

Quantans Hill Wind Farm EIAR Addendum

Additional Information
Grid Route Feasibility Assessment

Vattenfall Wind Power Limited
Quantans Hill Wind Farm
07 September 2026

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Client details

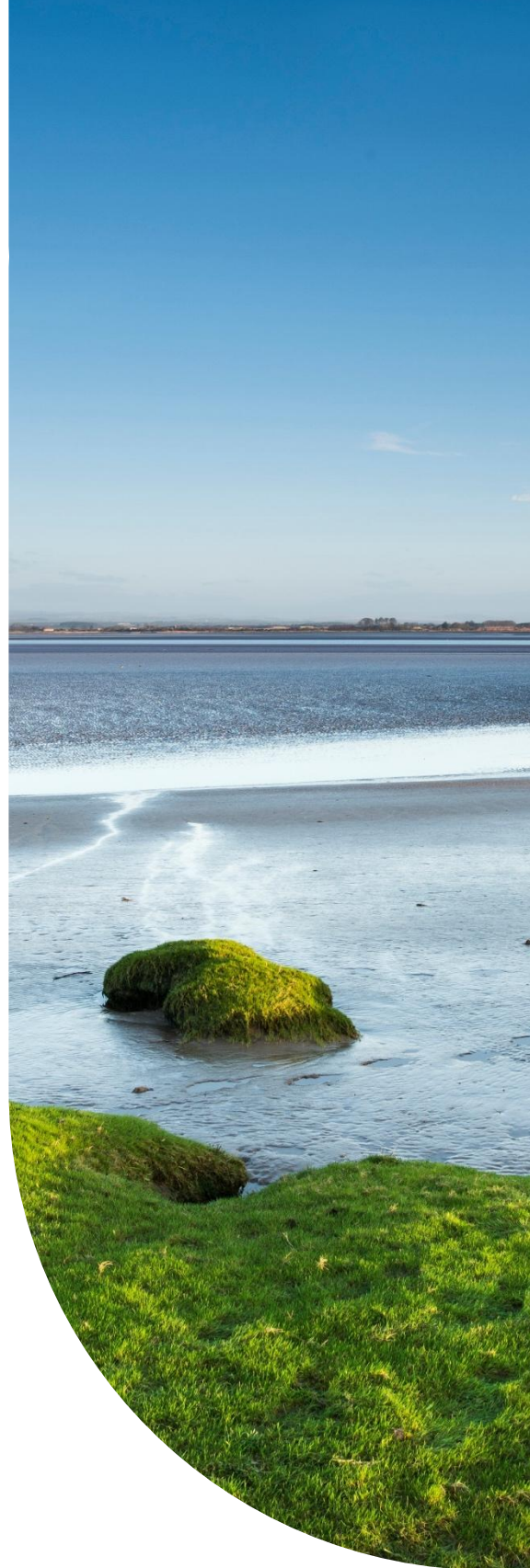
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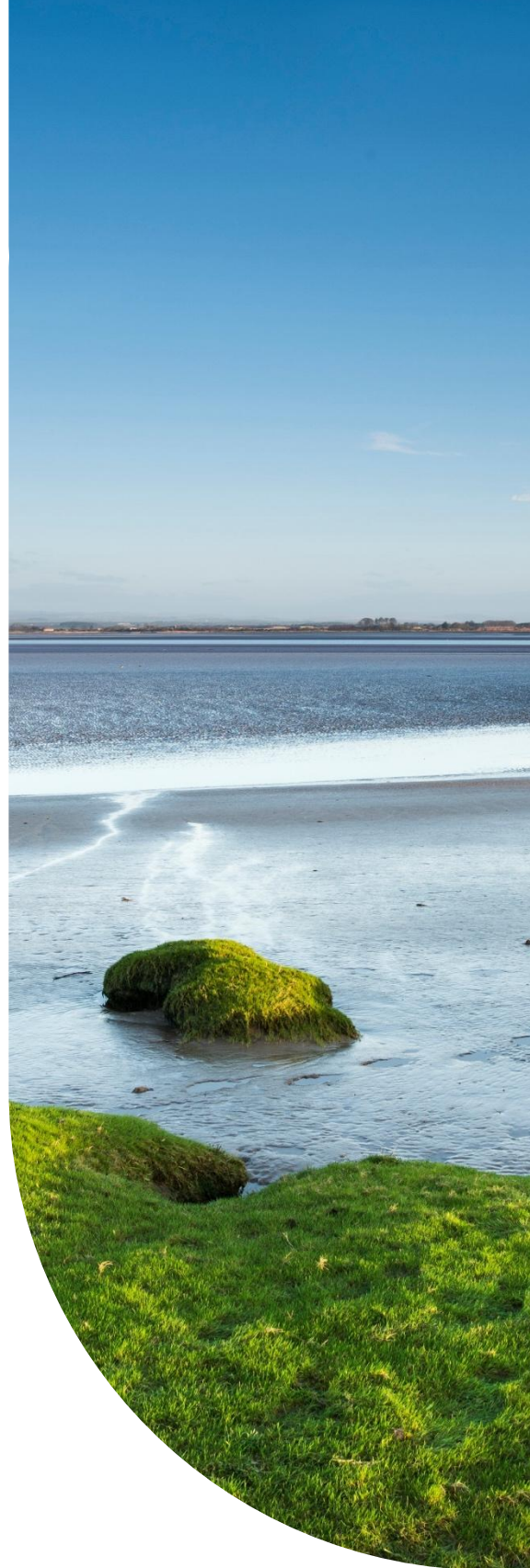
Figure 5.2: The Preferred Grid Route (Western Section), 500 m Study Area and heritage assets

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Figure 5.5: The Preferred Grid Route (Eastern Terminus), 500 m Study Area and heritage assets

Figure 5.6: The Preferred Grid Route, 2 km Study Area and designated / HER National heritage assets





Glossary

Term	Definition
Additional Information	Supplementary document submitted during an environmental assessment process to provide additional or clarified information on a project's environmental impacts (i.e. this Report).
Effect	Effects are the consequence of impacts on environmental resources or receptors.
Environmental Impact Assessment	Environmental Impact Assessment (EIA) is a means of carrying out, in a systematic way, an assessment of the likely significant environmental effects from a development.
EIA Regulations	The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (EIA Regulations).
EIA Report (EIAR)	A document reporting the findings of the EIA and produced in accordance with the EIA Regulations.
Holford Rules	A set of established guidelines used in the UK for the routeing and siting of high-voltage overhead electricity transmission lines.
Likely Significant Effect	An environmental effect considered sufficiently important to be significant, having regard to the sensitivity of the receptor and the magnitude of change.
Magnitude of impact (or change)	A term that combines judgements about the size and scale of the impact, the extent of the area over which an impact occurs, whether it is reversible or irreversible and whether it is short or long term in duration.
Micrositing	The process of positioning individual infrastructure to avoid localised environmental or technical constraints.
Mitigation	Measures used to avoid, prevent, reduce or, where appropriate, compensate for adverse environmental effects.
Mitigation Hierarchy	A sequential approach to managing environmental effects through avoidance, mitigation, restoration and, where necessary, compensation.
Preferred Grid Route	The approximately 5.5 km route identified for the purposes of assessing the likely grid connection between the Proposed Development and Holm Hill Substation.
Proposed Development	The Quantans Hill Wind Farm development.
Site	The area of the "Site boundary" as amended and illustrated on Additional Information (AI) Figure 1.1 within which the Proposed Development will be located.
RAG Analysis	A constraints assessment using risk ratings to identify and communicate the relative environmental, planning and technical risks associated with the preferred grid route.
Receptor	An environmental feature, resource, person or group that has the potential to be affected by a development.



List of Abbreviations

Abbreviation	Description
AI	Additional Information
AIL	Abnormal Indivisible Load
ARWTN	Assessment and Rating of Wind Turbine Noise
AWI	Ancient Woodland Inventory
BoCC	Birds of Conservation Concern
BPP	Bird Protection Plan
CEMP	Construction Environmental Management Plan
CIEEM	Chartered Institute of Ecology and Environmental Management
CTMP	Construction Traffic Management Plan
DESNZ	Department for Energy Security and Net Zero
DWPA	Drinking Water Protected Area
EA	Environmental Appraisal
ECow	Ecological Clerk of Works
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
ECU	Energy Consents Unit
GIS	Geographic Information System
GDL	Garden and Designed Landscape
GWDTTE	Groundwater Dependent Terrestrial Ecosystem
HER	Historic Environment Record
HES	Historic Environment Scotland
HGV	Heavy Goods Vehicle
HMP	Habitat Management Plan
kV	Kilovolt
LCT	Landscape Character Type
LiDAR	Light Detection and Ranging
LLA	Local Landscape Area
LVIA	Landscape and Visual Impact Assessment
MW	Megawatt
NCAP	National Collection of Aerial Photography
NGR	National Grid Reference



Abbreviation	Description
NHRE	National Record of the Historic Environment
NLS	National Library of Scotland
NPF4	National Planning Framework 4
NSA	National Scenic Area
NVC	National Vegetation Classification
OHL	Overhead Line
OS	Ordnance Survey
PPIP	Pollution Prevention and Incident Plan
PRoW	Public Right of Way
PWS	Private Water Supply
PWSRA	Private Water Supply Risk Assessment
RAG	Red, Amber and Green
RoW	Right of Way
RSA	Regional Scenic Area
RSG	Raptor Study Group
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SBL	Scottish Biodiversity List
SEPA	Scottish Environment Protection Agency
SLA	Special Landscape Area
SPA	Special Protection Area
SPEN	SP Energy Networks
SPP	Species Protection Plan
S&PMP	Soils and Peat Management Plan
SSSI	Site of Special Scientific Interest
UNESCO	United Nations Educational, Scientific and Cultural Organization
WFD	Water Framework Directive
WHS	World Heritage Site
WSI	Windy Standard I
WTW	Water Treatment Works
ZTV	Zone of Theoretical Visibility



1 Introduction

1.1 Purpose of the Report

- 1.1.1 Vattenfall Wind Power Ltd (the Applicant) submitted an application to the Scottish Ministers under Section 36 of the Electricity Act 1989 (as amended), together with a request for deemed planning permission under Section 57(2) of the Town and Country Planning (Scotland) Act 1997, for the construction and operation of the proposed Quantans Hill Wind Farm (hereafter known as the Proposed Development).
- 1.1.2 The application (Reference: ECU00003399)¹ was submitted to the Energy Consents Unit (ECU) on 27 January 2023 and was accompanied by an Environmental Impact Assessment Report (EIAR).
- 1.1.3 Since submission, the application has remained under consideration, with the final statutory consultee response and committee report received on 28 August 2025.
- 1.1.4 Following completion of the consultation process, the Scottish Ministers issued a request (30 March 2026) for Additional Information (AI) under Regulation 19 of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (the EIA Regulations). The request sought further information relating to the proposed grid connection.
- 1.1.5 In response to this request, the Applicant instructed Natural Power to undertake a grid connection feasibility assessment and prepare the necessary additional information presented as an addendum to the EIAR already submitted. This report has therefore been prepared in accordance with the EIA Regulations.

