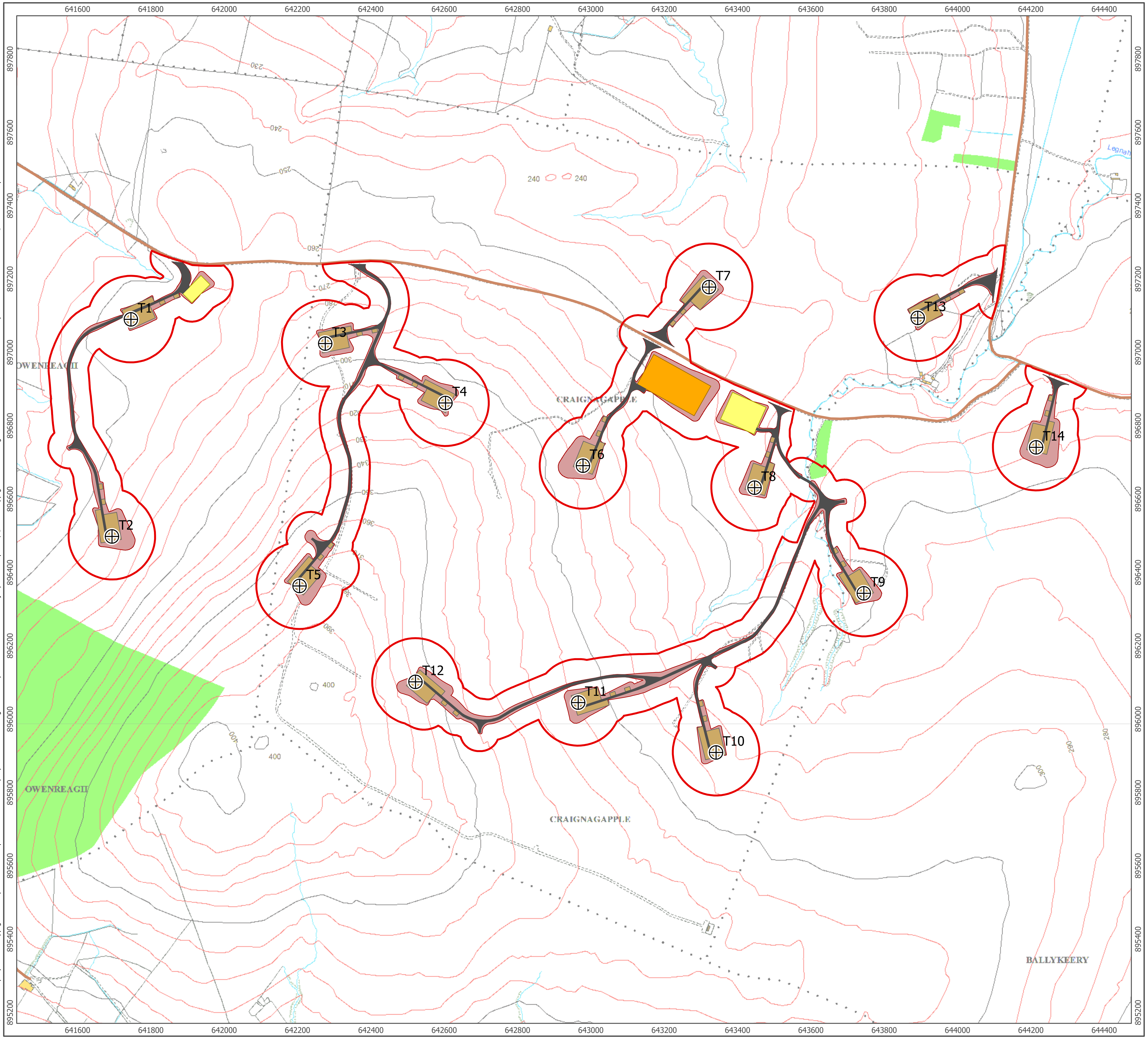
ERM

Ørsted

PROJECTION: TM65 Irish Grid

Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map layer by Esri

Path: Y:\GIS-CAD\GIS\Environment\4172 Owenreagh Wind Farm Repowering\4172 Owenreagh Wind Farm Repowering.aprx



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ERM

- ⊕ Turbine Locations
- Micrositing Area
- Access Tracks
- Substation
- Crane hardstanding
- Construction Compound
- Earthworks

