MWP

Chapter 08 Land and Soils

Carrownagowan 110kV Grid Connection

8. Land and Soils

8.1 Introduction

Hydro-Environmental Services (HES) was engaged by MWP to undertake an assessment of the potential impacts of the Proposed Development on land, soils and geology aspects of the receiving environment.

This chapter considers the potential effects on the existing land and soils environment arising from the Proposed Development. A full description of the Proposed Development site and all associated project elements is provided in Chapter 2 Description of the Proposed Development of this EIAR. The nature and probability of effects on the existing land and soils environment arising from the overall project has been assessed. The assessment comprises:

- A review of the existing receiving environment.
- Prediction and characterisation of likely impacts;
- Consideration of mitigation measures, where appropriate to avoid, remediate or reduce likely or significant negative effects; and,
- Assess likely or significant cumulative effects of the Proposed Development as a result of other infrastructural developments.

8.1.1 Competency of Assessor

The assessment was completed by HES, a specialist geological, hydrological, hydrogeological and environmental practice which delivers a range of geological/water and environmental management consultancy services to the private and public sectors across Ireland and Northern Ireland. HES was established in 2005, and our office is located in Dungarvan, County Waterford.

Our core areas of expertise and experience include water and geology. We routinely complete impact assessments for land, soils and geology, hydrology and hydrogeology for a large variety of project types, including wind farms and associated grid connections.

This chapter was prepared by Michael Gill, Adam Keegan and Jenny Law.

Michael Gill (P. Geo., B.A.I., MSc, Dip. Geol., MIEI) is an Environmental Engineer with over 22 years' environmental consultancy experience in Ireland. Michael has completed numerous hydrological and hydrogeological impact assessments of wind farms in Ireland. He has also managed EIAR assessments for infrastructure projects and private residential and commercial developments. In addition, he has substantial experience in wastewater engineering and site suitability assessments, contaminated land investigation and assessment, wetland hydrology /hydrogeology, water resource assessments, surface water drainage design and SUDs design, and surface water/groundwater interactions. For example, Michael has worked on the EIS/EIAR for Oweninny WF, Cloncreen WF, and Yellow River WF, and over 100 other wind farm-related projects.

Adam Keegan is a hydrogeologist with four years of experience in the environmental sector in Ireland. Adam has been involved in Environmental Impact Assessment Reports (EIARs) for numerous projects including wind farms, grid connections, quarries and small housing developments. Adam holds an MSc in Hydrogeology and Water Resource Management. Adam has worked on several wind farm EIAR projects, including Croagh WF, Lyrenacarriga WF (SID), Cleanrath WF, Carrownagowan WF (SID), and Fossy WF.

Jenny Law (BSc, MSc) is an environmental geoscientist holding a first honor's degree in applied environmental geosciences from the University College Cork in 2022. Jenny has assisted in the preparation of the land, soils and geology and hydrology chapters for various environmental impact assessment reports, hydrological impact assessments, Water Framework Directive Assessment reports and Flood Risk Assessment reports for a variety of projects including wind farm developments and strategic housing developments.

8.1.2 Legislation

The land and soils assessment is prepared in accordance with the requirements of European Union Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment (the 'EIA Directive') as amended by Directive 2014/52/EU. The requirements of the following legislation are complied with:

- The Planning and Development Act 2000 as amended, and the Planning and Development Regulations 2001 (as amended); and
- The Heritage Act 1995, (as amended).

8.2 Methodology

8.2.1 Desktop Study

The methodology used for this study included desk-based research of published information along with site visits to assemble information on the local receiving environment. The desk study included the following activities:

- Review of Ordnance Survey Mapping and aerial photography to establish geomorphology, existing land use and settlement patterns within the study area.
- Geological desk study data from various data sources including:
    - Environmental Protection Agency databases (www.epa.ie);
    - Geological Survey of Ireland – Groundwater and Geological Database (www.gsi.ie);
    - Bedrock Geology 1:100,000 Scale Map Series, Sheet 17 (Geology of Shannon Estuary Region);
    - Bedrock Geology 1:100,000 Scale Map Series, Sheet 18 (Geology of Tipperary);
    - Geological Survey of Ireland – 1:25,000 Field Mapping Sheets;
    - Ordnance Survey Ireland (OSI) – 6" and 1;5000 scale basemaps; and,
    - Aerial photography (www.bing.com/maps ; www.google.com/maps).

8.2.2 Field Surveys

A general walkover survey and initial baseline monitoring of the Proposed Development site was undertaken by HES between August and December 2018 with further detailed walkover and investigations works undertaken during 2019 and November 2022. HES staff (Michael Gill and Adam Keegan) were on site along the grid connection route on ~4 man days (4 separate occasions: 19/06/2018, 31/01/2019, 14/02/2019, and 28/11/2022) during this period, and completed over ~20 hours of site work/monitoring.