1.2 Scope of the Report

- 1.2.1 This report forms an addendum to the submitted Quantans Hill EIAR and should be read in conjunction with the original EIAR, including all associated figures and appendices.
- 1.2.2 As requested by the ECU, the report provides an assessment of the potential for likely environmental effects associated with the proposed grid connection, both independently and in combination with the Proposed Development. The Proposed Development has already been subject to a full environmental assessment within the submitted EIAR.
- 1.2.3 The addendum identifies a preferred grid route and grid corridor and presents a proportionate desk-based assessment of the potential for likely environmental effects. The assessment covers those environmental topics with the potential to be affected by the proposed grid connection, namely Landscape and Visual, Cultural Heritage, Noise, Traffic and Transport, Ecology, Ornithology, and Hydrology, Hydrogeology and Geology.
- 1.2.4 The assessments presented within this addendum have been informed by a review of two relevant planning applications, the Lorg Wind Farm Grid Connection² and Holm Hill Substation³, publicly available information and the environmental constraints identified through the initial RAG analysis exercise undertaken and presented in Appendix B. The report includes:
 - a proportionate assessment of the potential for likely significant environmental effects arising from the proposed grid connection in isolation;
 - a review of relevant planning applications relating to the proposed grid connection;

¹ Scottish Government (2026) *Energy Consents Unit: Application details - Quantans Hill Wind Farm (ECU00003399)*. Available at: <https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00003399> (Accessed: 8 July 2026).

² SP Energy Networks (n.d.) *Lorg Wind Farm Grid Connection*. Available at: https://www.spenergynetworks.co.uk/pages/lorg_wind_farm.aspx and Scottish Government Energy Consents Unit (n.d.) *Lorg Wind Farm Grid Connection (ECU00001789)*. Available at: <https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00001789&T=0> (Accessed 17 August 2026)

³ SP Energy Networks (n.d.) *Holm Hill Substation*. Available at: https://www.spenergynetworks.co.uk/pages/holm_hill_substation.aspx (Accessed 17 August 2026)



- an assessment of the likely combined effects of the Proposed Development and the proposed grid connection; and
- a cumulative assessment of the Proposed Development with other developments (based on the existing Proposed Developments EIA cumulative assessments) together with the proposed grid connection where there may be likely effects on the same environmental receptor.

- 1.2.5 For some topics, the information available and employed for the assessments has allowed firm conclusions on the determination of the potential for likely significant effects of the preferred grid route using the same EIA methodology as was used in the submitted EIA for the Proposed Development. For other topics (e.g. those that might also rely on data from site specific survey), these topics have made determinations of the potential likely significant effects based on qualitative assessment and professional judgement and the evidence available at this time. Where additional information is required, it is clearly stated.
- 1.2.6 Please note this addendum does not seek planning permission for the preferred grid route, and it is anticipated that a separate planning application would be submitted by the network operator. The preferred grid route and corridor have been identified only to facilitate a proportionate assessment of the potential environmental effects associated with the likely grid connection that would be used to connect the Proposed Development to the National Grid.

1.3 The Applicant

- 1.3.1 The Applicant Vattenfall AB, the ultimate owner of Vattenfall Wind Power Ltd, is a leading European energy company with approximately 20,000 employees, owned by the Swedish state. For more than 100 years Vattenfall has powered industries, supplied energy to people's homes and modernised the way its customers live through innovation and cooperation.
- 1.3.2 Vattenfall's attitude continues to drive forward the goal of fossil freedom. Vattenfall is leading the transition to a more sustainable energy system through growth in renewables and climate-smart energy solutions for its customers.
- 1.3.3 Vattenfall has over 50 wind farms, onshore and offshore, across five countries and pioneered co-locating wind with solar and batteries. Vattenfall has been in the UK since 2008, investing over £3.5 billion in enough wind to power nearly a million British homes. Vattenfall owns the largest onshore wind farm in England and Wales, Pen y Cymoedd, and in Scotland operates wind farms on the Isle of Skye and in Aberdeenshire. At a local level Vattenfall developed the consented South Kyle wind farm, near Dalmellington, lying within both East Ayrshire and Dumfries and Galloway, which began commercial operation in early 2023.

1.4 Consultants

- 1.4.1 Natural Power Consultants Limited (Natural Power) has prepared this addendum and has been the lead consultancy on the project. Natural Power has been providing expertise to the renewable energy industry since the company was formed in 1995 and is one of the UK's leading renewable energy and infrastructure consultants. As well as development and EIA services, Natural Power also provide expert advice and due diligence consultancy, site construction management and site operation and maintenance.
- 1.4.2 Other consultants involved in this addendum have provided independent professional input for Noise, Cultural Heritage, and LVIA:
- Hayes McKenzie – Noise
 - AOC Archaeology – Cultural Heritage
 - Rebecca Rylott - LVIA



2 Overview of the Proposed Development

2.1 Proposed Development

- 2.1.1 The Proposed Development comprises Quantans Hill Wind Farm, located approximately 2 km north-east of Carsphairn in Dumfries and Galloway. The application site boundary (the Site) extends to approximately 1,800 hectares and occupies predominantly upland grazing land surrounding Quantans Hill and Furmiston Craig.
- 2.1.2 As assessed within the submitted EIAR, the Proposed Development comprises up to 14 wind turbines with a maximum blade tip height of 200 m, capable of generating up to approximately 92.4 MW of renewable electricity. The Proposed Development also includes a battery energy storage system (up to 50 MW), an on-site substation and control building, approximately 14.65 km of new access tracks, underground electrical cabling, an anemometry mast, temporary borrow pits, construction compounds, laydown areas, drainage infrastructure and all associated ancillary works required for construction, operation and decommissioning.

2.2 Preferred Grid Route

- 2.2.1 The preferred grid route, shown on AI Figure 1.1: Site Constraints Overview, at the end of this report, extends from the Proposed Development's on-site substation westwards to the proposed Holm Hill Substation. The route is approximately 5.5 km in length.
- 2.2.2 The preferred grid route broadly follows part of the proposed Lorg Wind Farm Grid Connection, which is currently subject to a separate planning application. The Lorg Wind Farm Grid Connection comprises a new 17.5 km 132 kV trident wood pole (up to 15.1 m high) overhead line (OHL) extending from Lorg Wind Farm to the proposed Holm Hill Substation, near Carsphairn in Dumfries and Galloway. The preferred grid route was selected as the proposed Lorg Wind Farm Grid Connection traverses the Site and represents a logical and potentially deliverable route for connecting the Proposed Development to the electricity transmission network, should it ultimately be consented.
- 2.2.3 Notwithstanding this, the preferred grid route presented within this report has been identified and assessed independently for the purposes of the Proposed Development's application. The assessment does not rely on the proposed Lorg Wind Farm Grid Connection obtaining consent, nor does this addendum seek consent for the grid connection itself. Instead, the route has been identified solely to enable a proportionate assessment of the potential for likely significant effects associated with the preferred grid connection required to serve the Proposed Development.
- 2.2.4 For the purposes of this addendum, it has been assumed that the preferred grid route would comprise a 132 kV OHL supported on trident wood poles and that the construction period would take approximately 4-6 months. This represents the most likely connection solution and provides the basis for the environmental assessment presented within this report.
- 2.2.5 The final design and specification of the grid connection would be determined through the detailed design process and, where required, would be subject to the relevant statutory consenting process.



3 Red, Amber and Green (RAG) Analysis

3.1.1 An initial RAG analysis was undertaken to identify any key constraints or environmental risks and which informed the assessments in the following sections were based. In order to complete a RAG analysis for the preferred grid route, a constraints exercise was undertaken considering the following:

- Special Areas of Conservation (SACs);
- Sites of Special Scientific Interest (SSSIs);
- Ancient Woodland Inventory (AWI);
- Priority habitats (where available);
- Carbon-rich soils and peat mapping;
- Watercourses and wetlands;
- National Scenic Areas (NSAs);
- Special Landscape Areas (SLAs);
- Wild Land Areas;
- Local Landscape Areas (LLAs);
- Scheduled Monuments;
- Listed Buildings;
- Conservation Areas;
- Inventory Gardens and Designated Landscapes;
- Inventory of Battlefields and World Heritage Properties;
- River basin districts;
- Drinking Water Protected Areas (DWPAs);
- Flood risk mapping;
- Slope analysis;
- Settlements and residential receptors;
- Forestry blocks;
- Core paths and Rights of Way (RoWs);
- Major infrastructure crossings; and
- Existing OHL and substations.

3.1.2 There are no Ramsar sites or Special Protection Areas (SPAs) present within the 2 km study area or dwellings within 200 m of the preferred grid route and these receptors are therefore not a part of the constraints analysis and are not shown on the constraints maps (AI Figure 1.1: Site Constraints Pages 1 and 2).

3.2 RAG Analysis Methodology

3.2.1 A qualitative RAG assessment has been undertaken to identify the constraints associated with the proposed grid connection. The assessment considers environmental, planning, technical and stakeholder topics and assigns a risk rating based on the likelihood of the proposed grid connection having any environmental impacts. Where appropriate, potential mitigation measures have been identified and a risk rating assigned to reflect the anticipated level of risk following implementation of mitigation. This approach provides a transparent and consistent framework for identifying key constraints, informing project design and supporting the consenting strategy. See Appendix A for approach to ranking.



Table 3.1: Risk Rating Criteria

Rating	Description
Green	Unlikely to lead to a consenting risk, with or without mitigation. The topic is not expected to present a significant constraint to the proposed development.
Amber	Likely to result in some consenting risk; however, specific additional mitigation is unlikely to be required. Matters can generally be addressed through embedded mitigation, justification or stakeholder engagement.
Red	Moderate consenting risk identified. Mitigation measures are likely to be required to address the identified constraint and support a successful outcome.
Black	High consenting risk identified and/or mitigation is likely to be complex, costly or difficult to achieve.

- 3.2.2 This format allows potential constraints to be assessed consistently and enables the identification of those issues most likely to influence the delivery and consenting of the preferred grid route. Table 3.2 identifies the key constraints that have been identified for each topic and the risk ratings with and without mitigation.

Table 3.2: Summary of RAG Analysis

Topic	Key Constraints identified
Ecology	Peatland habitats; and 'Transition buffer' of the Galloway and Southern Ayrshire United Nations Educational, Scientific and Cultural Organization (UNESCO) Biosphere Reserve.
Ornithology	Potential habitat for protected/notable bird species.
Hydrology	Watercourses (specifically crossings of the Benloch Burn, Water of Deugh and tributaries); Benloch Burn Drinking Water Protected Area; Class 1 and 2 Peat; and Areas of river flood risk.
Settlements	None identified.
Landscape and Visual	Lies within the Galloway Hills Local Landscape Area (LLA); and Potential effects on nearby recreational core paths.
Cultural Heritage	Two Scheduled Monuments; One listed building (Category B)
Roads	Constraints relate to road crossings, construction traffic, temporary disruption/closures and the suitability of local roads for access
Infrastructure	Existing OHL.
Core paths and Rights of Way (RoWs)	Two core paths/ Public Right of Ways (PRoWs) interact directly with the preferred grid route
Forestry blocks	None identified.

- 3.2.3 Please see Appendix A and Appendix B for the full analysis.



4 Landscape and Visual

4.1 Introduction

- 4.1.1 The landscape and visual assessment has been undertaken with reference to the LVIA methodology set out in the submitted EIAR for the Proposed Development (Quantans Hill Wind Farm comprising up to 14 wind turbines, Volume 3: Appendix 5.1 of the submitted EIAR). It provides a proportionate, desk-based assessment and considers the potential for likely significant landscape and visual effects, including combined and cumulative effects where relevant.
- 4.1.2 The assessment is informed by the RAG Analysis (Appendix B) for the preferred grid route and a review of the landscape and visual assessment information presented within the submitted EIAR for the Proposed Development and submitted applications for the Lorg Wind Farm Grid Connection and Holm Hill Substation. These documents identify the same landscape and visual baseline and include a detailed route selection process in respect of the Lorg Wind Farm Grid Connection.