1:10,000 Scale @ A3

0 250 500 m

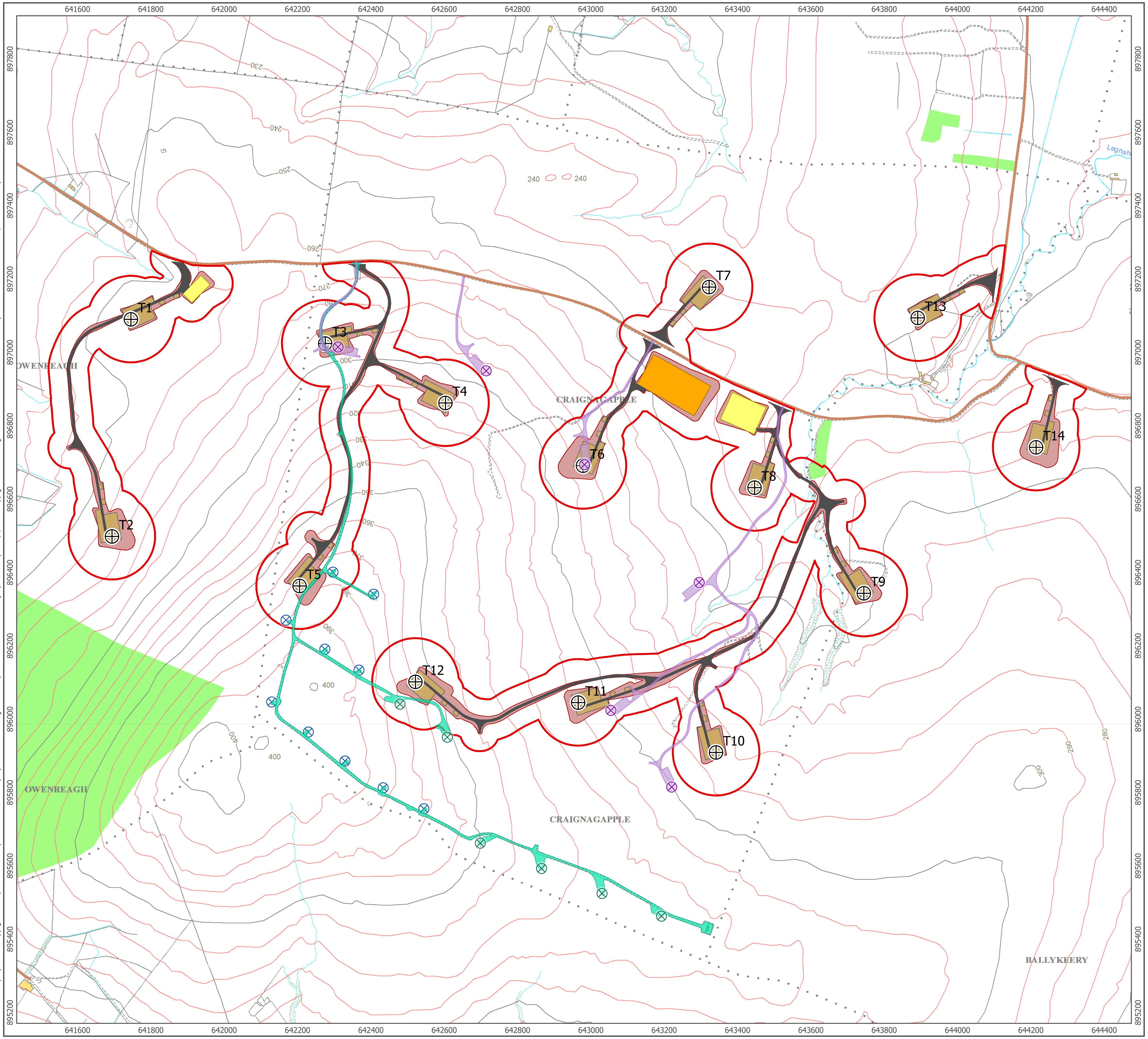
NORTH

Produced By: RJ	Ref: 4172-REP-032
Checked By: SC	Date: 14/08/2023

Figure NTS.1 - Development Layout

Owenreagh/Craignagapple Wind Farm Environmental Statement

Y:\GIS-CAD\GIS\Environment\4172 Owenreagh Wind Farm Repowering\4172 Owenreagh Wind Farm Repowering.aprx\4172-REP-032 Fig3.1 Development Layout



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ERM

Updated Infrastructure

- Turbine Locations
- Access Tracks
- Substation
- Crane hardstanding
- Construction Compound
- Earthworks
- Micrositing Area

Operational Owenreagh Wind Farms

- Operational Owenreagh I
- Operational Owenreagh II
- As Built Site Roads & Hardstands

Consented Craignagapple Wind Farm

- Consented Craignagapple Wind Farm Turbines
- Consented Site Roads & Hardstands

1:10,000 Scale @ A3

0 250 500 m NORTH

Produced By: RJ	Ref: 4172-REP-033
Checked By: SC	Date: 14/08/2023

Figure NTS.2 - Comparison of the Development, Operational Wind Farms, and the Consented Wind Farm

