Perigus Energy

Larbrax Wind Farm Appeal
Grid Connection Environmental Appraisal

Final report
Prepared by LUC
May 2026

Perigus Energy

Larbrax Wind Farm Appeal
Grid Connection Environmental Appraisal

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Contents

Chapter 1
Introduction 1

Background 1
Document Purpose and Structure 1

Chapter 2
The Grid Connection 3

Background 3
Grid Reform 3
The Routeing Process for an Underground Cable 3
Indicative Grid Connection Route 4
Indicative Development Details 4

Chapter 3
Environmental Appraisal Methodology 6

Chapter 4
Landscape and Visual Amenity 8

Baseline Conditions 8
Appraisal of Potential Significant Effects from the Grid Connection 8
Appraisal of Potential Significant In-Combination Effects 9
Differences from Conclusions of the EIA Report 9

Chapter 5
Ecology and Ornithology 10

Baseline Conditions 10
Appraisal of Potential Significant Effects from the Grid Connection 10
Appraisal of Potential Significant In-Combination Effects 11
Differences from Conclusions of the EIA Report 11

Chapter 6
Cultural Heritage 12

Baseline Conditions 12
Appraisal of Potential Significant Effects from the Grid Connection 12
Appraisal of Potential Significant In-Combination Effects 13
Differences from Conclusions of the EIA Report 13

Chapter 7
Geology, Hydrology and Peat 14

Baseline Conditions 14
Appraisal of Potential Significant Effects from the Grid Connection 14
Appraisal of Potential Significant In-Combination Effects 15
Differences from Conclusions of the EIA Report 15

Chapter 8
Traffic and Transport 16

Baseline Conditions 16
Appraisal of Potential Significant Effects from the Grid Connection 16
Appraisal of Potential Significant In-Combination Effects 16
Differences from Conclusions of the EIA Report 17

Chapter 9
Noise and Vibration 18

Baseline Conditions 18
Appraisal of Potential Significant Effects from the Grid Connection 18
Appraisal of Potential Significant In-Combination Effects 18
Differences from Conclusions of the EIA Report 19

Chapter 10
Cumulative Effects 20

Contents

Chapter 11
Summary **21**

Chapter 1
Introduction

Background

1.1 The proposed Larbrax Wind Farm (hereafter referred to as 'the Proposed Development') comprises up to four turbines and associated infrastructure, located approximately 9 kilometres (km) to the west of Stranraer, and lies within the Dumfries and Galloway Council (DGC) administrative area. The wind farm will consist of four turbines with blade tip heights of up to 149.9m. The expected operational life of the Proposed Development is 35 years from the date of commissioning.

1.2 In 2015, a planning application for Larbrax Wind Farm (for the construction and operation of eight turbines with a maximum height to blade tip of 100m) was submitted to DGC, with permission granted on Appeal in 2016. No works were commenced under this planning permission, and the planning permission subsequently expired.

1.3 A revised planning application for the Proposed Development ('the Application') was submitted to DGC by Orsted Onshore UK Limited, now named Perigus Energy UK Limited ('the Appellant') in December 2024. In June 2025, an Appeal was lodged with the Planning and Environmental Appeals Division (DPEA) of the Scottish Government, on the grounds of non-determination of the revised planning application.

1.4 As detailed in the EIA Report[1], the Proposed Development is expected to connect to the national electricity network ('the grid') at the existing 33 kilovolt (kV) substation in Stranraer. Either an independent connection provider or Scottish Power Energy Networks (SPEN) as the distribution network operator (DNO) will take forward the planning and consenting of the grid connection.

1.5 In March 2026, the DPEA requested further information in respect of the *Raeshaw Farms* Judicial Review judgement[2] as it related to the Proposed Development, including in relation to the potential for significant effects with the grid connection.

Document Purpose and Structure

1.6 This document provides an Environmental Appraisal of a grid connection from the Proposed Development to the existing 33 kV Stranraer Substation, based on the fullest information reasonably available at this point in time. It is important to note that the grid connection route is indicative only and that the final route will depend on detailed design work and the completion of further environmental surveys.

1.7 Following this introduction, the document is structured as follows:

- **Chapter 2** provides an overview of the current status of the grid connection, of the indicative grid connection route and an indicative development description.
- **Chapter 3** provides the environmental appraisal methodology.
- **Chapters 4** to **9** outline the findings of the indicative environmental appraisal in relation to: landscape and visual amenity; ecology and ornithology; cultural heritage; hydrology, hydrogeology and peat; traffic and transport; and noise and vibration.

[1] Revised Larbrax Wind Farm EIA Report, December 2024.
[2] Raeshaw Farms Limited v Scottish Ministers and Energiekontor (2026) (https://www.scotcourts.gov.uk/media/t4eds4lr/2026csih10-raeshaw-farms-limited-against-scottish-ministers-and-another.pdf). The planning permission for the proposed Wull Muir Wind Farm was overturned as it was found that the EIA failed to carry out the required fact-specific evaluation of whether the wind farm and grid connection formed a single project.

- **Chapter 10** provides a brief overview of likely cumulative effects of the grid connection with other projects.
- **Chapter 11** provides a report summary.

Chapter 2
The Grid Connection

Background

2.1 It is currently anticipated that the Proposed Development will be connected to the grid by an underground cable (UGC) from the substation compound within the Proposed Development Site to the existing 33kV substation in Stranraer, located approximately 9km east of the Site (see **Figures 1a** and **1b**).