4.2 Grid Connection

- 4.2.1 This assessment assumes that both the Proposed Development and the proposed Holm Hill Substation are in existence and is focused on the preferred grid route which would follow part of the proposed Lorg Wind Farm Grid Connection route.
- 4.2.2 The Lorg Wind Farm Grid Connection route has been developed by SP Energy Networks and has undergone a detailed route alignment and selection process which accords with the Holford Rules. These rules advise the design of the route should avoid summits and ridge lines as well as other environmental and technical constraints. The undulating nature and small hills of this part of the Southern Uplands Landscape Character Type (LCT) have afforded several opportunities for alternative route options and embedded mitigation that will reduce the landscape and visual prominence of the preferred grid route as identified in the RAG Analysis, Appendix B of this report and summarised below:
- Careful route alignment and micro-siting should seek to avoid visually prominent locations such as ridgelines and skylines where practicable and maximise the use of existing forestry and landform to provide natural screening.
 - Grid poles should be located away from sensitive visual receptors, including nearby dwellings and recreational routes, where practicable.
 - Good practice mitigation measures should include a detailed LVIA to inform route refinement and micro-siting
 - A CEMP to minimise temporary construction effects and ensure appropriate reinstatement following construction.
- 4.2.3 The proposed trident wood poles supporting the 132 kV OHL typically range between 13-15 m in height and the intervening spans between poles range between 70 m and 120 m. This assessment has assumed a maximum pole height of 15 m. Typically, the study area for this form of development could extend to 2 km from the centerline of the grid connection route, where overlapped by Zone of Theoretical Visibility (ZTV) analysis.

Baseline Review and Identification of Receptors

- The indicative study area is illustrated in AI Figure 1.1: Site Constraints, Pages 1 and 2. A desk based review of the landscape and visual receptors within the 2 km study area has been undertaken to identify those receptors with the potential for environmental effects from the preferred grid route and which therefore warrant further consideration. Landscape Receptors:
 - *The whole of the 2km study area is overlapped by the Galloway Hills Regional Scenic Area (RSA);*
 - *Southern Uplands LCT - the whole of the preferred grid route is located within this character type;*



- Other landscape character types within the wider 2 km study area are unlikely to be significantly affected. The Upper Dale LCT is located to the south beyond combinations of intervening landform, overhead transmission towers, and the proposed Holm Hill Substation. The Southern Uplands with Forest LCT is forested and located beyond either the Holm Hill Substation or the Proposed Development and the Rugged Granite Upland LCT is located at further distance beyond the Upper Dale LCT. In all cases significant effects on landscape character, noting the presence of the existing overhead transmission towers, is unlikely and these receptors have not been considered further.
- Visual Receptors:
 - Settlement: There are limited residential properties within 1 km of the preferred grid route at Brockloch, Brochloch Tower, and Bridge-end which have been identified for further consideration.
 - Other settlement and individual residential properties include Carsphairn at just over 2 km distance on the southern edge of the study area (beyond the intervening landform of Craig of Knockgray) the individual properties at Marbrack, Knockgray, Liggat, Legwyne, Holm of Daltallochan and Woodhead at 1-2 km distance. All of these are located generally to the south and west, beyond intervening landform and vegetation screening, and in some cases beyond the existing overhead line and transmission towers and the A713. Consequently, these receptors are unlikely to be significantly affected by the preferred grid route and have not been considered further.
 - Transport routes: The A713 Galloway Scenic Route is located almost 200 m west of the preferred grid route.
 - Recreational routes: There are three Core Paths within the study area; Nos. 487 and 182 (providing access to the Cairnsmore of Carsphairn) and No. 594 routed through forestry to the north.
 - Recreational and Tourist Destinations: The Carsphairn Heritage Centre is located to the south, just within the 2 km study area, although it is likely that views of the preferred grid route would be screened by intervening landform and vegetation.
 - Further local attractions at Green Well of Scotland and Willies Cave would be screened by intervening landform and vegetation and would not be significantly affected.

4.2.4 On the basis of the findings of the desk-based review, this section considers the potential for landscape effects on the Southern Upland LCT and part of the Galloway Hills RSA, and potential visual effects in relation to three residential properties, the A713 Galloway Scenic Route and three Core Paths.

ZTV and Viewpoint Analysis

4.2.5 The assessment has been assisted by the ZTV and viewpoint analysis provided for the Lorg Wind Farm Grid Connection route (Lorg Wind Farm Grid Connection Environmental Impact Assessment Report Volume 2: Part 4, SPEN, November 2025) and the proposed Holm Hill Substation environmental appraisal documentation.

Landscape Assessment of Southern Uplands LCT

- 4.2.6 The landscape character and key characteristics of the Southern Uplands LCT are described within the NatureScot, Landscape Character Assessment (2019) and the EIAR, Volume 1, pages 5-17-18, which assessed the sensitivity of the Southern Uplands LCT in this area as High. This landscape includes the eastern side of Cairnsmore of Carsphairn and a series of 'conical' foothills and valleys including Willieanna, Craig of Knockgray and the Site. The area drains into the Water of Deugh and the Upper Dale LCT to the south. It is an area of rough grassland and forestry, although some woodland planting has been undertaken across part of this area.
- 4.2.7 Construction of the preferred grid route would occur progressively along the route and would affect a small, localised area of the Southern Uplands LCT, threading between the 'conical' foothills and Willieanna and Craig of Knockgray. In addition, taking account of the existing transmission towers, the relative scale of the preferred grid route, and the embedded route mitigation, the magnitude of change is likely to be Slight. This would result in the potential of a Moderate to Minor



effect considered to be not significant. The nature of this effect would be of short duration, direct, and negative.

- 4.2.8 During operation the completed, preferred grid route would appear as a small line of wood poles within a large-scale landscape, with intermittent topographical screening. Although it would introduce vertical features to the moorland, the existing wind farm development, forestry and the existing overhead transmission line all contribute to an established characteristic of this landscape. At most, a Slight magnitude of change would result in a Moderate to Minor level of effect, of long-term / permanent duration considered to be not significant.

Landscape Assessment of Galloway Hills RSA

- 4.2.9 The Galloway Hills RSA is a large area covering a central area of Dumfries & Galloway which extends northwards from the southern coastline and comprises rugged uplands, domed and semi-conical peaks dissected by a series of narrow glens and broad dales are described within the EIAR, Volume 1, pages 5-19. No special qualities of the designation are available, and the following description is set out in the Regional Scenic Areas Technical Paper (January 2018) by Dumfries & Galloway Council as follows:
- 4.2.10 'The uplands vary in character from the massive craggy peaks of the Rugged Granite Uplands with their heather covered slopes and granite outcrops to the smoother, rounder, lower summits of the Foothills, and their extensive forested counterparts. The designated area was extended to include the dramatic sculptural peaks of the Cairnsmore of Carsphairn Southern Uplands Landscape Unit to the east, as well as the forested eastern slopes of the Rhinns of Kells. The peripheral Narrow Wooded Valleys and the Coastal Flats of adjacent estuaries were included both for their own inherent characteristics and because of their scenic juxtaposition with the uplands. Scenic Area boundaries follow the immediate outward facing visual envelope of these valleys. More distant hills outwith the central hill mass of the Galloway Uplands, but which may be visible from these valleys, were excluded as being less critical to the scenic value of the area, but the potential impact on the designated area of proposals in these areas should be considered.'
- 4.2.11 The sensitivity of this landscape is assessed as High in both the EIAR for the Proposed Development and the proposed Lorg Wind Farm Grid Connection route, although the study area for the preferred grid route is less representative of the valued features and higher peaks and is influenced by wind farm development, forestry and an existing overhead transmission line.
- 4.2.12 Construction of the preferred grid route would be short term and as noted in relation to landscape character, the existing transmission towers, relative scale of the preferred grid route, and the embedded route mitigation indicate a Slight magnitude and a Moderate to Minor effect considered to be not significant. The nature of this effect would be of short duration, direct, and negative. Taking account of this assessment, the preferred grid route would not significantly affect the baseline landscape character, associated special landscape qualities or integrity of the Galloway Hills RSA
- 4.2.13 During operation the completed, preferred grid route would appear as a small line of wood poles within a large-scale landscape that would not significantly alter the valued features and landscape character indicating a Slight magnitude of change would result in a Moderate to Minor level of effect, of long-term / permanent duration considered to be not significant. Taking account of this assessment, the preferred grid route would not significantly affect the baseline landscape character, associated special landscape qualities or integrity of the Galloway Hills RSA

Visual Assessment of Residential Properties

- 4.2.14 The visual sensitivity of residential properties is assessed as High.
- 4.2.15 Figure 1a Viewpoint 1: View from A713, by entrance to residential property Brochloch Tower (Lorg Wind Farm Grid Connection Environmental Impact Assessment Report Volume 2: Part 4, SP Energy Networks, November 2025) indicates that there would be no view of the preferred grid route from either of the properties at Brockloch or Brochloch Tower due to intervening mixed tree planting.



- 4.2.16 Similarly, the views northeast along the valley from the property at Bridge-end are contained by landform and some tree vegetation, with any views of the preferred grid route appearing as a small-scale feature beyond the existing transmission towers. The magnitude of change during both construction and operation is likely to be Negligible and the level of effect would also be Negligible and not significant. The nature of these effects would be of short duration (during construction), long-term / permanent (during operation), direct, and neutral.

Visual Assessment of A713 Galloway Scenic Route

- 4.2.17 The sensitivity of this route has been assessed as high. Views of the preferred grid route from the A713 Galloway Scenic Route would tend to be fleeting or glimpsed for short sections with the wood poles appearing beyond the existing transmission towers and the proposed Holm Hill Substation and associated landscape mitigation or along the eastern side of Holm Hill, viewing from the valley of the Polsue Burn to the south. Because views would be intermittent and fleeting, the magnitude of change during both construction and operation is likely to be Negligible and the level of effect would also be Negligible and not significant. The nature of these effects would be of short duration (and temporary during construction), long-term / permanent (during operation), direct, and neutral.

Visual Assessment of Core Paths

- 4.2.18 The sensitivity of the Core Paths has been assessed as High within the submitted EIAR, for the Proposed Development. Core Paths No. 487 and to a lesser extent No. 182 provide access to the Cairnsmore of Carsphairn and both routes would cross under the preferred grid route at close range, although No. 182 seems to terminate just south of the preferred grid route. The magnitude of change during both construction and operation is likely to be High and the level of effect would be Major and significant, affecting approximately 200 - 300m on either side of the preferred grid route. The nature of these effects would be of short duration (during construction), long-term / permanent (during operation), direct, and negative.
- 4.2.19 Core Path No. 594 is routed through forestry. Even allowing for forest felling, the route would be located beyond 1 km from the preferred grid route. During both construction and operation and magnitude of change would be Moderate to Slight resulting in a Moderate to Minor effect, considered to be not significant. The nature of these effects would be of short duration (during construction), long-term / permanent (during operation), direct, and negative.

4.3 Combined Assessment

- 4.3.1 The preferred grid route alone would not significantly affect the landscape character or special landscape qualities of the Galloway Hills RSA. Therefore, it would not add further significant combined or intra-project effects to the Proposed Development, (the proposed Quantas Hill Wind Farm). Rather, the preferred grid route would be overlapped with or 'engulfed' by the greater landscape character effects of the Proposed Development, identified in the EIAR, Volume 1, Chapter 5.
- 4.3.2 As previously reported, the preferred grid route would significantly affect the views from a short section of Core Paths No. 487 and No. 182. Equally these visual effects would overlap with or be 'engulfed' by the greater effects of the Proposed Development on a standalone basis which would be significant as identified in the EIAR, Volume 1, Chapter 5. This would create an intra-project or combined effect, the nature of which would short duration (during construction), long-term / permanent (during operation), direct, and negative.

4.4 Cumulative Assessment

- 4.4.1 Since the cumulative assessment for the Proposed Development was undertaken, the baseline of other cumulative wind farm development has changed. Notably, Windy Standard III is under construction and three other wind farms (Windy Standard I Repower, Sanquhar II and Shepards Rigg) have been consented and the Appin Wind Farm is now a submitted application.