8.2.3 Guidelines and Best Practice

The land, soils and geology section of this EIAR is carried out in accordance with relevant to guidance contained in the following documents:

- Environmental Protection Agency (2022): Guidelines on the Information to be contained in Environmental Impact Assessment Reports;
- Institute of Geologists Ireland (2013): Guidelines for the Preparation of Soils, Geology and Hydrogeology Chapters of Environmental Impact Statements;
- COFORD (2004): Forest Road Manual – Guidelines for the Design, Construction and Management of Forest Roads;
- Coillte (2009): Forest Operations & Water Protection Guidelines;
- National Roads Authority (2008): Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (DoHPLG, 2018); and,
- Guidance on the preparation of the EIA Report (Directive 2011/92/EU as amended by 2014/52/EU), (European Union, 2017).

8.2.4 Study Area

The study area with regard to land and soils encompasses the entire area within the boundary of the Proposed Development site. With respect to hydrogeology, the study area encompasses groundwater which has the potential to be impacted by contamination or drawdown during the construction and operation of the Proposed Development, which includes:

- Groundwater directly beneath the Proposed Development site;
- Groundwater down-gradient of the Proposed Road Development; and
- Groundwater within the zone of influence of pumping during the construction phase.

8.2.5 Scope of Assessment

8.2.5.1 Assessment Criteria

Using information from the desk study and data from the site investigation, an estimation of the importance of the soil and geological environment within the study area is assessed using the criteria set out in Table 8-1 (NRA, 2008).

Table 8-1 Estimation of Importance of Soil and Geology Criteria (NRA, 2008)

Importance	Criteria	Typical Example
Very High	Attribute has a high quality, significance or value on a regional or national scale. Degree or extent of soil contamination is significant on a national or regional scale. Volume of peat and/or soft organic soil underlying route is significant on a national or regional scale.	Geological feature rare on a regional or national scale (NHA). Large existing quarry or pit. Proven economically extractable mineral resource
High	Attribute has a high quality, significance or value on a local scale. Degree or extent of soil contamination is significant on a local scale. Volume of peat and/or soft organic soil underlying site is significant on a local scale.	Contaminated soil on site with previous heavy industrial usage. Large recent landfill site for mixed wastes Geological feature of high value on a local scale (County Geological Site). Well drained and/or highly fertility soils. Moderately sized existing quarry or pit Marginally economic extractable mineral resource.

Importance	Criteria	Typical Example
Medium	Attribute has a medium quality, significance or value on a local scale. Degree or extent of soil contamination is moderate on a local scale. Volume of peat and/or soft organic soil underlying site is moderate on a local scale.	Contaminated soil on site with previous light industrial usage. Small recent landfill site for mixed Wastes. Moderately drained and/or moderate fertility soils. Small existing quarry or pit. Sub-economic extractable mineral Resource.
Low	Attribute has a low quality, significance or value on a local scale. Degree or extent of soil contamination is minor on a local scale. Volume of peat and/or soft organic soil underlying site is small on a local scale.	Large historical and/or recent site for construction and demolition wastes. Small historical and/or recent landfill site for construction and demolition wastes. Poorly drained and/or low fertility soils. Uneconomically extractable mineral Resource.

The guideline criteria (EPA, 2022) for the assessment of impacts require that likely impacts are described with respect to their extent, magnitude, complexity, probability, duration, frequency, reversibility and transfrontier nature (if applicable). The descriptors used in this environmental impact assessment are those set out in EPA (2022) Glossary of Impacts as shown in Chapter 1 Introduction of this EIAR. In addition, the two impact characteristics proximity and probability are described for each impact and these are defined in Table 8-2.

In order to provide an understanding of this descriptive system in terms of the geological/hydrological environment, elements of this system of description of impacts are related to examples of potential impacts on the hydrology (water) and morphology (land, soils and geology) of the existing environment, as listed in Table 8-3.

Table 8-2 Additional Impact Characteristics

Impact Characteristic	Degree/ Nature	Description
Proximity	Direct	An impact which occurs within the area of the proposed project, as a direct result of the proposed project.
	Indirect	An impact which is caused by the interaction of effects, or by off-site developments.
Probability	Low	A low likelihood of occurrence of the impact.
	Medium	A medium likelihood of occurrence of the impact.
	High	A high likelihood of occurrence of the impact.