2.2 At the time of the planning application submission in December 2024, it was anticipated that the grid connection would be via overhead cables to the existing 33kV substation in Stranraer. Chapter 4 Development Description of the EIA Report stated:

> *"4.3.12 The Proposed Development will be connected to the national electricity network (the 'grid'). At this stage it is anticipated that the connection to the grid will be via overhead cables to the existing 33kV substation in Stranraer located approximately 9 km east of the Site. The grid connection will be subject to a separate application for consent by SP Energy Networks (SPEN) to the Scottish Ministers, as the grid operator for the South of Scotland, under Section 37 of the Electricity Act 1989. At this stage, the route options for the grid connection and the timing of the S37 application are not yet known. As a result, potential environmental effects associated with the grid connection are not considered within this EIA Report."*

Grid Reform

2.3 Since the submission of the Application, a grid connection reform process has been initiated by the National Energy System Operator (NESO) and the Office of Gas and Electricity Markets (Ofgem) to change the system and the existing grid queue from a "first-come, first-served" to a "first-ready and needed, first-connected" model. Through grid reform, NESO and Ofgem aim to achieve a refined queue of viable projects that would facilitate in achieving the UK Government's Clean Power 2030 ambitions and eliminate all projects that are unlikely to progress.

2.4 Gate 2 to the Whole Queue (G2TWQ) is a one-time, comprehensive review by NESO designed to clear stalled projects from the grid queue. It forces existing projects to prove, though a two-gated system, that they are ready to build (readiness) and are aligned with UK energy goals (strategic alignment) to secure a confirmed connection date.

2.5 Whilst the Proposed Development has successfully demonstrated Gate 2 readiness in the G2TWQ review, it received a Gate 1 notification as the project did not meet the strategic alignment criteria at this point with the UK Government's Clean Power 2030 framework (APP004.006). However, as an advanced project with a planning application submitted in December 2024, the Proposed Development has secured 'protected status' which guarantees a Gate 2 offer with a firm connection date and point of connection in one of the future gated application windows, should the project achieve planning consent.

The Routeing Process for an Underground Cable

2.6 With respect to the installation of UGCs, SPEN's Approach to Routeing and Environmental Impact Assessment (2020)[3] (proposed appeal document APP004.0025) is based on the premise that the most

[3] https://www.spenergynetworks.co.uk/userfiles/file/SPEN_Approach_to_Routeing_Document_2nd_version.pdf

significant effects are likely to result from the level of ground disturbance required for the construction of cable trenches and associated works. Where possible, cables will be routed to follow existing linear features that have already created disturbance such as roads or existing overhead line corridors. Cable construction may lead to vegetation changes which are visible when viewed from above, with this likely to be least visible in flat arable land, more visible in improved or semi-improved grassland used for grazing and most visible in upland semi-natural or natural ground cover. The best way to reduce or mitigate these effects is through careful route selection and successful habitat reinstatement. In addition, well routed cables take into account other environmental and technical considerations and seek to avoid, where possible, areas of irreplaceable habitats which are difficult to reinstate.

2.7 The SPEN Approach to Routeing and Environmental Impact document outlines a number of factors for consideration in routeing a UGC:

- safety and reliability;
- ease of access for construction and long-term maintenance;
- the likely impact on the local environment during construction and ability to mitigate this;
- disruption to third parties during construction and ability to mitigate this;
- ground conditions, including risk of contamination and also ground stability;
- the need to cross wet areas that are difficult to reinstate;
- ground suitability and elevational alignment.

Indicative Grid Connection Route

2.8 In February 2026, the Appellant accepted a revised grid offer from the DNO from the Proposed Development to the existing 33kV substation in Stranraer. It is currently anticipated that this will comprise a UGC of approximately 13km, which largely follows local roads.

2.9 As set out in the Appellant's Response to the Procedure Notice submitted on 14 April 2026, the Appellant's position is that the project for the purposes of EIA does not include the grid connection and that the scope of the EIA and level of assessment within the EIA Report submitted with the Application was appropriate. Notwithstanding this, for completeness, the Appellant has instructed the identification and appraisal of an indicative routeing of a grid connection from the Proposed Development to the 33kV substation in Stranraer based on the information currently available. This indicative grid connection route (the 'route') follows the access track from the proposed onsite substation to the Site entry. It travels east until it intersects with the B738 road and then follows the B738 road south for approximately 1.5km, where it crosses and runs adjacent to the Green Burn watercourse. The route then travels north-east for approximately 6.3km along local roads, where it crosses the Piltanton Burn. The route then intersects with and runs parallel to the A718 for approximately 1.4km, until reaching the B737, entering Stranraer.

2.10 The route then follows the B737 for approximately 1.5km, until it intersects with and follows the A718 for approximately 750m, before reaching the A77 and following it for approximately 230m. Finally, the route travels approximately 700m east, crossing the Black Stank watercourse, before turning north-west for 240m and approximately 100m north-east to connect into the existing Stranraer substation.

Indicative Development Details

2.11 The SPEN Approach to Routeing and Environmental Impact document explains that underground cables are encased in insulated material and buried in a backfilled trench of suitable depth and width. The number of cables, and the depth and width of the trench, depends on a range of factors including voltage, number of circuits and the 'rating' of the cables to be installed.

2.12 Open cut trenching is the most frequently used construction method for cable installation. However, in crossing under watercourses or motorways for example, a trenchless technique such as directional drilling may be used. Works at each section commonly consist of the construction of a haul road, the excavation of

the cable trench by mechanical excavators, the storage of excavated material cable laying, the backfilling of the trench with sand and native material and surface reinstatement. A typical cable installation rate is up to 160m per week, depending on the terrain. A temporary construction compound is also required, and this is generally located close to the midpoint of the cable route.