- 4.4.2 With the exception of Shepards Rigg, all of these are outwith the 2 km study area for the preferred grid route. The Shepards Rigg Wind Farm is located to the east of the Proposed Development (beyond the Quantas Hill Wind Farm wind turbines), limiting its potential for addition or combined cumulative effects with the preferred grid route and the Proposed Development. Equally, the additional or combined cumulative effect of the preferred grid route and the Proposed Development and other wind farm development within the wider cumulative baseline is unlikely to change significantly from that previously reported in the EIAR for the Proposed Development due to the larger intervening distances, such that the additional potential landscape and visual effects of a relatively small-scale grid connection would not significantly affect or influence the wider assessment.

4.5 Conclusion

- 4.5.1 The preferred grid route alone would not significantly affect the baseline landscape character, the special landscape qualities or integrity of the Galloway Hills RSA or views from localised visual receptors on an individual basis, with the exception of short sections of two Core Paths, which would cross under the proposed wood trident poles and OHL.
- 4.5.2 Considering the combined assessment of the preferred grid route and the Proposed Development, any potential effects resulting from the preferred grid route would overlap with or be 'engulfed' by the greater landscape character and visual effects of the Proposed Development and therefore the findings of the assessment for the Proposed Development remain valid.
- 4.5.3 Assessment of the potential for wider cumulative effects from the preferred grid route, the Proposed Development and other wind farm developments, concludes that the levels of landscape and visual effect would not alter due to the relatively small-scale and localised nature of the preferred grid route.



5 Cultural Heritage

5.1 Introduction

- 5.1.1 This assessment is informed by the RAG Analysis (Appendix B) for the preferred grid route and a review of the constraints and assessment information presented within the submitted EIAR for the Proposed Development and submitted applications for the Lorg Wind Farm Grid Connection and Holm Hill Substation.
- 5.1.2 The aim of this addendum is to identify the archaeological and cultural heritage significance of the preferred grid route and to identify the likely significant direct physical and setting effects which may result.
- 5.1.3 Each heritage asset and/or previous archaeological investigation (event) referred to in the text is listed in the Gazetteer in Appendix C. Each has been assigned an 'Asset/Event No.' unique to the submitted Quantans Hill EIAR and this addendum and the Gazetteer includes information regarding the type, period, grid reference, designation number, NRHE/HER number, statutory protective designation, and other descriptive information, as derived from the consulted sources.
- 5.1.4 Each heritage asset referred to in the text is plotted on the location maps (AI Figures 5.1 to 5.6 at the end of this report), using the assigned Asset/Event Nos. The preferred grid route is shown as a purple line.
- 5.1.5 All references for sources consulted during the assessment, including publications, archived records, photographic and cartographic evidence, are provided in footnotes.

5.2 Data Sources

- 5.2.1 The following sources were consulted for the collation of data:
 - Dumfries and Galloway HER: for a digital database extract in GIS for all assets within 500 m of the preferred grid route;
 - The National Record for the Historic Environment (NRHE) for all designated assets within 2 km of the preferred grid route as held by HES;
 - Ordnance Survey maps (principally First and Second Edition);
 - Online aerial satellite imagery, Google Earth, Environmental Systems Research Institute (ESRI) aerial mapping;
 - Scottish Remote Sensing Portal for Light Detection And Ranging (LiDAR) data; and
 - Vertical and oblique aerial photographs held by the National Collection of Aerial Photographs (NCAP), as held by HES.
- 5.2.2 All data sources are desk based. No walkover survey or site visits have been undertaken to inform this baseline.

5.3 Grid Connection

Study Areas

- 5.3.1 Four study areas were identified for this assessment:
 - A 100 m Grid Corridor which includes all land within 100 m of the preferred grid route which is subject to assessment for potential direct physical effects.
 - A 500 m Study Area was subject to identification of all known heritage assets, map regression, review of aerial photographs, review of LIDAR data and walkover survey undertaken for the submitted EIAR which were used to identify cultural heritage assets which may be directly physically impacted by the preferred grid route;



- A 2 km Study Area which is subject to assessment for potential setting effects. This study area was used to identify designated assets, HER National and Regional assets, HER Regional Landscape Parks and HER Archaeologically Sensitive Areas which may be directly affected by the preferred grid route.

- 5.3.2 Known heritage assets within 2 km of the preferred grid route have been identified through review of Dumfries and Galloway Historic Environment Record (HER) data (received 31 July 2026) and the National Record of the Historic Environment (NHRE) databases as maintained by Historic Environment Scotland (HES) (reviewed on 20 July 2026). The GIS layers received from Dumfries and Galloway HER includes layers which have not yet been entered into the HER. These include features shown on the first edition Ordnance Survey maps, aerial photography and Scottish Government LiDAR data.
- 5.3.3 AOC has also consulted LiDAR imagery via the Scottish Remote Sensing Portal. Published; historic and Ordnance Survey maps were also consulted via the National Library of Scotland (NLS) and satellite imagery was viewed via the NLS and Google Earth Pro.
- 5.3.4 Within the 500 m Study Area there are 43 non-designated heritage assets. Twelve additional assets were identified through LiDAR analysis, although Assets 205 & 206 represent updated locations for Assets 11 & 10 respectively. Nine additional assets were identified during the walkover survey undertaken for the submitted EIAR.
- 5.3.5 Within 2 km of the preferred grid route there are two Scheduled Monuments, one Category B Listed Building (Asset 40), one Protection of Military Remains Act Protected Place (Asset 17), one HER National Asset (Asset 79), one Landscape Park of Regional Significance (Asset 89) and one Archaeologically Sensitive Area (Asset 221).
- 5.3.6 There are no World Heritage Sites (WHS), Inventory Gardens and Designed Landscapes (GDL), Inventoried Battlefields or Conservation Areas which extend within 2 km of the preferred grid route.

Prehistoric and Roman (8000 BC-AD410)

- 5.3.7 A number of assets that potentially date to the prehistoric period have been recorded within the 500 m Study Area. Asset 179 was recorded during LiDAR analysis undertaken by AOC Archaeology Group; however, the confidence of its assessment as a prehistoric hut circle has been rated as Low.
- 5.3.8 Thirty non-designated heritage assets within the 500 m Study Area (Assets 10, 55, 76, 167-168, 171-174, 226-235, 237-239 & 241-248) have been recorded as field clearance cairns. Two non-designated heritage assets have been initially identified as cairnfields (Assets 254 & 255). Due to the purpose behind their creation, clearance cairns are difficult to date; they tend to be simple mounds of stones created when the land is cleared and therefore it is unknown whether any of these date to the prehistoric or Roman periods. Without intrusive investigations they are not distinctive enough to date, and such features tend not to have artefactual evidence contained within them; which would limit any techniques for dating to environmental sampling. It should also be noted that environmental sampling may not recover sufficient material from these types of assets to date them.
- 5.3.9 Two further cairns (Assets 236 & 240) are also recorded within the 500 m Study Area. These two cairns are features that have not yet been entered into the HER. No further details are currently recorded about these cairns. Therefore, it is possible that these cairns could be assessed as prehistoric or Roman clearance cairns or prehistoric burial cairns upon future examination.
- 5.3.10 An earthwork bank (Asset 250) comprised of elements forming a rough rectangle is recorded within the 500 m Study Area. The earthwork bank has not yet been entered into the HER and its function, and the period of the feature are unknown. Therefore, it is possible that this earthwork bank could be assessed as dating to the prehistoric or Roman periods upon future examination.
- 5.3.11 One further non-designated heritage asset has been initially assessed as an enclosure (Asset 252) of unknown date and function and therefore it is possible that this earthwork bank could be assessed as dating to the prehistoric or Roman periods upon future examination.



5.3.12 No known assets dating to the Roman period are located within the 500 m Study Area.

5.3.13 There are three clearance cairns or cairn fields along the preferred grid route. Therefore, there is a High potential of finding agricultural remains, in the form of more clearance cairns in the vicinity of Assets 76, 241 & 254 254, 241 and 76. Such finds or features could date to the prehistoric and/or Roman periods. There is considered to be a Low potential for finds or features dating to the prehistoric and Roman periods to be present along the rest of the preferred grid route.

Early Historic and Medieval (AD 410-1600)

5.3.14 Thirty non-designated heritage assets within the 500m Study Area (Assets 10, 55, 76, 167-168, 171-174, 226-235, 237-239 & 241-248) previously discussed and assessed as clearance cairns could date to either the early historic or medieval periods. However, these assets are difficult to date with any certainty. Along the preferred grid route and within the Study Areas, there is a low density of finds or features that can be positively identified with the early historic and/or medieval period. Therefore, there is a High potential of finding agricultural remains, in the form of more clearance cairns in the vicinity of Assets 76, 241 & 254 254. Such finds or features could date to the early historic and/or medieval periods. There is considered to be a Low potential for finds or features dating to the early historic and/or medieval periods to be present along the rest of the preferred grid route.

Post-medieval (AD 1600-1900)

5.3.15 The Ordnance Survey map of 1853 (submitted Proposed Development EIAR, Figure 9.7) is the first map to show all details concerning the preferred grid route and labels Quantans Hill. The 500 m Study Area and area of the preferred grid route are shown as relatively empty with the occasional sheep ree and field enclosure depicted. The landscape is shown as open moorland and rough pasture with a few areas of forest land bordering the preferred grid route.

5.3.16 Overall, there is a distinct lack of assets recorded in the NRHE, HER, historic mapping or identified during AOC Archaeology Group's walkover survey for the Proposed Development that date to the post-medieval period. Therefore, in AOC Archaeology Group's professional opinion, and given the evidence gathered, it is considered that there would be a Low potential for finds or features dating to the post-medieval period to be present within the preferred grid route.

Modern (AD post 1900)

5.3.17 There are no known finds or features dating to the modern period within the 500 m Study Area.

5.3.18 Given the lack of assets, of modern date, recorded in the NRHE, HER, historic mapping or identified during AOC Archaeology Group's walkover survey of the Site that date to the modern period, in AOC Archaeology Group's professional opinion, it is considered that there is a Low potential for finds or features dating to the modern period to be present within the preferred grid route.

Undated

5.3.19 There is one undated feature within the 500 m Study Area. As it has not yet been entered into the HER no details are recorded about this feature (Asset 251).

Aerial and Satellite Imagery

5.3.20 Four vertical aerial photographs from Sortie ASS/62388 were available on NCAP online (Available at: <https://ncap.org.uk/>, frames 0168 to 0170) at a scale of 1:24,000. The imagery shows an upland landscape with few or little changes from the landscape visible in modern Google Earth photography and is consistent with the landscape viewed and assessed during the walkover survey undertaken by AOC Archaeology Group from 26 October 2020 to 29 October 2020 for the Proposed Development itself. Given the available images were also at a scale of 1:24000, this limited the amount of detail that was identifiable to the assessor.



LiDAR Analysis

- 5.3.21 AOC Archaeology undertook analysis of publicly available LiDAR datasets to identify points of possible heritage assets along the preferred grid route. The data is derived from Scottish Remote Sensing Portal for LiDAR data⁴.
- 5.3.22 The analysis was undertaken in Relief Visualization Toolbox Version 1.3 using Hill Shading and Local Relief Model by an experienced assessor in LiDAR analysis. Features observed in the processed LiDAR data were digitised. An assessment of what the features could be was undertaken and a confidence rating was assigned. The LiDAR analysis was undertaken alongside the existing datasets listed above and also allowed additional analysis to be undertaken of a few existing assets where the LiDAR data provided additional information.
- 5.3.23 Possible features observed include cairns, enclosures, peat cuttings and hut circles. The majority of these assets had been previously recorded in the NRHE and HER; the LiDAR analysis provided an opportunity to confirm the presence and extent of these assets and provide a more accurate location where appropriate.