Table 8-3 Impact descriptors related to the receiving environment

Impact Characteristics		Potential Hydrological Impacts
Quality	Significance	
Negative only	Profound	Widespread permanent impact on: - The extent or morphology of a cSAC. - Regionally important aquifers. - Extents of floodplains. Mitigation measures are unlikely to remove such impacts.
Positive or Negative	Significant	Local or widespread time dependent impacts on: -The extent or morphology of a cSAC / ecologically important area. -A regionally important hydrogeological feature (or widespread effects to minor hydrogeological features). -Extent of floodplains. Widespread permanent impacts on the extent or morphology of an NHA/ecologically important area,

Impact Characteristics		Potential Hydrological Impacts
Quality	Significance	
		Mitigation measures (to design) will reduce but not completely remove the impact – residual impacts will occur.
Positive or Negative	Moderate	Local time dependent impacts on: - The extent or morphology of a cSAC / NHA / ecologically important area. - A minor hydrogeological feature. - Extent of floodplains. Mitigation measures can mitigate the impact OR residual impacts occur, but these are consistent with existing or emerging trends
Positive, Negative or Neutral	Slight	Local perceptible time dependent impacts not requiring mitigation.
Neutral	Imperceptible	No impacts, or impacts which are beneath levels of perception, within normal bounds of variation, or within the bounds of measurement or forecasting error.

8.2.6 Statement on Limitations and Difficulties Encountered

No difficulties were encountered during preparation of the Land and Soils Chapter of the EIAR.

8.3 Baseline Environment

8.3.1 Existing Land Use

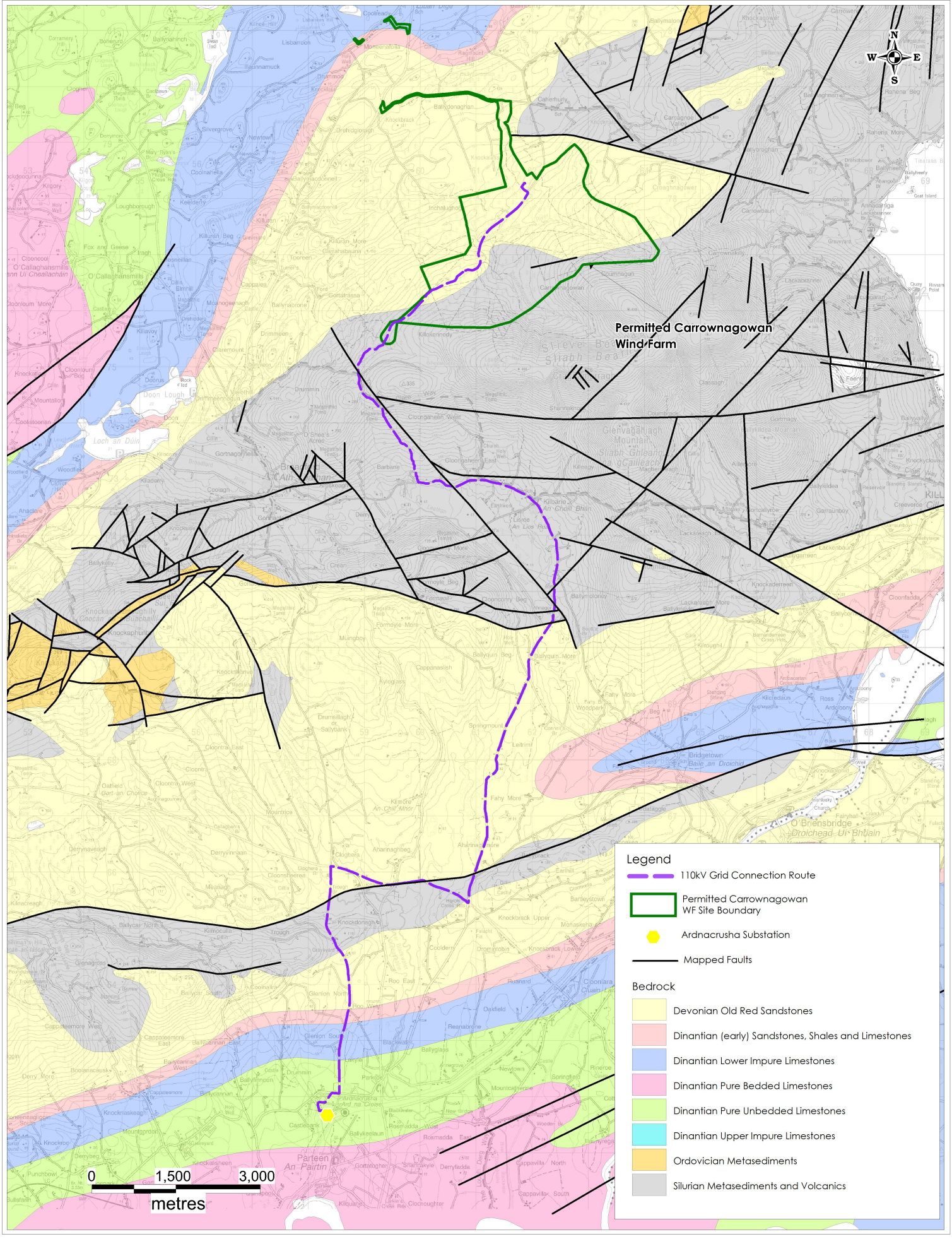
The land-use along the Proposed Development comprises mainly public transport, except where it deviates off the road into existing access tracks (within Ardnacrusha), private forestry access tracks, private agricultural lands and permitted internal wind farm access roads. The surrounding land use is mainly agriculture and residential.