2.13 Sections of cable are joined together at cable jointing pits, with the location of these dictated by a number of factors including cable size/length and ongoing access requirements. Manhole covers above jointing pits enable access just below the surface for routine maintenance. Underground cables are marked on services maps provided to other utilities and are installed with surface marker tape to warn of their presence below the ground.

2.14 Annual maintenance checks on foot are commonly required during operation. Cable routes are also kept clear of all but low growing vegetation. In the unlikely event that there is a fault along the cable, the area around the fault is excavated and the fault repaired or a new section of cable inserted as a replacement.

2.15 It can be assumed that the future installation of an UGC would be undertaken in accordance with relevant environmental legislation and best practice construction requirements. The successful contractor would also be obliged to employ specialist environmental advisors to undertake relevant pre-construction surveys and on-site monitoring and compliance checks throughout the construction period.

Chapter 3
Environmental Appraisal Methodology

3.1 An environmental appraisal has been undertaken of the indicative grid connection route shown on **Figures 1a** and **1b** and described in Chapter 2 above.

3.2 The appraisal methodology acknowledges the factors for consideration outlined in SPEN's Approach to Routeing and Environmental Impact Assessment, including:

- the need to cross wet areas and/or habitats that are difficult to reinstate;
- flood risk, proximity to water supplies and the ability to cross watercourses at their narrowest point;
- long term visibility of the cable route post construction, including the length that will be seen and the distance at which it will be visible;
- the likely long-term loss of landscape features such as hedges or individual trees;
- likely permanent impacts on known and unknown archaeology;
- topographical and geological features;

3.3 Taking account of the above and of the environmental impacts identified in the EIA Report for Larbrax Wind Farm, the following have been considered in the appraisal:

- landscape and visual amenity;
- ecology and ornithology;
- cultural heritage;
- geology, hydrology and peat;
- traffic and transport; and
- noise.

3.4 Impacts from shadow flicker, and relating to aviation and telecommunications, will not be caused by the grid connection and therefore these issues are scoped out of further consideration within this document.

3.5 With respect to potential impacts relating to forestry, the effects of felling and replanting were assessed within the relevant topic chapters of the EIA Report. Given that the extent of any felling/replanting associated with the indicative grid connection route is not known at this stage, commentary on this is limited to where this may be relevant for the topics considered below, noting that the route intersects some woodland areas.

3.6 This appraisal is based on the information available at this point in time and seeks to assess the potential for likely significant effects for identified environmental receptors. It identifies the key constraints and receptors for each topic, and a judgement is made on whether significant effects are likely to arise from the introduction of the grid connection in isolation, assuming the indicative grid connection route, or in-combination with the Proposed Development.

3.7 The appraisal is based on the following assumptions/limitations:

- No detailed environmental surveys (including habitats, protected species, birds, peat, hydrology or cultural heritage) have been undertaken to inform the appraisal. These will be undertaken at a subsequent stage to inform the detailed routeing and assessment of the grid connection for which consent will be sought.

- The appraisal has drawn upon publicly available constraints information shown in **Figures 1a** and **1b**, the findings of relevant assessments within the Larbrax Wind Farm EIA Report and professional judgement and experience of likely significant effects of similar grid connection projects.
- It is assumed that the grid connection will be constructed in accordance with well-established good practice, in full compliance with regulatory requirements and in consultation with the Scottish Environment Protection Agency (SEPA), DGC and other consultees as appropriate.

Chapter 4
Landscape and Visual Amenity

Baseline Conditions

4.1 As shown in **Figure 1a**, the route (from west to east) passes through two landscape character types (LCTs):

- LCT: 156 – Peninsula – LCT 156: Peninsula is characterised by "*Medium scale landscape rising from boggy hollows, to rolling pastureland, up to gorsey moorland.*"
- LCT: 158 – Coastal Flats – Dumfries and Galloway. LCT: 158: "*Coastal flats are generally extremely flat and low lying, although the coastal plain and coastal parkland have some gentle undulations.*"

4.2 The route does not pass through any national landscape designations. The route does, however, pass through the Rhins Coast Regional Scenic Area (RSA), a local level landscape designation in Dumfries and Galloway, in two locations at the western end of the route, to the north-east of Salt Pans Bay, and to the south west of Balgracie Farm.

4.3 Visual receptors in the vicinity include users of the Rhins Coastal Path on the Meikle Galdenoch to Larbrax Shore section, which is crossed by the route at the western end.

4.4 The route is located within close proximity to a large number of residential receptors where it runs through the settlement of Stranraer.

4.5 Existing energy infrastructure in the vicinity includes a single turbine (at 46.5m to blade tip height) and another single turbine (at 53.7m to blade tip height), both north of the route, as well as the existing Stranraer Substation, which is situated at the east end of the route, and is where the UGC will connect into the grid.

Appraisal of Potential Significant Effects from the Grid Connection

Landscape Effects

4.6 Both LCTs would experience temporary disturbance during construction of the grid connection which on an indicative basis consists of an underground cable. The Rhins Coast RSA would also experience direct, temporary effects during construction. However, given the transient and temporary nature of construction effects and the small footprint of construction works associated with a UGC, significant effects on the character of the local landscape and on the integrity of the RSA, during construction are not anticipated based on current information. Furthermore, through both LCTs, the indicative route largely follows existing roads.

4.7 As the route will be restored after construction, the connection will not be a discernible feature in the landscape. Therefore, no significant effects on landscape during operation are anticipated.

Visual Effects

4.8 Regarding visual amenity, there would be temporary visual effects during construction of the UGC including the preparation and use of temporary working areas; the delivery and assembly of underground cabling, and the movement of associated construction vehicles. Both the scale and geographical extent of visual change associated with the UGC would be small and experienced for a short duration of time (short-term). Therefore, significant visual effects during construction are considered unlikely to arise.