Potential Direct Physical Impacts

- 5.3.24 Potential direct physical impacts on known or unknown buried archaeological remains which may survive relate to the possibility of disturbing, removing, or destroying in situ remains and artefacts during ground-breaking works (including excavation, construction, and other works associated with the Proposed Development) within the footprint of the preferred grid route. In the context of this development, physical impacts have the capacity to result in impacts of High magnitude as they could potentially result in the destruction or removal of any archaeological deposits which may be present.
- 5.3.25 This assessment has identified a total of six non-designated heritage assets within the 100 m Grid Corridor; Assets 76, 104, 226, 241-242 & 254. The undated sub-square structure and clearance cairns at Willieanna (Asset 76), a possible cairnfield (Asset 254) and a cairn (Asset 241) are situated along the line of the preferred grid route. Therefore, there is a High potential of finding agricultural remains, in the form of more clearance cairns in the vicinity of Assets 76, 241 & 254. Such finds or features could date to the prehistoric, Roman, early historic or medieval periods. There is judged to be a Low potential for hitherto unknown archaeological features and artefacts along the rest of the preferred grid route.
- 5.3.26 By applying the Holford Rules⁵, it is expected that the preferred grid route would be routed to minimise potential impacts on non-designated heritage assets, such that no significant effects are anticipated.
- 5.3.27 The preferred grid route has the potential to directly physically impact upon the area of the undated sub-square structure and clearance cairns at Willieanna (Asset 76), a possible cairnfield (Asset 254) and a cairn (Asset 241). This could result in a High adverse impact. The possible cairnfield is considered to have Negligible importance. The cairn (Asset 241) is located within a landscape of clearance cairns, and it is likely that it also represents a clearance cairn of Negligible importance. However, if the cairn is a prehistoric burial cairn it could be considered to have a Medium to High importance. On current evidence the cairn (Asset 241) can be considered to have an Unknown importance.
- 5.3.28 The only remaining direct physical effects on known heritage assets would be on non-designated heritage assets of Low importance with a negligible to medium sensitivity and the magnitude of impact would not exceed Low in each case.

⁴ Scottish Government (n.d.) *Remote Sensing Data Portal: Publicly available LiDAR datasets*. Available at: <https://remotesensingdata.gov.scot/data#/map> (Accessed: 19 August 2026).

⁵ The Holford Rules are guidelines created in 1959 by Sir William (later Lord) Holford to help route high-voltage overhead electricity transmission lines in a way that minimises their visual and environmental impact (Guidelines for the Routing of new High Voltage Overhead Transmission Lines, available at: <https://www.nationalgrid.com/sites/default/files/documents/13795-The%20Holford%20Rules.pdf>).



- 5.3.29 A Low potential, for hitherto unknown archaeological remains to survive within the 500 m Study Area of the preferred grid route has been assessed. By their very nature any such remains are unknown and the importance and sensitivity of such assets could range from Negligible to High. If located within the footprint of the preferred grid route, the magnitude of impact upon any such remains could also be High.
- 5.3.30 The preferred grid route will be designed, where possible, to avoid direct physical impacts on known heritage assets. It is recommended that any associated works are microsituated away from the area of the undated sub-square structure and clearance cairns at Willieanna (Asset 76), the possible cairnfield (Asset 254) and a cairn (Asset 241). It is also recommended that a walking survey should be conducted along the preferred grid route to identify any previously unrecorded heritage assets and identify areas for fencing or requiring further mitigation via an archaeological watching brief. The walkover survey should also identify the requirement for any heritage assets that would need to be fenced off from construction associated with the preferred grid route and areas that should be subject to an Archaeological Watching Brief. All known heritage assets within 50 m of the preferred grid route and any associated working areas should be fenced off with a visible buffer under archaeological supervision prior to the start of the construction phase in order to avoid accidental damage by heavy plant movement.
- 5.3.31 Given the known baseline and the nature of the preferred grid route as an OHL and where the suggested mitigation is employed, it is considered that the preferred grid route would not result in significant direct physical effects.

Potential Settings Effects

- 5.3.32 With the introduction of an OHL structure, there is the potential for effects to arise to the setting of Scheduled Monuments and Listed Buildings through the introduction of electricity infrastructure into elements of setting that contribute to their cultural significance.
- 5.3.33 The nearest designated assets/HER National Heritage Assets to the preferred grid route are as described below.
- 5.3.34 The setting of the **Holm of Daltallochan, stone circle & standing stone (Asset 25, Scheduled Monument SM1029)** is within the low-lying agricultural lands to the northwest of Carsphairn and to the south of the western end of the preferred grid route. Stone circles are considered to have a high relative sensitivity to changes to their settings as they were placed purposefully within the landscape, often in relation to topographical features such as ridgelines, watercourses and coastlines or in relation to other monuments.
- 5.3.35 As a substantial *stone circle & standing stone* with a landscape setting overlooking views to its northwest and south, in AOC Archaeology Group's professional opinion the *Holm of Daltallochan, stone circle & standing stone* is considered to have a relative sensitivity of High. The preferred grid route is set away from the low-lying landscape and agricultural lands to the northwest.
- 5.3.36 As viewed from the *stone circle & standing stone* the preferred grid route would be set behind Holm Hill and intervening topography which itself is set behind an existing OHL that parallels the modern A713 to its southwest. Intervening trees to the northeast of the *stone circle & standing stone* would further screen any potential views towards the preferred grid route. Therefore, there would be little to no intervisibility with the preferred grid route. The preferred grid route would not materially affect the ability of the asset's setting to contribute to its significance and would not reduce the ability of setting to contribute to an understanding of the overall significance of the *stone circle & standing stone*. Therefore, the magnitude of impact is judged to be Negligible and the level of effect on the *Holm of Daltallochan, stone circle & standing stone* would be Minor and not significant. There would be no significant adverse impact upon the integrity of the asset's setting in terms of Policy 7(h) of NPF4.
- 5.3.37 Tradition states that the **Holm of Daltallochan, cross slab (Asset 26, Scheduled Monument SM1106)** was found at the location of the *Scheduled Monument of Holm of Daltallochan, stone circle & standing stone* (Asset 25, List No. SM1029), 105m to the northwest of Asset 26. However, historical records give its location as within the gardens of the Holm of Daltallochan Farmhouse. Its setting is within the river valley to the north of Carsphairn and the track leading northeast to



southwest from the A713. As historical records indicate that the cross slab has been removed from its original setting, in AOC Archaeology Group's professional opinion the current setting makes a minimal contribution to the understanding, appreciation and experience of the *cross slab*. Therefore, the *cross slab* is considered to have a relative sensitivity of Negligible.

- 5.3.38 As viewed from the *cross slab* the preferred grid route would be set behind Holm Hill and intervening topography which itself is set behind an existing OHL that parallels the modern A713 to its southwest. Intervening trees along the northeast curtilage of the Category B Listed *Holm of Daltallochan* would further screen any potential views towards the preferred grid route. Therefore, there would be little to no intervisibility with the preferred grid route. The preferred grid route would not materially affect the ability of the asset's setting to contribute to its significance. Furthermore, as the current setting makes a minimal contribution to the understanding, appreciation and experience of the *cross slab* the preferred grid route would not reduce the ability of setting to contribute to an understanding of the overall significance of the *cross slab*. Therefore, the magnitude of impact is judged to be Negligible and the level of effect on the *Holm of Daltallochan, cross slab* would be Negligible and not significant. There would be no significant adverse impact upon the integrity of the asset's setting in terms of Policy 7(h) of NPF4.
- 5.3.39 The primary elevation of the 18th century Category B Listed ***Holm of Daltailochan (Asset 40, List No. LB3681)*** farmhouse faces northwest and away from the preferred grid route. Elements of setting which contribute to an understanding and appreciation of the asset include the immediately surrounding agricultural land which the farmstead would have been sited to exploit, along with the adjacent water course of Water of Deugh and Carsphairn Lane and the transport route to the east. The farmhouse is judged to have Medium relative sensitivity to changes to its setting.
- 5.3.40 As viewed from the *Holm of Daltallochan* the preferred grid route would be set behind Holm Hill and intervening topography which itself is set behind an existing OHL that parallels the modern A713 to its southwest. Intervening trees along the northeast curtilage of the *Holm of Daltallochan* would further screen any potential views towards the preferred grid route. Therefore, there would be little to no intervisibility with the preferred grid route. The preferred grid route would not materially affect the ability of the asset's setting to contribute to its significance and would not reduce the ability of setting to contribute to an understanding of the overall significance of the *Holm of Daltallochan*. Therefore, it is considered that there would be a Negligible magnitude of impact by the preferred grid route on the 18th century Category B Listed *Holm of Daltailochan*. The resulting effect would be Negligible and not significant.
- 5.3.41 ***Bardennoch-Garryhorn Archaeologically Sensitive Area*** (Asset 221) contains multi-period archaeological remains within its boundary. The assets within its boundary include the Scheduled Monument at Woodhead Mine (Asset 19, List No. SM5184), the Scheduled Monument of the *Holm of Daltallochan, Stone Circle and Standing Stone* (Asset 25, List No. SM1029); and the Scheduled Monument of the *Holm of Daltallochan Cross Slab* (Asset 26, List No. SM1106). *Bardennoch-Garryhorn Archaeologically Sensitive Area* is focused on the northwest to southeast ridgeline and slopes made by Bardennoch Hill and Braidenoch Hill. This ridge of hills overlooks the Water of Deugh. In AOC Archaeology Group's opinion *Bardennoch-Garryhorn Archaeologically Sensitive Area* has a relative sensitivity of High. Within this view the Water of Deugh is visible to the right down low-lying slopes on a southeast to northwest alignment. This alignment changes in the centre of the view to a slightly sinuous east to west alignment near Carsphairn. The southwest facing ridgeline overlooks the northwest to southeast aligned Polmaddy Burn. At the time of the setting assessment survey undertaken for the submitted EIAR the Polmaddy Burn was not visible from *Bardennoch-Garryhorn Archaeologically Sensitive Area* due to modern forestry plantations.
- 5.3.42 The northern limit of the *Bardennoch-Garryhorn Archaeologically Sensitive Area* falls on the southwest limit of the modern A713. As viewed from this boundary the preferred grid route would be set behind Holm Hill and intervening topography which itself is set behind an existing OHL that parallels the modern A713 to its southwest. Furthermore, the preferred grid route would not interrupt views between the key monuments within the *Archaeologically Sensitive Area* or the relationships between the monuments and the ridge and valley system. Intervening topography and forestry within the *Archaeologically Sensitive Area* would severely restrict any potential views towards the preferred grid route. Therefore, it is considered that the preferred grid route would not materially affect the setting of the *Bardennoch-Garryhorn Archaeologically Sensitive Area*. The



magnitude of impact as a result of the preferred grid route would be Low, the resulting effect on *Bardennoch-Garryhorn Archaeologically Sensitive Area* would be Minor and not significant.