According to Corine land use cover, the majority of the Proposed Development site is located in agricultural areas and pastures and in some smaller areas along forestry and semi natural areas. The very southern part of the Proposed Development at Ardnacrusha is mapped within discontinuous urban fabric (i.e. made ground).

8.3.2 Bedrock

The majority of the Proposed Development site is mapped to be underlain by a combination of Old Red Sandstone and Silurian meta-sediments including the Slieve Bernagh Formation, the Broadford Formation and the Cratloes Formation. However, Dinantian sandstone, shales and (impure) limestones and (pure) Waulsortian limestones are mapped at the far southern end of the Proposed Development site.

Published bedrock geology data for the Proposed Development are included as **Figure 8-1**.



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Job: Carrownagowan 110kV Grid Connection Route, Co. Clare	Sheet Size: A3	Project No: P1444-2
Title: Local Bedrock Geology Map	Scale: 1:60,000	Drawn By: GD
Figure No: 8.1	Date: 08/06/2023	Checked By: MG

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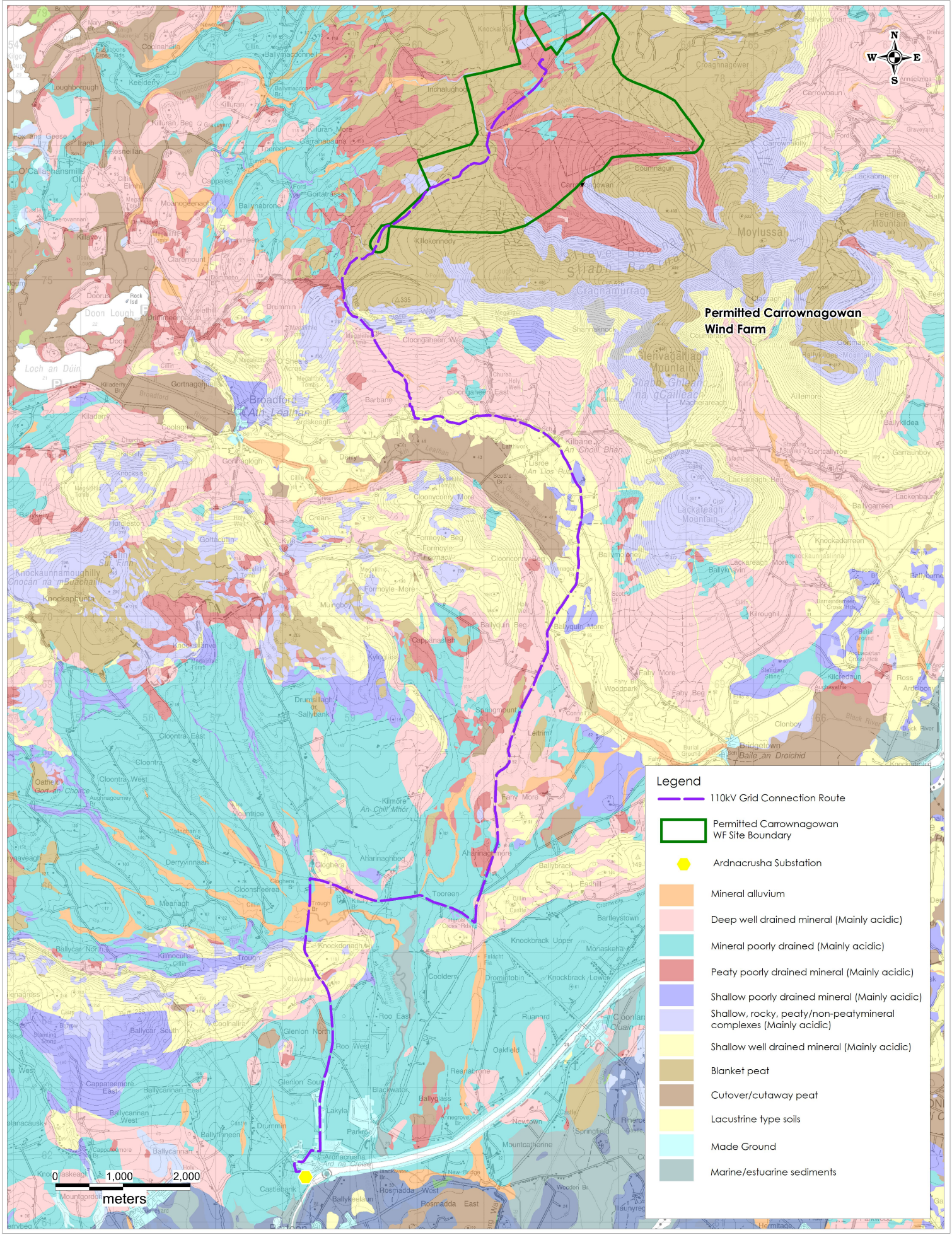
8.3.3 Soil and Subsoil