4.9 In terms of operational visual effects, the indicative route crosses a core path and also routes through the settlement of Stranraer. However, as the indicative route consists of an UGC, and the route would be restored, visual effects will be very limited. Therefore, no significant visual effects from the grid connection route are predicted during operation.

Appraisal of Potential Significant In-Combination Effects

4.10 Given the nature of the indicative grid connection (UGC), and the proposed restoration works, it is considered unlikely that the indicative route will give rise to significant landscape and visual effects during either construction or operation.

4.11 The Larbrax Wind Farm EIA Report (APP002.015) concluded that there would be significant residual operational effects on the landscape character of LCT 156 - Peninsula, on views and visual amenity from several representative viewpoints and on recreational routes within the immediate vicinity of the Proposed Development. There would also be a significant residual effect on the Site during operation.

4.12 Whilst there is potential for construction activities associated with both the wind farm and the grid connection to overlap, it is not considered that any related in-combination landscape and visual effects of the wind farm and the indicative grid connection would have a greater level of significance than those identified in the Larbrax Wind Farm EIA Report for the wind farm in isolation.

Differences from Conclusions of the EIA Report

4.13 The above appraisal of the indicative grid connection does not change the conclusions reported in the Larbrax Wind Farm EIA Report with respect to landscape and visual amenity.

Chapter 5
Ecology and Ornithology

Baseline Conditions

Designated Sites

5.1 The indicative route does not intersect with any sites designated for their ecology or ornithology features. The closest designated site is the Salt Pans Bay Site of Special Scientific Interest (SSSI), which lies approximately 250m to the south-west of the western end of the route, at its closest point.

5.2 The route lies within the Galloway and South Ayrshire Biosphere Reserve which is a non-statutory area designated under UNESCO's Man and the Biosphere (MAB) Programme. Biosphere reserves are described by UNESCO as "*Living laboratories for sustainable development… they are places where science, culture, and inclusive governance come together, showing how biodiversity conservation and sustainable development can successfully go hand in hand"*.

Habitats and Vegetation

5.3 Whilst the route does intersect some woodland areas, there are no areas of woodland listed as Ancient Woodland Inventory (AWI) that are intersected by or are located within 150m of the route.

5.4 The NatureScot Carbon and Peatland 2016 map indicates that the western section of the route crosses some areas of Class 1 and Class 5 peat. The Class 1 peat could support habitats such as blanket bog habitat, which could be key habitat for certain species in the area.

Protected Species

5.5 Chapter 7: Ecology of the Larbrax Wind Farm EIA Report (APP002.017) identifies little to no evidence of protected species such as otter, water vole, pine marten, red squirrel and reptiles on the wind farm site. However, based on what is known of the indicative grid connection route, there is the potential for suitable habitat to be present which could support protected species assemblages along the route. Further surveys by the relevant party bringing forward the grid connection would be required to confirm this.

Ornithology

5.6 Chapter 8: Ornithology of the Larbrax Wind Farm EIA Report (APP002.018) identified limited flights and breeding activity for bird species. Based on this information, and on the indicative grid connection route, it is considered unlikely that protected bird species would be found along the route, although this would be confirmed through pre-construction walkover surveys as necessary.

Appraisal of Potential Significant Effects from the Grid Connection

5.7 The route does not intersect directly with any statutory designated sites for ecological or ornithological interests. Furthermore, there are no effect pathways between the route and statutory designated sites in the wider area that would lead to likely significant effects during either construction or operation of the indicative grid connection.

5.8 It is also considered that no significant effects during either construction or operation of the indicative grid connection are likely on the aims underpinning the designation of the Galloway and South Ayrshire Biosphere Reserve.

5.9 Construction of the UGC would result in limited habitat loss. In accordance with established good practice guidance, it is assumed that the loss of Class 1 priority peatland will be minimised thought careful routeing and construction practices and post construction restoration. On this basis, significant effects on habitats would not be anticipated.

5.10 During construction, there is the potential for effects on protected species and breeding/roosting birds as a result of disturbance, mortality, and habitat loss / fragmentation. However, embedded design mitigation, best practice including a Construction Environmental Management Plan (CEMP) and species/bird protection plans would seek to avoid or mitigate any significant effects on protected species and birds during construction. It is also likely that an Environmental Clerk of Works (EnvCoW) would be appointed to monitor compliance with any planning/consent conditions required, including mitigation measures. Where the route intersects forestry areas, an additional mitigation measure is likely to be implemented which would restrict the amount of felling required to the minimum statutory safe clearances.

5.11 Operational effects on habitats and protected species, including birds, are unlikely to be experienced, given the static nature of the development and a limited need for maintenance and management.

Appraisal of Potential Significant In-Combination Effects

5.12 It is not considered likely that the indicative grid connection would give rise to significant construction or operational effects on ecology or ornithology.

5.13 The Larbrax Wind Farm EIA Report concluded that there would be no significant effects on ecology or ornithology receptors. The implementation of proposed peatland restoration measures is also considered to result in moderate (and significant) beneficial effects on peatland habitats within the Site.

5.14 It is not considered that any in-combination effects of the wind farm and the indicative grid connection would have a greater level of significance than those identified in the Larbrax Wind Farm EIA Report for the wind farm in isolation.

Differences from Conclusions of the EIA Report

5.15 The above appraisal of the indicative grid connection does not change the conclusions reported in the Larbrax Wind Farm EIA Report with respect to ecology and ornithology.