- 5.3.43 The HER Asset of National Significance at **Lagwine Cairn (Asset 79, HER No. MDG25538)** is situated on a southwest facing slope overlooking the valley of the Water of Deugh. Lagwine Cairn is believed to have been partially robbed to construct a nearby sheepfold although the central core is thought to be intact and would allow for an appreciation and understanding of this asset as a prehistoric burial cairn within the landscape of the valley of the Water of Deugh. In AOC Archaeology Group's professional opinion, it is considered to have a relative sensitivity of High, particularly with regard to views overlooking the valley of the water of Deugh to the southwest as these contribute to the ability to understand, appreciate and experience the significance of the asset.
- 5.3.44 The preferred grid route would be located to the north of the cairn predominantly in the valley of the Benloch Burn and obscured from *Lagwine Cairn* by the Craig of Knockgray to the cairn's northeast. Peripheral views could be possible of the preferred grid route to the west and east of the Craig of Knockgray. However, such views would be limited to very limited glimpses where subtle variations in topography could allow glimpses of the preferred grid route. In AOC Archaeology Group's professional opinion, the preferred grid route would therefore not impact upon these key characteristics of its setting. Therefore, it is considered that there would be at most a Negligible magnitude of impact, the resulting effect on *Lagwine Cairn* would be Minor and not significant.
- 5.3.45 The elements of **Knockgray Policies'** setting (Asset 89, HER Asset of Regional Significance, HER No. MDG25538) which contribute most to an understanding and appreciation of it are orientated towards and along the northwest to southeast Water of Deugh and its associated valley. Visually it can be best appreciated from across the valley to the southwest. In AOC Archaeology Group's opinion this is the primary visual setting from which the *Knockgray Policies* can be appreciated and understood; there is a high likelihood that this visual setting from across the valley was intended. Therefore, Asset 89 is considered to have a relative sensitivity of High.
- 5.3.46 As viewed from *Knockgray Policies* the preferred grid route would be set in lower lying valleys southwest of Quantans Hill. This intervening topography would screen any potential views towards the preferred grid route. Therefore, there would likely be little to no intervisibility with the preferred grid route from the *Knockgray Policies* themselves. The preferred grid route would possibly appear behind *Knockgray Policies* in views from across the valley to the southwest. However, the preferred grid route would not interrupt this view of *Knockgray Policies* and its relationship with the valley to the southwest. Further, given the distance of the preferred grid route, at over 1 km from the *Knockgray Policies* themselves, it is unlikely to feature prominently in views. It is considered that there would be a Negligible magnitude of impact, the resulting effect on *Knockgray Policies* as a result of the preferred grid route would be Minor and not significant.

5.4 Combined Assessment

Holm of Daltallochan, stone circle & standing stone (Asset 25, Scheduled Monument SM1029)

- 5.4.1 As described in Section 5.3 the key characteristics of the setting of the *stone circle & standing stone* are with the low-lying agricultural lands to the northwest of Carsphairn and to the south of the western end of the preferred grid route. The Proposed Development would feature to the east of the *stone circle & standing stone* with the preferred grid route set to the north and extending to the east. The landscape within which the *Holm of Daltallochan, stone circle & standing stone* (Asset 25, Scheduled Monument SM1029) is situated extends away from the Proposed Development and the preferred grid route. Whilst the preferred grid route would be visible it would be located to the east of the *Holm of Daltallochan, stone circle & standing stone's* primary setting well beyond the elements of setting which contribute to an understanding, appreciation and experience of the asset. The preferred grid route would not materially affect the ability of the asset's setting to contribute to its significance and would not reduce the ability of setting to contribute to an understanding of the overall significance of the asset. On this basis, the magnitude of impact from the combined developments is judged to be Low and the level of effect on the Holm of Daltallochan, stone circle & standing stone would be Minor and not significant. There would be no significant adverse impact upon the integrity of the asset's setting in terms of Policy 7(h) of NPF4.



Holm of Daltallochan, cross slab (Asset 26, Scheduled Monument SM1106)

- 5.4.2 The Proposed Development and the preferred grid route are both located well beyond the *Holm of Daltallochan, cross slab's* (Asset 26, Scheduled Monument SM1106) setting with the river valley to the north of Carsphairn.
- 5.4.3 The Proposed Development would feature to the east of the *stone circle & standing stone* with the preferred grid route set to the north and extending to the east. Moreover, the preferred grid route would be set behind Holm Hill and intervening topography which itself is set behind an existing OHL that parallels the modern A713 to its southwest. Therefore, it is considered that the magnitude of impact from the combined developments is judged to be Negligible and the level of effect on the *Holm of Daltallochan, cross slab* would be Negligible and not significant. There would be no significant adverse impact upon the integrity of the asset's setting in terms of Policy 7(h) of NPF4.

Holm of Daltallochan (Asset 40, Category B Listed Building LB3681)

- 5.4.4 The 18th century Category B Listed *Holm of Daltallochan* (Asset 40, List No. LB3681) setting remains with the immediately surrounding agricultural land which the farmstead would have been sited to exploit along with the adjacent water course of Water of Deugh and Carsphairn Lane and the transport route to the east.
- 5.4.5 The Proposed Development would feature to the east of the *Holm of Daltallochan* with the preferred grid route set to the north and extending to the east. However, the Proposed Development would be set behind Holm Hill and intervening topography which itself is set behind an existing OHL that parallels the modern A713 to its southwest. The preferred grid route in combination with the Proposed Development would not impinge upon views to or from the primary elevation of the farmhouse nor would it affect the key setting relationships set out above. Therefore, it is considered that there would be a Negligible magnitude of impact by the from the combined developments on the 18th century Category B Listed *Holm of Daltallochan*. The resulting effect would be Negligible and not significant.

Bardennoch-Garryhorn Archaeologically Sensitive Area (Asset 221)

- 5.4.6 Key characteristics of the setting of *Bardennoch-Garryhorn Archaeologically Sensitive Area* (Asset 221) relate to the northwest to southeast ridgeline and slopes made by Bardennoch Hill and Braidenoch Hill. This ridge of hills overlooks the Water of Deugh.
- 5.4.7 The Proposed Development features predominantly to the north and northwest of the Archaeologically Sensitive Area. As viewed from the northern boundary on the A713 the preferred grid route would be set behind Holm Hill and intervening topography which itself is set behind an existing OHL that parallels the modern A713 to its southwest. As stated in Section 5.3, intervening topography and forestry within the Archaeologically Sensitive Area would severely restrict any potential views towards the preferred grid route. In combination the Proposed Development and the preferred grid route would not interrupt views between the key monuments within *Bardennoch-Garryhorn Archaeologically Sensitive Area* or the relationships between the monuments and the ridge and valley system. Therefore, the magnitude of impact from the combined developments would be Low, the resulting effect on *Bardennoch-Garryhorn Archaeologically Sensitive Area* would be Minor and not significant.

HER Asset of National Significance at Lagwine Cairn (Asset 79, HER No. MDG25538)

- 5.4.8 The HER Asset of National Significance at *Lagwine Cairn* (Asset 79, HER No. MDG25538) overlooks the valley of the water of Deugh to the southwest, and this view and the asset's relationship with the valley form the key characteristics of its setting.
- 5.4.9 The southern half of the Proposed Development would feature in views to the east of the cairn. The preferred grid route would be located to the northeast in extremely limited views. Therefore, it is considered that there would be at most a Negligible magnitude of impact from the combined developments, the resulting effect on *Lagwine Cairn* would be Minor and not significant.



Knockgray Policies (Asset 89, HER Asset of Regional Significance, HER No. MDG25538)

- 5.4.10 As previously stated, AOC has assessed that the primary location from which *Knockgray Policies* (Asset 89, HER Asset of Regional Significance, HER No. MDG25538) can be appreciated and understood is from across the valley to its southwest. Views of *Knockgray Policies* from across the valley to the southwest would be backclothed by the Proposed Development with the preferred grid route featuring behind. However, the preferred grid route would be set in lower lying valleys further to the north with little or no intervisibility with *Knockgray Policies*. Therefore, it is considered that there would be a Low magnitude of impact from the combined developments, the resulting effect on *Knockgray Policies* as a result of the preferred grid route would be Minor and not significant.

5.5 Cumulative Assessment

- 5.5.1 The assessment of cumulative effects is based upon a list of operational or consented developments along with developments where planning permission has been applied for. While all have been considered, only those which contribute to, or have the possibility to contribute to, cumulative effects on specific heritage assets are discussed in detail in the text. Additionally, given the emphasis NatureScot place on significant effects, cumulative effects have only been considered in detail for those assets where the effect on setting from the Proposed Development and preferred grid route has been judged to be minor or greater. The setting of assets which would have a magnitude of impact of negligible or less are judged to be unlikely to reach the threshold of significance as defined in Table 9.4. of the submitted EIAR.
- 5.5.2 Cumulative effects relating to cultural heritage are for the most part limited to effects upon the settings of heritage assets. While there can, in some rare cases, be cumulative direct physical effects, none are anticipated to result from the construction, operation or decommissioning of the Proposed Development and preferred grid route. As such this assessment will consider the potential for cumulative effects upon the setting of heritage assets which have the potential to occur during the operational phase only.
- 5.5.3 With regard to potential cumulative effects on cultural heritage assets, the assessment considers operational, consented and within-planning developments at distances up to 10 km from the Proposed Development:
- the **operational/under construction** wind farms and turbines of Afton, Blackcraig, Brochloch Rig I (Windy Standard I), Brochloch Rig (Windy Standard II), Dersalloch, Hare Hill; Hare Hill II, Sanquhar, South Kyle, Torrs Hill, Twentyshilling Hill, Wether Hill, Windy Rig, Windy Standard I Repower, Windy Standard I, Windy Standard II and Whiteside Hill, WS III;
 - the **consented** wind farms of Benbrack, Enoch Hill and; Enoch Hill, Glenshimmeroch, Hare Hill Repower, Knockman Hill, Lorg, Margree, North Kyle, Overhill, Pencloe, Sandy Knowe, Shepards Rigg, Troston Loch and Windy Standard III;
 - the proposed **application submitted** wind farms of Appin Wind Farm, Cornharrow, Eucharhead, Fell, Greenburn, Sanquhar, Shepherd's Rig for which planning applications have now been received; and
 - the proposed **scoping** wind farms of Garcrogo, Knockkippen, Sanquhar II, Scienteuch, Whiteneuk and WSI Repower.

Holm of Daltallochan, stone circle & standing stone (Asset 25, Scheduled Monument SM1029)

- 5.5.4 As viewed from the Scheduled Monument of Holm of Daltallochan, Stone Circle and Standing Stone (Asset 25, List No. SM1029) (Figure 9.11a of the submitted EIAR Report) cumulative turbines would be visible at a considerable distance to the right (southeast) of the Proposed Development and the preferred grid route and the addition of the Proposed Development and the preferred grid route would not result in an increased impact upon the setting of this asset within the low-lying agricultural lands to the northwest of Carsphairn beyond that assessed for the in combination effects. Therefore, the level of cumulative effect on the Scheduled Monument of Holm of Daltallochan, Stone Circle and Standing Stone would be Minor and not significant. There would be no significant adverse impact upon the integrity of the asset's setting in terms of Policy 7(h) of NPF4.



Holm of Daltallochan, cross slab (Asset 26, Scheduled Monument SM1106)

- 5.5.5 As historical records indicate that Holm of Daltallochan, cross slab (Asset 26, Scheduled Monument SM1106) Asset 26 has been removed from its original setting, in AOC Archaeology Group's professional opinion it is considered to have a relative sensitivity of Negligible as its current setting is not contributing to an understanding and appreciation of its significance. The Proposed Development and the preferred grid route would be located well beyond this setting and does not interrupt any key views or associations. Cumulative turbines would be visible at a considerable distance to the right (southeast) of the Proposed Development. Cumulative turbines would be visible to the south of the preferred grid route, although as stated in Section 5.3 there would be little to no intervisibility between the preferred grid route and the cross slab. The level of cumulative effect on the Scheduled Monument of *Holm of Daltallochan, cross slab Stone* would be Negligible and not significant. There would be no Significant adverse impact upon the integrity of the asset's setting.