The Proposed Development mainly runs along the carriageway of public roads, existing access tracks (within Ardnacrusha), private forestry access tracks, private agricultural lands and internal wind farm access roads. Soils mapped locally along the Proposed Development comprise mainly Acidic deep well drained mineral soils (AminDW) and blanket peat (BktPt) at the northern end of the route, transitioning to Acidic shallow well drained mineral soils (AminSW) through much of the middle section and finally Acidic deep poorly drained mineral soil (AminPD) at the southern end. Subsoils are mapped as mainly sandstone and sandstone/shale tills with smaller sections mapped as bedrock outcrop, alluvium and gravels.

Published soils and subsoils maps for the Proposed Development are included as Figure 8-2 and Figure 8-3.



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Job: Carrownagowan 110kV Grid Connection Route, Co. Clare	Sheet Size: A3	Project No: P1444-2
Title: Local Soils Map	Scale: 1:50,000	Drawn By: GD
Figure No: 8.2	Date: 08/06/2023	Checked By: MG

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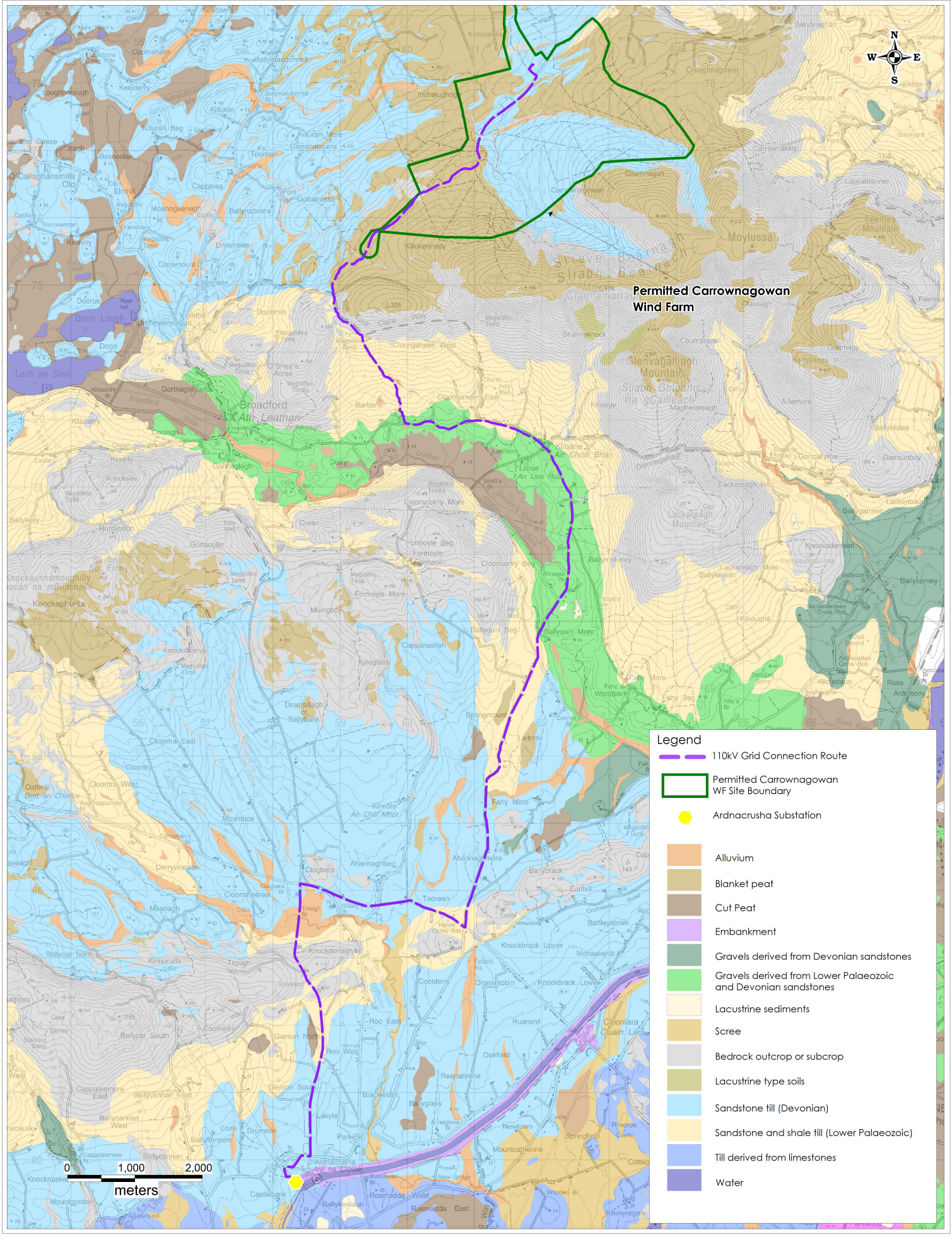