Owenreagh/Craignagapple Wind Farm Environmental Statement

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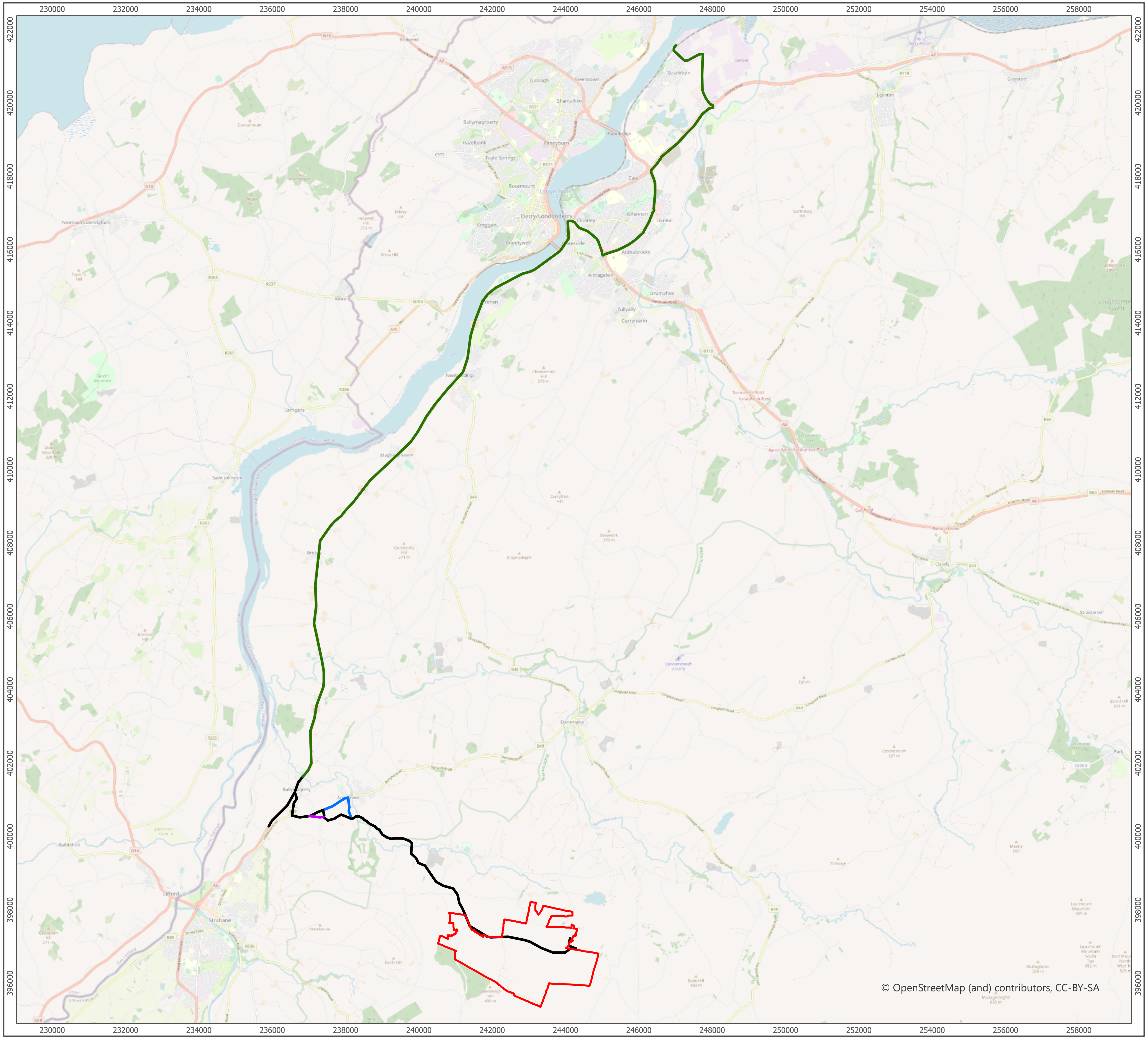
Y:\GIS-CAD\GIS\Environment\4172 Owenreagh Wind Farm Repowering\4172 Owenreagh Wind Farm Repowering.aprx\4172-REP-033 Fig3.2 Comparison of the Development, Operational Wind Farms, and the Consented Windfarm



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Site Boundary

Abnormal Load Vehicle Route to Site

Route to Site Option B via Art/ Sentry Road

Route to Site Option C via Off Site Access Track

General Construction and Abnormal Load Traffic Route to Site

1:100,000 Scale @ A3

0 2.5 5 km NORTH

Produced By: CR	Ref: 4172-REP-045
Checked By: FO	Date: 7/21/2023

Figure NTS.4 - Haul Route

Owenreagh Wind Farm EIA Report

Y:\GIS-CAD\GIS\Transport\4172 Owenreagh Repowering\4172 Owenreagh Repowering.aprx\4172-REP-045 Fig13.1 Route to Site

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