Holm of Daltallochan (Asset 40, Category B Listed Building LB3681)

- 5.5.6 The key characteristics of the setting of the 18th century Category B Listed *Holm of Daltallochan* (Asset 40, List No. LB3681) relate to the immediately surrounding agricultural land which the farmstead would have been sited to exploit along with the adjacent water course of Water of Deugh and Carsphairn Lane and the transport route to the east. Cumulative turbines would be visible at a considerable distance to the right (southeast) of the Proposed Development. Cumulative turbines would be visible to the south of the preferred grid route, although as stated in Section 5.3 there would be little to no intervisibility between the preferred grid route and the *Holm of Daltallochan*. The preferred grid route in combination with the Proposed Development would not impinge upon views to or from the primary elevation of the farmhouse nor would it affect the key setting relationships set out above. Therefore, the resulting level of cumulative effective would be Negligible and not significant.

Bardennoch-Garryhorn Archaeologically Sensitive Area (Asset 221)

- 5.5.7 As viewed from *Bardennoch-Garryhorn Archaeologically Sensitive Area* (Asset 221) the Proposed Development and the preferred grid route would be in front of cumulative turbines, principally the Shepherd's Rig wind farm. Intervening distance and topography would severely restrict any potential views of the preferred grid route. *Bardennoch-Garryhorn Archaeologically Sensitive Area* remains focused on the northwest to southeast ridgeline and slopes made by Bardennoch Hill and Braidennoch Hill overlooking Water of Deugh to the northeast and further to the north near Carsphairn and the northwest to southeast aligned Polmaddy Burn to the southwest. Therefore, the resulting cumulative effect on *Bardennoch-Garryhorn Archaeologically Sensitive Area* would be Minor and not significant.

HER Asset of National Significance at Lagwine Cairn (Asset 79, HER No. MDG25538)

- 5.5.8 Wireline analysis undertaken for the submitted EIAR suggests that no cumulative turbines would be visible from HER Asset of National Significance at *Lagwine Cairn* (Asset 79, HER No. MDG25538). Therefore, there is no cumulative effect on *Lagwine Cairn*. The effect would result from the Proposed Development and preferred grid route alone, which as discussed above would be Minor and not significant.

Knockgray Policies (Asset 89, HER Asset of Regional Significance, HER No. MDG25538)

- 5.5.9 As viewed from the HER Asset of Regional Significance at *Knockgray Policies* (Asset 89, HER No. MDG25538) (Figure 9.21 of the submitted EIAR) turbines from Shepherd's Rig wind farm would be visible behind the Proposed Development and the preferred grid route. Given *Knockgray Policies* current setting it is not judged that the addition of the Proposed Development and the preferred grid route to the Shepherd's Rig wind farm would result in any greater impact than has been predicted for the Proposed Development on its own. Therefore, the resulting cumulative effect on *Knockgray Policies* would be Minor and not significant.



5.6 Conclusion

- 5.6.1 This assessment has found that the preferred grid route alone and in combination with the Proposed Development and cumulative developments would not lead to significant effects on heritage assets. Furthermore, the conclusion of the submitted EIAR that the integrity of Scheduled Monuments settings would not be significantly adversely impacted would be maintained in each case. Accordingly, therefore, there would be no conflict with National Planning Framework 4 (NPF4) Policy 7 (Scottish Government 2023, 46).



6 Noise

6.1 Introduction

- 6.1.1 This assessment is informed by the RAG Analysis (Appendix B) for the preferred grid route and a review of the constraints and assessment information presented within the submitted EIAR for the Proposed Development and submitted applications for the Lorg Wind Farm Grid Connection and Holm Hill Substation.
- 6.1.2 Noise and vibration were stated as being scoped out of the Lorg Wind Farm Grid Connection environmental impact assessment, whereas it was not mentioned in the Holm Hill Substation environmental appraisal, and therefore also assumed to have been scoped out. Accordingly, no constraints were identified in either assessment with respect to noise effects on noise-sensitive receptors in the vicinity of the developments.
- 6.1.3 Noise during the construction and operation of the preferred grid route has been assessed with reference to BS 5228-1:2009 +A1:2014, *Code of practice for noise and vibration control on construction and open sites*, and BS 4142:2014+A1:2019 *Methods for rating and assessing industrial and commercial sound for operational noise* for construction and operational noise respectively.

6.2 Grid Connection

- 6.2.1 Noise from the preferred grid route will arise from its construction and operation. During the construction phase of the development short-term noise effects will arise which will depend on the method of construction and distance to noise-sensitive receptors. Given the temporary and localised nature of construction activities, the separation from noise-sensitive receptors and the implementation of standard controls through the Construction Environmental Management Plan (CEMP), no significant construction noise effects are anticipated. The RAG Analysis has identified that there are no dwellings or residential receptors within 200 m of the preferred grid route. Where the separation distance between construction activities and noise-sensitive receptors is more than 200 m, significant noise effects will not arise, and construction noise can be scoped out of the assessment. Nevertheless, noise during construction may be audible at noise-sensitive receptors (although significantly below relevant noise limits) and will be controlled through the construction environmental management plan CEMP.
- 6.2.2 During the operational phase of the preferred grid route, noise may arise through corona discharge which is dependent on atmospheric conditions, and wind over the line under higher wind speed conditions. Corona discharge noise is characterised as a crackle or hum, and is typically only audible under certain low wind speed conditions, and only potentially significant where the separation distances are short. No significant noise effects will occur at noise-sensitive receptors where the separation distance is 200 m or greater.
- 6.2.3 There are no noise-sensitive receptors within 200 m of the preferred grid route. On this basis, noise from the construction and operation of the preferred grid route has been scoped out of the assessment and no significant noise effects are predicted.
- 6.2.4 No significant vibration effects will occur due to the construction and operation of the preferred grid route such that vibration effects at noise-sensitive receptors have been scoped out of the assessment.

6.3 Combined Assessment

- 6.3.1 No significant noise effects are predicted from the effects of the preferred grid route alone. The operational wind turbine noise assessment for the Proposed Development concluded that no significant effects would arise as the relevant noise limits were met. Therefore, as noise and vibration have been scoped out of this grid route assessment due to negligible noise effects, it can



be concluded that no significant noise effects will arise when combined with the Proposed Development.

6.4 Cumulative Assessment

- 6.4.1 No significant noise effects are predicted from the preferred grid route alongside any other development in the vicinity as noise effects from the preferred grid route at noise-sensitive receptors are negligible, not significant, and scoped out of the assessment.
- 6.4.2 It is noted that there is already a 132 kV OHL that runs to the northeast of A713 which is closer to the nearest noise-sensitive receptor than the preferred grid route, and any operational noise from the preferred grid route will be negligible and not significant relative to any existing operational noise from the 132 kV OHL infrastructure.
- 6.4.3 In terms of the submitted operational noise impact assessment for the Proposed Development (and changes to the cumulative scenario since submission), the only significant change is that Shepherd's Rig Wind Farm is now consented. All other changes to the cumulative scenario (i.e. Windy Standard III under construction, Windy Standard I Repower and Sanquhar II have been consented, and Appin Wind Farm submitted) are sufficiently distant that significant cumulative effects are scoped out. There will be no significant construction or operational effects from the construction and operation of the preferred grid route in combination with the Proposed Development, or any other wind farm development in the vicinity.
- 6.4.4 The UK Government Department for Energy Security & Net Zero (DESNZ) released updated wind turbine noise assessment guidelines in June 2026; *Assessment and rating of wind turbine noise (ARWTN)*, although the Scottish Government has not yet formally adopted the new guidance. Nevertheless, the overarching noise limits in ARWTN are the same as the ETSU-R-97 limits, and therefore, in general, if a site assessed under ETSU-R-97 meets the relevant noise limits then it would also meet the ARWTN noise limits. In this case, the operational noise assessment for the Proposed Development has assessed operational noise levels against the noise limits which are consistent with the ARWTN limits, and therefore the conclusions of the operational wind farm noise assessment remain valid. Further, as construction and operational noise from the preferred grid route is negligible and not significant, any change in operational noise assessment guidance does not change the conclusion that there will be no significant noise effects from the preferred grid route in combination with the Proposed Development.

6.5 Conclusion

- 6.5.1 No significant noise or vibration effects at noise-sensitive receptors will arise from the construction or operation of the preferred grid route. Noise during the construction and operation of the preferred grid route has been scoped out at separation distances between works and noise-sensitive receptors beyond 200 m. There are no noise-sensitive receptors within 200 m of the preferred grid route, and therefore noise and vibration effects are not significant.
- 6.5.2 No specific mitigation is required during the construction and operation of the preferred grid route, however noise effects during the construction phase will be controlled through the CEMP. It is noted that although noise has been scoped out of the assessment, it is possible that construction noise could be audible at times at noise-sensitive receptors, but at such low levels that the effects are not significant.
- 6.5.3 No significant noise effects are predicted from the preferred grid route being constructed and operated alongside the Proposed Development or other developments in the vicinity.



7 Traffic and Transport

7.1 Introduction

- 7.1.1 This assessment is informed by the initial RAG Analysis (Appendix B) for the preferred grid route and a review of the constraints and assessment information presented within the submitted EIAR for the Proposed Development and where appropriate, submitted applications for the Lorg Wind Farm Grid Connection and Holm Hill Substation.

7.2 Grid Connection

- 7.2.1 The principal traffic effects associated with the preferred grid route would arise during the construction phase and would be associated with:
- workforce travel to and from temporary work areas;
 - delivery of poles, cable drums, and ancillary materials by heavy goods vehicle (HGV); and
 - movement of construction plant and equipment.
- 7.2.2 The construction of the preferred grid route is not expected to require Abnormal Indivisible Load (AIL) deliveries and would generate substantially lower traffic volumes than those assessed for the Proposed Development. The temporary nature of the works, combined with the relatively limited quantity of materials required for cable installation, means that traffic generation would be modest and localised.
- 7.2.3 Construction activities would progress along sections of the route progressively rather than occurring simultaneously across its full extent, limiting the number of vehicle movements at any one location. Access to the grid connection work areas would be through the site entrance and internal access tracks of the Proposed Development, with a limited number of movements into the Holm Hill Substation at the western terminus of the preferred grid route.
- 7.2.4 The construction programme for the preferred grid route has not been developed in detail but can be expected to occur over a 4-6-month period. This period is likely to coincide with construction of the Proposed Development.
- 7.2.5 Given the small scale and localised nature of the preferred grid route, a detailed and comprehensive accounting of all construction materials and associated movements is not considered necessary. However, a basic estimate of the principal vehicle deliveries which are anticipated is provided, to support this approach. The principal material deliveries and associated vehicle movements are anticipated to be as follows:
- 70 wooden poles⁶ - requiring 7 HGV deliveries or 14 HGV movements;
 - conductors, cable drums, fittings and other electrical components - requiring approximately 10 HGV deliveries or 20 HGV movements;
 - backfill around base of poles - requiring approximately 10 HGV deliveries or 20 HGV movements, although it should be noted that the backfill material is likely to be sourced from on-site borrow pits;
 - plant and equipment - requiring approximately 10 HGV deliveries, and a further 10 HGVs for demobilisation, resulting in a total of 40 HGV movements; and
 - construction personnel - approximately 20 personnel per day, resulting in up to 40 car/van movements.
- 7.2.6 Totalling the above estimates, it is anticipated that the preferred grid route will require approximately 94 HGV vehicle movements over the (worst case) 4-month construction period, resulting in up to 24 HGV movements per month or less than one per day on average. Additionally, up to 40 car/van movements per day can be expected for construction personnel.

⁶ For a 5.5 km route with an assumed average span of 80 m between poles.



- 7.2.7 On the basis of professional judgement, the magnitude of traffic effects associated with the grid connection alone would be low and temporary. Accordingly, no significant traffic and transport effects are anticipated from the preferred grid route in isolation.