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Title: Local Subsoils Map	Scale: 1:50,000	Drawn By: GD
Figure No: 8.3	Date: 08/06/2023	Checked By: MG

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8.3.4 Geological Heritage Sites

There are no mapped geological heritage sites within the Proposed Development site. The geological heritage site at Ballymalone (Site Code: CE005), approximately 8km to northeast of the Proposed Development site is a small quarry that comprises the only representative section of Ordovician rocks (Ballymalone Formation) in the north-eastern part of the Slieve Bernagh Inlier. Two additional geological heritage sites are located to the west of the Proposed Development. These are Ballyvorgal South (GSI Site Code: CE006, 10.2km west), and Ballycar South (GSI Site Code: CE002, ~2.2km west). Ballyvorgal South is a streambank exposure with deep water fossil assemblages of Upper Ordovician Age, and Ballygar South is an agricultural grassland with underlying rock fossil assemblages of Silurian Age.

8.3.5 Economic Geology

The GSI mapped crushed rock aggregate potential and the granular aggregate potential along the Proposed Development is Low to Moderate.

8.4 Assessment of Impacts and Effects

8.4.1 Construction Phase

8.4.1.1 Land and Land Use

Along the Proposed Development, there are minor proposed changes to land and topography. All excavations will be reinstated to existing ground/road level.

The Proposed Development construction works, estimated to be 6-8 months in duration, will require a road opening licence and temporary traffic management measures along the grid route, including alternating one-way stop/go traffic and temporary road closures with local diversion routes which are described in the Traffic Management Plan (Appendix 2-3, Volume III) in the CEMP (Appendix 2-2, Volume III).

The active construction area for the Proposed Development will be small, ranging from 100 to 200 metres in length at any one time, and it will be transient in nature as it moves along the route. The construction works will therefore have a temporary moderate short-term negative impact for road users and local landowners and property owners/residents in the vicinity of the route. Once in place, the Proposed Development will not affect existing or further land uses.

Overall, it is considered that during the construction phase there is likely to be a slight, negative effect on land use along the Proposed Development site.

Pathway: extraction/excavation of the substrate.

Receptor: The receptor is the land and land use.

Pre-Mitigation Potential Effect: Negative, slight, short term effect on land and land use along the Proposed Development during construction phase.

8.4.1.2 Excavations

Excavation of soils, subsoils and bedrock will be required along the Proposed Development route. These works will result in temporary and transient disturbance of road surfaces, subsoil and bedrock. The road surface and underlying subsoils excavated along the grid cable connection will be exported from the Proposed Development site to a licenced waste facility. Any excavated topsoil/subsoil associated with the trench and access tracks in off

road sections of the Proposed Development that isn't removed off-site to a licenced facility will be temporarily stored near the excavations and reused for reinstatement works.

Pathway: Excavation/trenching works.

Receptor: Soils, subsoils and bedrock.

Pre-Mitigation Potential Effect: Negative, slight/moderate, direct, likely permanent effect on soils, subsoils and bedrock.

8.4.1.3 Contamination of soil through leakages/spillages

The soil/subsoil may become contaminated following a spillage of chemicals, i.e. fuel usage at the Proposed Development site.

Pathway: The pathway for this impact is through infiltration through pore space in the soil/bedrock.

Receptor: The receptor is the soil, subsoil and bedrock.

Pre-Mitigation Potential Effect: Negative, direct, slight, short term, unlikely effect on soil, subsoil and bedrock.

8.4.2 Operational Phase

8.4.2.1 Excavations

Minor excavations of replaced soils, subsoils, trench backfill material will be required along the Proposed Development if a fault occurred during the operational phase. These works will be temporary and of short duration. The road surface and underlying subsoils excavated along the grid cable connection will be exported from the Proposed Development site to a licenced waste facility.

Pathway: Excavation/trenching works.

Receptor: Soils, subsoils and bedrock.