Chapter 6
Cultural Heritage

Baseline Conditions

6.1 As shown on Figure 1b, the eastern section of the indicative route intersects with the Stranraer Conservation Area located within the settlement of Stranraer. The route also passes adjacent to the Lochnaw Castle Gardens and Designated Landscape (GDL) to the west of the route.

6.2 Although the route does not directly intersect with any Listed Buildings, the following are located within 500m, the majority of which are located within Stranraer: three Category A Listed Buildings, 33 Category B Listed Buildings and 51 Category C Listed Buildings.

6.3 There is one Scheduled Monument located within 500m to the south-west of the route (Meikle Larbrax, hut circle 1000m NNE of, SM4786).

6.4 Whilst there are a large number of non-designated heritage assets noted in the National Record of the Historic Environment (NHRE) within 500m of the indicative route, the grid connection does not directly intersect with any of these.

6.5 There is also the potential for unrecorded buried archaeological remains to be present along the length of the route.

Appraisal of Potential Significant Effects from the Grid Connection

6.6 Due to the proximity of the route to the Lochnaw Castle GDL, there is the potential for direct effects to arise during construction as well as on setting. It is not expected that there would be any significant effects on the designated site during operation of the grid connection, as the route would avoid interacting with the GDL, would be restored and would not be a discernible feature in the landscape.

6.7 As there are a number of Listed Buildings located in proximity to the route, there is the potential for construction and operational effects to occur including direct effects or temporary effects to the setting during construction. However, given the underground nature of the works, which are also situated within a built environment, effects on setting are unlikely to be significant. Mitigation measures at the detailed design stage would seek to avoid direct effects.

6.8 During construction, there is the potential for direct impacts upon unrecorded archaeological remains where groundworks occur, however, it is considered unlikely that there would be many unrecorded assets, particularly as much of the route follows existing roads. In accordance with good practice, it is expected that a professionally qualified Archaeological Clerk of Works (ACoW) would be appointed for the duration of the construction phase of the grid connection. The role of the ACoW would be to provide advice to the appointed Construction Contractor regarding micrositing of development components to ensure preservation of any identified assets in-situ, and to undertake archaeological monitoring of topsoil stripping approved by DGC Archaeological Advisors (DGCAS). Taking into consideration the above, significant effects would be unlikely to arise on cultural heritage receptors during construction.

6.9 The theoretical intervisibility of the indicative grid connection with nearby heritage assets has not been analysed in detail. However, given the anticipated nature of the grid connection (as an UGC), it is considered unlikely that the operational effects will result in a significant effect.

Appraisal of Potential Significant In-Combination Effects

6.10 It is not considered likely that the indicative grid connection would give rise to significant effects on cultural heritage during construction or operation.

6.11 The Larbrax Wind Farm EIA Report (APP002.016) concluded that there would be no significant effects on cultural heritage receptors.

6.12 It is not considered that any in-combination effects of the wind farm and the indicative grid connection on cultural heritage would have a greater level of significance than those identified in the Larbrax Wind Farm EIA Report for the wind farm in isolation.

Differences from Conclusions of the EIA Report

6.13 The above appraisal of the indicative grid connection does not change the conclusions reported in the Larbrax Wind Farm EIA Report with respect to cultural heritage.

Chapter 7
Geology, Hydrology and Peat

Baseline Conditions

7.1 As shown in Figure 1b, the indicative route passes alongside, and intersects with, several unnamed minor watercourses. The central section of the route runs parallel to, and intersects, with the Piltanton Burn. Within the settlement of Stranraer, the route also intersects with the Black Stank watercourse, which appears to drain into Loch Ryan. The route also runs adjacent to Green Burn for 450m, approximately 1.2km from the western end of the route. Green Burn feeds into Galdenoch Burn which then drains into the North Channel. Minor watercourses are shown on Figure 9.1 of the Larbrax Wind Farm EIA Report (APP002.016).

7.2 The route crosses a number of watercourses, and SEPA's fluvial flood risk map indicates that each of these watercourses has a high risk of flooding, with the greatest extent being approximately 340m as the route approaches and crosses the Piltanton Burn.

7.3 The western section of the route also passes several small unnamed bodies of water within 300m of the route, and one body of water at Agnew Park in Stranraer, within 200m of the route.

7.4 The NatureScot Carbon and Peatland 2016 map indicates that the western section of the route crosses some areas of Class 1 and Class 5 peat. Figure 9.6 of the Labrax Wind Farm EIA Report show the areas of different peatland classes.

7.5 The Lochnaw Loch Surface Drinking Water Protection Area (DWPA) (ID 100590) is located approximately 1.5km north-east of the route, at its closest point. The route also runs through three different Ground DWPAs: 'The Rhins', 'Stranraer' and 'Stranraer Sand and Gravel'.

7.6 There is potential for Ground Water Dependent Terrestrial Ecosystems (GWDTEs) and Private Water Supplies (PWS) to be located within, or in proximity to the route. This would require confirmation through further environmental surveys. Potential PWS and GWDTEs are shown on Figures 9.1 and 9.3 of the Larbrax Wind Farm EIA Report.

Appraisal of Potential Significant Effects from the Grid Connection

7.7 The construction of the indicative grid connection has the potential to result in a number of potential effects, including:

- potential effects on deep peat;
- disruption to the hydrogeological and groundwater system, including GWDTEs;
- the risk of ground and surface water contamination, including of PWSs and Scottish Water public water supplies and systems;
- increased sediment loading to streams; including from forestry felling if required;
- increased flood risk; and
- potential effects on ground stability.