Pre-Mitigation Potential Effect: Negative, imperceptible, direct, likely temporary effect on soils, subsoils and bedrock.

8.4.2.2 Fuel/Oil spillage from operational stage vehicles

Some construction vehicles may be necessary for maintenance of Proposed Development which could result in minor accidental leaks or spills of fuel/oil.

Pathway: The pathway for this impact is through infiltration through pore space in the soil/bedrock.

Receptor: The receptor is the soil, subsoil and bedrock.

Pre-Mitigation Potential Effect: Negative, direct, slight, short term, unlikely effect on soil, subsoil and bedrock.

8.4.3 Do-Nothing

The land, soils and geology will remain unaltered in the Do-Nothing Scenario.

8.4.4 Cumulative Impacts and Effects

A list of the planning application history in the vicinity of the Proposed Development site is shown in **Appendix 1-5,** Volume III. The Proposed Development has the potential to interact with the proposed Fahey Beg Wind Farm

Development Grid Connection and the Drummin Solar Farm Grid Connection (See Figure 1-2 and 1-3, Chapter 1 Introduction).

As outlined in Chapter 1, each project that progresses with a grid connection located within the public road network will have to apply to the local authority for a road opening licence, where timelines will be agreed, and connections sequenced. Early engagement with the local authority will allow them to decide on how the sections of public road are managed during the laying of the UG grid trenching, so as to avoid disruption. In the event that the Fahy Beg UG Grid and the Carrownagowan UG Grid works need to be done at similar times within the public road network then the Local Authority through the Road Opening Licence process will agree the best solution. The solution may be to close a short section of road and do a traffic diversion, or it may dictate each developer stagger the duration of the overlap on the public road so as to control and mange impacts locally; thereby avoiding any significant cumulative effects.

Any interaction with these developments and the Proposed Development within Ardnacrusha substation will be controlled by the Ardnacrusha Eirgrid Station Manager who will implement their own traffic management measures thereby avoiding potential cumulative impacts.

The construction of the Proposed Development will only require relatively localised, shallow excavation works, that will be short in duration, linear and transient in nature and therefore will not contribute to any significant cumulative effects on Land, Soils and Geology.

Impacts on land soil and geology will therefore not extend beyond the immediate vicinity of the excavations/works. Therefore, no cumulative impacts between the Proposed Development and the other existing, permitted (including the Carrownagowan Wind Farm) or proposed projects, listed in Appendix 1-5, Volume III, will occur.

8.5 Mitigation Measures

8.5.1 Construction Phase

8.5.1.1 Land and Land Use

No mitigation required as land take is small and construction works duration will be temporary.

8.5.1.2 Excavations

- Use of the existing road network where possible to reduce subsoil excavation volumes;
- The road surface and underlying subsoils excavated along the grid cable connection will be exported from the Proposed Development site to a licenced waste facility. Any excavated topsoil/subsoil associated with the trench and access tracks in off road sections of the Proposed Development that isn't removed off-site to a licenced facility will be temporarily stored near the excavations and reused for reinstatement works. The peat and subsoil which will be removed during the construction phase will be localised to the Proposed Development infrastructure;
- The peat and subsoil which will be removed during the construction phase will be localised to the Proposed Development infrastructure; and
- A minimal volume of spoil and subsoil will be removed to allow for infrastructural work to take place.

8.5.1.3 Contamination of soil through leakage/spillages

- Due to the ease of access along the grid connection route, it is unlikely that any refuelling on site will be necessary. Nevertheless, if required, storage areas will be bunded appropriately for the fuel storage

volume for the time period of the construction and fitted with a storm drainage system and an appropriate oil interceptor;
- The plant used during construction will be regularly inspected for leaks and fitness for purpose;
- All waste tar material arising from the chipping and resurfacing of the roads will be removed off-site and taken to licenced waste facility (refer to Section 2.3.8.1, Chapter 2); and
- An emergency plan for the construction phase to deal with accidental spillages is contained within the CEMP (Appendix 2-2, Volume III). Spill kits will be available to deal with any accidental spillage.

8.5.2 Operational Phase

8.5.2.1 Land and Land Use

All work and land take will have occurred during the construction phase, so no additional land take or land change will occur during the operational phase.

8.5.2.2 Excavations

None required, unless repair works are undertaken, then mitigation will include:

- Use of temporary excavations over the shortest distances possible;
- All excavated material will stored and reused during reinstatement;
- The works are likely to be completed over short periods of 1 to 2 days;
- Fuels stored on site will be minimised. Due to the ease of access along the grid connection route, it is unlikely that any refuelling on site will be necessary. Nevertheless, if required, storage areas will be bunded appropriately for the fuel storage volume for the time period of the construction and fitted with a storm drainage system and an appropriate oil interceptor; and
- Minimal refuelling or maintenance of construction vehicles or plant will take place on site. Off-site refuelling will occur at a controlled fuelling station.