7.8 As the route crosses through areas of Class 1 peat, which is classed as priority peatland, this could result in direct effects. Further peat depth surveys would be undertaken to identify areas of peat and deeper peat would be avoided through detailed routeing and design as far as practicable, to minimise potential effects. In accordance with accepted good practice, if peat cannot be avoided, it is expected that a Peat Management Plan (PMP) would be produced to provide information and guidance on the appropriate re-use

and management of excavated peat. A peat landslide hazard risk assessment (PLHRA) would be undertaken if required, and it is also likely that a peat restoration plan would be prepared.

7.9 Where the indicative grid connection crosses watercourses, the watercourse crossings will be regulated by the Environmental Authorisation (Scotland) Regulations 2018 (EASR) and installed in accordance with standard Industry good practice, as required by SEPA. Due to the number of watercourse crossings, and proximity to a number of waterbodies, there is the potential for construction effects on hydrology. However, it is considered that with the application of standard embedded mitigation measures, and good practice guidance, any significant construction effects would be avoided. Any additional mitigation measures required to manage flood risk would also be implemented.

7.10 Due to the distance between the Lochnaw Loch Surface DWPA and the indicative route, significant effects on the Surface DWPA would be considered unlikely. Chapter 9 of the Larbrax Wind Farm EIA: Hydrology, Hydrogeology and Peat (APP002.019) concluded that it is unlikely there would be a significant effect on Ground DWPAs as a result of the wind farm. Effects as a result of the indicative grid connection are not expected to be dissimilar. Further surveys by the relevant party bringing forward the grid connection would be undertaken to identify any identified sensitive users/receptors. If these field surveys identify GWDTEs or PWSs with the potential to be affected, suitable mitigation would be put in place to ensure that effects are avoided or reduced and therefore residual effects are unlikely to be significant.

7.11 Overall, taking into consideration both standard embedded mitigation and good practice guidance, in addition to the implementation of any additional mitigation measures that may be required, significant effects on geology, hydrology and peat would be considered unlikely to arise.

7.12 No operational effects are likely to arise for hydrology, hydrogeology, geology and peat.

Appraisal of Potential Significant In-Combination Effects

7.13 It is not considered likely that the indicative grid connection would give rise to significant construction or operational effects on hydrology, hydrogeology, geology or peat following the implementation of embedded and additional mitigation and the adoption of good practice construction practices.

7.14 The Larbrax Wind Farm EIA Report concluded that there would be no significant effects on hydrology, hydrogeology, geology and peat.

7.15 It is not considered that any in-combination effects of the wind farm and the indicative grid connection would have a greater level of significance than those identified in the Larbrax Wind Farm EIA Report for the wind farm in isolation for hydrology, hydrogeology, geology or peat.

Differences from Conclusions of the EIA Report

7.16 The above appraisal of the indicative grid connection does not change the conclusions reported in the Larbrax Wind Farm EIA Report with respect to hydrology, hydrogeology, geology or peat.

Chapter 8
Traffic and Transport

Baseline Conditions

8.1 The wider study area surrounding the indicative grid connection is serviced by a number of major and minor roads, which provide access and transport routes to settlements, individual residences and the wider strategic road network.

8.2 As the route leaves the Proposed Development, it heads east until it intersects with the B738 road, then following the B738 south for approximately 1.5km. Further along the route, it also intersects with, and runs parallel to, the A718 for approximately 1.4km until reaching the B737. The route then follows the B737 for approximately 1.5km until it intersects with, and follows, the A718 again for approximately 750m, until it reaches the A77, following this road for approximately 230m.

8.3 The route intersects with the Meikle Galdenoch to Larbrax Shore section of the Rhins Coastal Path, at the western end of the route.

Appraisal of Potential Significant Effects from the Grid Connection

8.4 The construction of the grid connection would require temporary access to each construction location in the roadside verge. Due to the nature, design and rate of construction of the cable, it is anticipated that vehicle movements at any one location would be limited over the course of the construction period which will not lead to any noticeable increase in traffic volumes on the surrounding road network, albeit there will be a slight change in traffic composition as more HGVs will be required to deliver materials for the underground cable. Temporary traffic control measures may also be required. Any felling required to construct the grid connection, mainly restricted to the western-most section within Forestry and Land Scotland (FLS) land, which is noted to be felled, is unlikely to generate significant levels of forestry-related HGV traffic on the local road network.

8.5 As is standard practice, it is anticipated that a Construction Traffic Management Plan (CTMP) will be implemented for construction phase of the grid connection, to manage traffic movements on the surrounding public road network. It is anticipated that this would be coordinated with the construction of the Proposed Development should construction works overlap. Additionally, an Access Management Plan (AMP) may be required where the route intersects with the identified recreational route.

8.6 During operation, there would be infrequent visits by maintenance teams and therefore significant effects as a result are unlikely to arise.

8.7 Given the limited number of anticipated vehicle movements associated with the grid connection, and the proposed traffic management measures, it is considered unlikely that the proposed grid connection would give rise to significant construction or operational traffic and transport effects.

Appraisal of Potential Significant In-Combination Effects

8.8 It is not considered likely that the indicative grid connection would give rise to significant construction or operational effects on traffic and transport.

8.9 The Larbrax Wind Farm EIA Report (APP002.021) concluded that there would be no significant effects arising from traffic and transport.

8.10 It is not considered that any in-combination effects of the wind farm and the indicative grid connection would have a greater level of significance than those identified in the Larbrax Wind Farm EIA Report for the wind farm in isolation for traffic and transport.

Differences from Conclusions of the EIA Report

8.11 The above appraisal of the indicative grid connection does not change the conclusions reported in the Larbrax Wind Farm EIA Report with respect to traffic and transport.

Chapter 9
Noise and Vibration

Baseline Conditions

9.1 The route passes primarily through environments that are rural in nature, consisting mostly of pastureland and coastal flats. However, the route does run adjacent to the A718, A77, B738 and B737 roads, as well as through the settlement of Stranraer. The existing baseline noise environment for most of the route is likely to be typical of a quiet/rural environment, characterised by 'natural' sources such as wind and disturbed vegetation, and anthropogenic noise from the roads mentioned above. However, once in Stranraer, this would change to primarily anthropogenic noises from activities taking place within the settlement, including from road vehicles.

Appraisal of Potential Significant Effects from the Grid Connection

9.2 Grid connection construction works are linear in geographical extent and of short duration at any one location. As construction progresses, noise generated will diminish quickly, moving the activity away from any noise sensitive receptors, such that significant effects are not likely. Given the limited traffic expected to be generated for the construction and operation of the grid connection, it is not considered that traffic-related noise will be significant.

9.3 If required, mitigation measures would be implemented in relation to any necessary Horizontal Directional Drilling (HDD) required to construct sections of the UGC. This may include measures relating to any vibration generation.

9.4 Additional good practice measures for controlling/minimising noise and vibration during construction may include the following:

- restricted hours of construction to avoid sensitive periods;
- the use of equipment with appropriate noise control measures (e.g. silencers, mufflers and acoustic hoods); and
- additional good practice measures as set out in BS 5228-1/2:2009+A1:2014 (BS 5228)[4]

9.5 Overall, any noise and vibration effects during construction would be short term and temporary and, with good practice mitigation in place, significant effects are unlikely to arise.

9.6 There will be no significant effects associated with operation of the UGC.

Appraisal of Potential Significant In-Combination Effects

9.7 It is not considered likely that the indicative grid connection would give rise to significant construction or operational effects relating to noise and vibration.

9.8 The Larbrax Wind Farm EIA Report (APP002.020) concluded that there would be no significant effects relating to noise and vibration.

[4] UK Government, 2009. British Standards Institution 5228. Code of practice for noise and vibration control on construction and open sites (BS 5228), BSI, 2009, Amended 2014.

9.9 It is not considered that any in-combination effects of the wind farm and the indicative grid connection would have a greater level of significance than those identified in the Larbrax Wind Farm EIA Report for the wind farm in isolation for noise and vibration.

Differences from Conclusions of the EIA Report

9.10 The above appraisal of the indicative grid connection does not change the conclusions reported in the Larbrax Wind Farm EIA Report with respect to noise and vibration.

Chapter 10
Cumulative Effects

10.1 Commentary on the likely cumulative effects associated with the Proposed Development and the indicative grid connection, together with other developments (including the grid connections of neighbouring wind farms) is provided below. A study area of 3km is assumed. It is also assumed that all existing operational or under construction developments form part of the existing baseline conditions against which the grid connection would be assessed.

10.2 The following points should be noted:

- In some cases, the grid connection for another wind farm development may also be at a preliminary stage and therefore there may be no (or limited) knowledge and understanding as to the nature and location of such works. The carrying out of a cumulative assessment in these circumstances is therefore not possible as there is a high degree of uncertainty as to their characteristics and, in turn, their potential to cause likely significant effects. This applies to most (but not necessarily all) development that is not yet the subject of an application or consented (noting that operational schemes and those under construction form part of the existing baseline as noted above).
- Where there is reasonable knowledge as to the nature and location of other grid connection works, and in particular, works that are either the subject of an application or consented, it will need to be considered (by virtue of the nature, scale and location of those works) whether there is any prospect of likely significant effects arising cumulatively with the Proposed Development or its indicative grid connection.

10.3 Given the above, the only additional relevant project is considered to be the consented Glenhead of Aldoun Wind Turbine (22/0113/FUL) located 2.3km north of the route. This is a small single turbine, with a consented tip height of 46.5m. Although other potential developments may connect into the existing 33kV Stranraer Substation in the future, the form and route of such grid connections are unknown at this point in time and are therefore not considered within this report.

10.4 Following mitigation, no significant cumulative effects are identified in the Larbrax Wind Farm EIA Report (APP002.020). Whilst considered in detail for landscape and visual amenity, effects identified in this cumulative assessment will reflect those already identified in the primary assessment, which considers operational and under construction wind farms as part of the baseline.

10.5 Potential cumulative effects of the indicative grid connection and the Glenhead of Aldoun Wind Turbine are considered during the construction phase only, given very limited operational effects associated with an UGC. Assuming the implementation of embedded and additional site-specific mitigation, following any further required survey and design work by the relevant party bringing forward the grid connection, no significant effects are predicted for the indicative grid connection in isolation. In the unlikely event that the construction phase for the indicative grid connection overlaps with that of the single Glenhead of Aldoun wind turbine, which was consented in 2022, and lies 2.3km north of the indicative route, no significant cumulative effects are considered likely.

10.6 Therefore, no additional cumulative effects are anticipated beyond those identified in the Larbrax Wind Farm EIA Report (APP002.020).

Chapter 11
Summary

11.1 This appraisal seeks to provide an overview of the current status of the grid connection, an indicative grid connection route and an indicative development description. It then considers the likelihood for the indicative grid connection to give rise to any significant environmental effects, alone or in-combination with the Proposed Development. Assessment limitations are clearly stated.

11.2 Based on the fullest information reasonably available at this point in time, it is not considered that the construction and operation of the indicative grid connection would result in significant construction or operational effects, assuming the implementation of accepted good practice and mitigation measures.

11.3 Therefore, the appraisal of the indicative grid connection does not change the conclusions reported in the Larbrax Wind Farm EIA Report with respect to likely significant effects.