8.5.2.3 Contamination of soil through leakage/spillages

None required, unless minor repair works are undertaken, and refuelling of plant and machinery is then also required during minor repair works. If such a scenario occurs then the same mitigation for refuelling as outlined for the construction stage will be implemented during the operation phase (refer to Section 8.5.1.3).

8.6 Residual Effects

8.6.1 Construction Phase

8.6.1.1 Land and Land Use

Residual Effect Assessment: The land take and works area along the grid connection route will be small in area in comparison to surrounding lands, and it also is proposed along and adjacent to an existing roadway (refer to Section 2.2). Therefore, the residual effect will be - Negative, slight, short term effect on land and land use along the Proposed Development during construction phase.

Significance of Effects: For the reasons outlined above, no significant effects on land and land use will occur during the construction phase of the proposed construction works.

8.6.1.2 Excavations

Residual Effect Assessment: The soil/subsoil at the site can be classified as of "Low to Moderate" importance and the peat deposits at the site can be classified as of "Low" importance as the bog areas are not designated and are degraded by historical harvesting and drainage. The design measures incorporated into the project as described above combined with the 'Low to Moderate' importance of the deposits means that the residual effect is considered to be - Negative, direct, slight, likely, permanent on peat and subsoil. Negative, direct, slight, unlikely, permanent impact on bedrock.

Significance of Effects: For the reasons outlined above, no significant effects on land, soils, subsoils or bedrock will occur.

8.6.1.3 Contamination of soil through leakage/spillages

Residual Effect Assessment: The use and storage of hydrocarbons and small volumes of chemicals is a standard risk associated with all construction sites. Proven and effective measures to mitigate the risk of spills and leaks have been proposed above and will break the pathway between the potential source and the receptor. The residual effect is considered to be – Negative, imperceptible, direct, short term, unlikely effect on peat, subsoil and bedrock pore space.

Significance of Effects: For the reasons outlined above, and with the implementation of the mitigation measures outlined in **Section 8.5.1.3**, no significant effects on land, soils, subsoils or bedrock will occur.

8.6.2 Operational Phase

8.6.2.1 Excavations

Residual Effect Assessment: The avoidance and design mitigation measures incorporated into the Proposed Development as described above **(Section 8.5**) will be implemented for any required emergency repair works on the Proposed Development during the operational phase. The residual effect will be negative, direct, imperceptible, unlikely, permanent on soils, subsoils and bedrock.

Significance of Effects: For the reasons outlined above, no significant effects on soils and subsoils will occur during the operational phase from grid connection works.

8.6.3 Risk of Major Accidents and Disasters

Incidents, accidents and disasters are unplanned events. Incidents and (major) accidents usually occur within a relatively short time frame but with greater intensity than under normal operating conditions. Incidents such as landslides or technological disasters can result in liabilities such as contaminated soil, loss of infrastructure and loss of life. Proactive risk management reduces the potential for an incident to occur, and therefore the CEMP for the Proposed Development sets out the Emergency Response Procedure to be adopted in the event of an emergency including contamination, health and safety and environmental protection.

The Proposed Development has been designed and will be built in accordance with the best practice measures set out in this EIAR and, as such, mitigation against the risk of major accidents and/or disasters is embedded through the design.

8.6.3.1 Peat Stability

The GSI do not record the occurrence of any historic landslides within the site or in the surrounding lands. The closest landslide event (2003) recorded by the GSI is mapped at Carrownakilly at Slieve Bearnagh, approximately 4km west of the very northern section of the Proposed Development.

The Proposed Developmentis mainly along the route of existing public roads, existing access tracks (within Ardnacrusha), private forestry access tracks, private agricultural lands and internal wind farm access roads, where no peat is mapped locally. The GSI Landslide Susceptibility Map (www.gsi.ie) classifies the probability of a landslide occurring at this site predominantly as “Low” to “Moderately Low” throughout.

Given that the Proposed Development is mainly along the route of existing roads and off road sections where no peat is mapped, the risk of landslides occurring due to peat instability at the Proposed Development site is assessed to be very low.

Additionally, the risk of the Proposed Development contributing to an increased risk of landslides within the vicinity of the site is very low as proposed site excavations will be of a localised, will be shallow, and also will be temporary in nature. Therefore, the Proposed Development will not contribute to instability of the surrounding lands.

8.7 Summary

No significant effects on the land, soil and geology of the site of Proposed Development will occur during construction or operation.

Our assessment also confirms that there will be no cumulative effects on land, soil and geology environment as a result of the Proposed Development and other proposed projects.

8.8 References

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Department of Housing, Planning and Local Government, (2018): Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment.

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