Larbrax Grid Connection Proposal
for Perigus Energy

LUC

Figure 1a: Landscape Appraisal Constraints

Site boundary
Turbine
Indicative grid connection route
3km study area (from approx route location)

Wind farm layout (by status)

Application Submitted
Consented
Operational

Landscape Designations

Gardens and Designed Landscapes (GDL)
Regional Scenic Area (RSA Dumfries & Galloway)

NatureScot Landscape Character Assessment

156: Peninsula
158: Coastal Flats - Dumfries & Galloway
172: Upland Fringe - Dumfries & Galloway
173: Plateau Moorland - Dumfries & Galloway

Knocknain Farm
Glenhead of Aldouran
Lochnaw Castle (GDL)
North Rhins Wind Farm
Castle Kennedy (GDL)
156
158
172
173
LOCH RYAN
STRANRAER
Kirkcolm
Cairnryan
Leswalt
Portpatrick
Black Head

0 1 2 km

Map scale 1:60,000 @ A3

Perigus Energy

Larbrax Grid Connection Proposal
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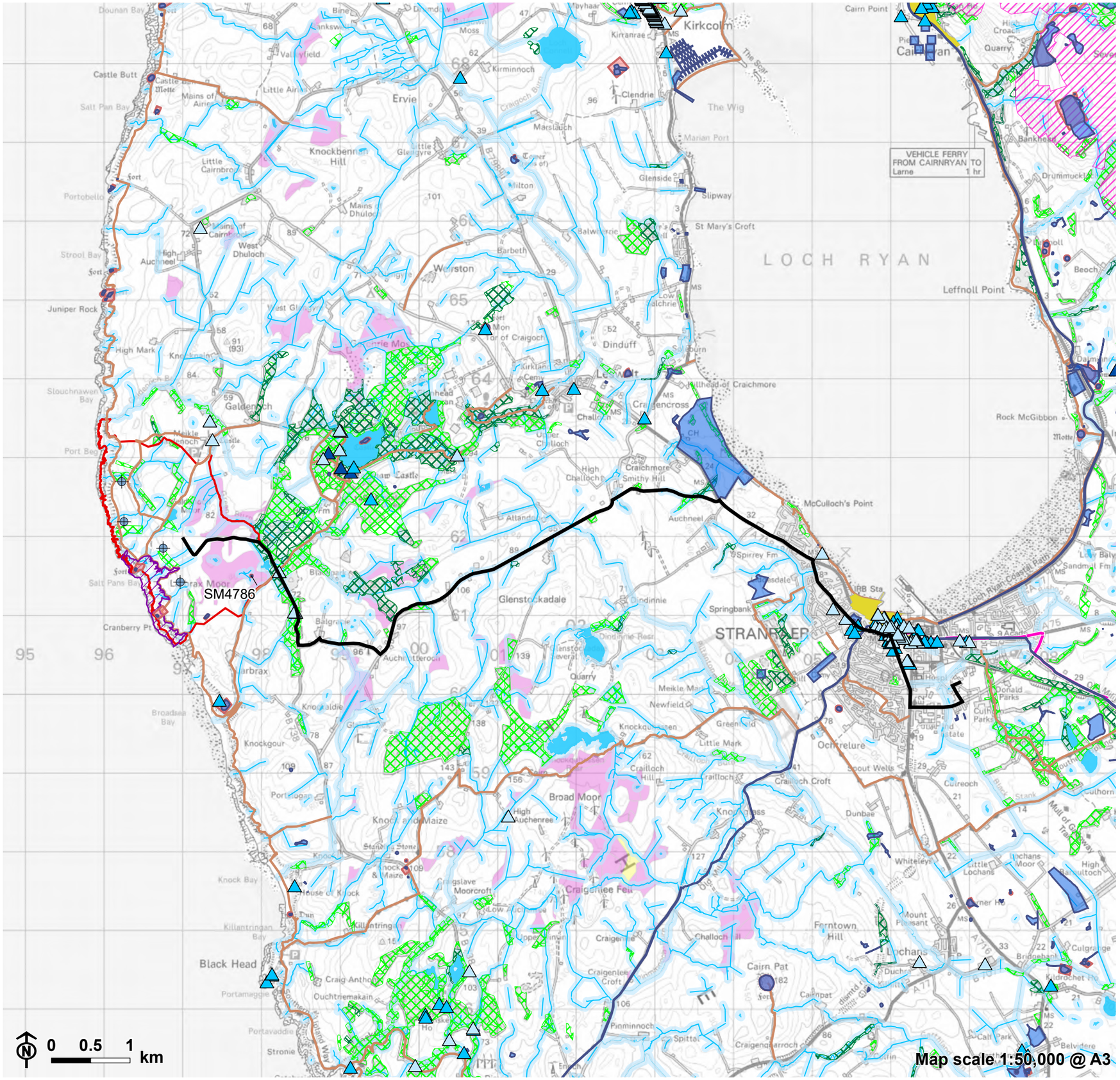
Figure 1b: Appraisal Constraints



- Site boundary
- Turbine
- Indicative grid connection route

Right of way

- Core path
- National Cycle Network

Cultural Heritage

- Category A listed building
- Category B listed building
- Category C listed building
- National Record of the Historic Environment (NRHE) area
- Scheduled monument
- Conservation area

Natural Heritage

- Special Protection Area
- Site of Special Scientific Interest (SSSI) Salt Pans Bay

Forestry

- National Woodland Survey of Scotland
- National Forest Inventory (Woodland NFI 2024)

Hydrology

- Surface water
- Surface water 50 m buffer

Carbon and Peatland (2016)

- Class 1
- Class 2

Perigus Energy