7.3 Combined Assessment

- 7.3.1 Chapter 11: Traffic and Transportation of the submitted EIAR considered the traffic and transport effects associated with construction of the Proposed Development, including deliveries of construction materials, turbine components, plant, and workforce traffic. The assessment concluded that, with implementation of mitigation secured through a Construction Traffic Management Plan (CTMP), no significant traffic and transport effects would arise.
- 7.3.2 The Proposed Development considered a robust worst-case construction scenario, including assumptions that all stone would be imported to site and that turbine foundation concrete would be delivered by ready-mix vehicles. This approach intentionally overestimated likely traffic generation.
- 7.3.3 The additional traffic associated with the preferred grid route would be materially lower than that associated with construction of the Proposed Development, approximately by a factor of 40 when comparing the peak month for HGV movements. While some overlap in construction periods may occur, the anticipated traffic associated with pole and cable installation activities would represent a relatively small addition to the levels of construction traffic already assessed within the EIAR.
- 7.3.4 The primary road network used to access the preferred grid route is the same network already assessed as part of the Proposed Development. Given the modest scale of traffic likely to be associated with the grid works, and the robust nature of the original assessment, it is not considered that inclusion of the preferred grid route would materially alter the findings of the submitted EIAR Chapter 11.
- 7.3.5 Therefore, the addition of the preferred grid route is not expected to change the magnitude of effects previously identified for the submitted Proposed Development, nor alter the conclusion that traffic and transport effects are not significant.

7.4 Cumulative Assessment

- 7.4.1 A qualitative review has been undertaken of the potential for cumulative effects where the Proposed Development and preferred grid route may affect the same receptors.
- 7.4.2 Potential shared receptors include:
- users of the A713 and local road network surrounding Carsphairn;
 - local residents adjacent to construction traffic routes;
 - pedestrians, cyclists and other vulnerable road users;
 - properties located close to temporary traffic management arrangements.
- 7.4.3 The preferred grid route and Proposed Development construction activities have the potential to interact through the generation of additional construction vehicle movements on parts of the same road network. However, the preferred grid route would not introduce a new type of traffic impact beyond those already assessed within the EIAR. Rather, it would represent a relatively modest extension of construction activity associated with delivery of electrical infrastructure required to enable operation of the Proposed Development.
- 7.4.4 Since the original submission of the EIAR for the Proposed Development, construction has commenced for Windy Standard III and Sanquhar II Wind Farms. It is anticipated that the construction phases for these developments will be complete, prior to work commencing for the Proposed Development and preferred grid route.
- 7.4.5 Further developments which have been considered include Shepherd's Rig Wind Farm and Windy Standard I Repower, which have both been consented, and Appin Wind Farm which has been submitted. Given the different stages in the consent process for these developments, it is unlikely



that any of the peak months would coincide with that of the Proposed Development and preferred grid route.

- 7.4.6 Should any overlapping construction activities occur, these would be managed through the project CTMP, including contractor discussions, proactive construction programming, delivery scheduling, workforce management and liaison with the roads authority. These are established mitigation measures already identified within the Proposed Development.
- 7.4.7 Given the comparatively limited traffic demands associated with cable installation works, and the temporary and localised nature of those activities, no significant cumulative traffic and transport effects are anticipated. The combined effect of the wind farm and grid connection would remain consistent with the conclusions presented within Proposed Development EIAR, namely that traffic and transport effects would be temporary, manageable through standard mitigation measures and not significant.

7.5 Conclusion

- 7.5.1 On the basis of the information available and applying professional judgement, the preferred grid route is not anticipated to give rise to any likely significant traffic and transport effects, either in isolation or in combination with the Proposed Development.
- 7.5.2 Furthermore, the preferred grid route is not likely to contribute to significant cumulative effects when considered alongside the Proposed Development and other relevant developments within the vicinity.
- 7.5.3 Accordingly, the conclusions of the traffic and transport assessment presented within the submitted EIAR remain valid.



8 Ecology

8.1 Introduction

- 8.1.1 No additional survey data has been collected to inform this assessment, although a Red, Amber, Green (RAG) analysis was carried out to undertake a high-level appraisal of potential constraints along the preferred grid route.
- 8.1.2 As the preferred grid route is partially within the Proposed Development, the submitted EIAR Chapter 6 Ecology and Biodiversity for the Proposed Development was reviewed to support this assessment. The submitted EIAR for the proposed Lorg Wind Farm Grid Connection which has been prepared for the same anticipated route, and the Ecological Appraisal for the Holm Hill Substation (which the preferred grid route will join) have also been reviewed to inform this assessment.
- 8.1.3 The Lorg Wind Farm Grid Connection EIAR Chapter 8⁷ highlights that there are areas of Annex 1 habitats; blanket bog (H7130) and upland wet heathland with cross-leaved heath (H4010) as well as areas of non-Annex 1 blanket bog along the preferred grid route. Construction phase impacts on these habitats and protected species (otter, badger, pine marten, bats and fish) were considered as part of the EIAR. The Holm Hill Substation Environmental Appraisal identified that the Holm Hill Substation is adjacent to an area of red squirrel priority woodland; however, the preferred grid route does not overlap with the red squirrel priority woodland.
- 8.1.4 As with the Lorg Wind Farm Grid Connection and Holm Hill Substation, the preferred grid route does not directly overlap any designated ecological sites, including Special Areas of Conservation (SAC) or Sites of Special Scientific Interest (SSSI) and there are none within 2 km of the preferred grid route. Although the route passes through peatland habitats that may support ecological receptors, no significant ecological constraints have been identified through the desk-based review. However, construction practices will need to follow the mitigation hierarchy in relation to any potential impacts on the Annex 1 habitats (blanket bog and wet heathland with cross-leaved heath) and protected species.
- 8.1.5 As identified in the RAG analysis the preferred cable route also lies within the 'transition buffer' of the Galloway and Southern Ayrshire United Nations Educational, Scientific and Cultural Organization (UNESCO) Biosphere Reserve. Biosphere reserves are non-statutory designations and are accolades awarded by UNESCO to recognise areas balancing sustainable development and conservation. They rely on pre-existing statutory protections such as SSSIs and SACs and the transition buffer of a Biosphere reserve is a flexible area where communities and economic activities can exist as long as those activities align with overarching conservation and sustainability goals. As there are no statutory ecological designations within 2 km, the preferred grid route does not present a significant ecological constraint at this stage.

8.2 Grid Connection

- 8.2.1 The desk-based review highlighted the presence of Annex 1 priority habitats and protected species within, and in proximity to, the preferred grid route. The main ways in which an OHL can impact ecological receptors are via:
- habitat loss or fragmentation; and
 - disturbance/displacement during construction or operation.
- 8.2.2 The construction programme for the preferred grid route has not been developed in detail but can be expected to occur over a 4-6-month period. This period is likely to coincide with construction of the Proposed Development and can be considered short-term and temporary. Construction phase impacts will include short term disturbance and habitat loss including areas of permanent loss around the bases of the timber poles. The extent of the habitat loss will be greater during construction owing to lay down areas and the need for tracking over areas to access the different

⁷ SP Energy Networks (2025) Lorg Wind Farm Grid Connection: Environmental Impact Assessment Report. Chapter 8: Ecology and Ornithology.



pole locations. The number and locations of the poles is unknown at this time, although may be up to 70 poles. However, the habitat loss from each individual pole would be very small and therefore the long-term impact is likely to be negligible.

- 8.2.3 Dependent on the habitats present, construction of an OHL could fragment sections of woodland habitats; however, from a desk-based review, provided construction is undertaken in line with best practice and industry standard methods, no such impacts are anticipated along the preferred grid route.
- 8.2.4 Protected or notable species including fish may be present within the vicinity of the preferred grid route. Until a survey has been undertaken, the locations used by protected or notable species is unknown. However, based on the desk-based review, it is considered likely that otter, badger, pine marten, bats and fish are present within the area. Any species present, would be at risk of disturbance, habitat loss (including foraging and resting/sheltering habitat) or direct harm during the construction works.
- 8.2.5 Once operational, overhead power lines have limited ecological impact. The operational phase impacts of OHL are limited to disturbance during maintenance and potential disturbance associated with the noise of OHL. Generally, there is some potential for disturbance to foraging bats as a result of the noise from the OHL however the level of disturbance on different bat species in different conditions is still being studied with impacts being considered unknown⁸. From a desk-based review, it appears that the habitats within the preferred grid route are open with low suitability for foraging bats.

Embedded Mitigation

- 8.2.6 Embedded mitigation is built into the Proposed Development to avoid or reduce any adverse effects associated with the Proposed Development, and to ensure compliance with the Wildlife and Countryside Act 1981 (UK Government, 2024). Similar mitigation would be proposed for the preferred grid route.
- 8.2.7 Pre-construction habitat and protected species surveys would be required to be undertaken by an appropriately experienced ecologist. The ecologist would record potential mammal resting features such as otter holts, badger setts or bat roosting features. Once the surveys have been completed mitigation by design may be possible through maintenance of specific buffers from different habitats or species.
- 8.2.8 The results of the pre-construction surveys would be used in the preparation of a CEMP with Species Protection Plans (SPPs) as required.
- 8.2.9 All works would follow the mitigation hierarchy:
- Avoidance – first step is to avoid impacts where possible e.g. to protected/notable species and Annex one or other sensitive habitats e.g. to Annex 1 blanket bog (H7130) through the careful design of infrastructure, micro-siting and storing materials outwith the areas of sensitive habitat or inclusion of species specific buffers from works;
 - Mitigation – where impacts cannot be avoided, the extent or magnitude of any impacts should be minimised e.g. through using silt proof fencing prior to any dusty works and the careful sighting of laydown areas and use of buffers or timing works to avoid particularly sensitive periods for species which may be present;
 - Restoration – any features which have been temporarily impacted should be restored where possible e.g. restoration of habitats following construction; and
 - Compensation – compensating for any impacts which could not be reasonably avoided e.g. through the provision of alternative shelter under a NatureScot licence for any protected mammal resting sites for which impacts cannot be avoided.

⁸ Froidevaux JSP, Jones G, Kerbiriou C, Park KJ. Acoustic activity of bats at power lines correlates with relative humidity: a potential role for corona discharges. *Proc Biol Sci.* 2023 Mar 29;290(1995):20222510. doi: 10.1098/rspb.2022.2510. Epub 2023 Mar 15. PMID: 36919430; PMCID: PMC10015334.



- 8.2.10 The CEMP would likely also include for the presence of an experienced Ecological Clerk of Works (ECoW) during different elements of these works. It is assumed that the CEMP will be similar to (or the grid route included within) the CEMP for the Proposed Development. The CEMP requirements stipulated in the Proposed Development submitted EIAR Chapter 6 are included in Section 8.3 Combined Assessment below for completeness.
- 8.2.11 Provided adherence to industry standards and best practice measures including those to be specified within the CEMP, the short-term effects resulting from construction of the preferred grid route alone are anticipated to be not significant.

8.3 Combined Assessment

- 8.3.1 The Proposed Development EIAR Chapter 6 is considered a robust assessment of the Proposed Development and includes embedded mitigation for the construction phase that would be relevant to the preferred grid route, such as preparation of and adherence to a CEMP. As specified in Chapter 6, *"the CEMP would include detailed Method Statements based on current best practice for:*
- *micro-siting (where possible, under guidance from the ECoW) during detailed design / construction to further avoid areas of particularly sensitive habitat;*
 - *pollution prevention measures during site clearance and construction works;*
 - *pollution spill kits would be made available at suitable locations and would be maintained. All site workers would be briefed on the location of the spill kits and how to use them effectively, and what further actions to take should a significant pollution incident occur;*
 - *site drainage, water monitoring and sensitive habitat protection (including buffers around GWDTEs);*
 - *appropriate use and storage of excavated soils and vegetation turfs for track verges and batters;*
 - *implementation of a Peat Management Plan (Technical Appendix 8.3: Peat Management Plan); and*
 - *site restoration plan and methods, re-vegetation and monitoring methods."*
- 8.3.2 In the absence of surveys, it is not possible to do a detailed combined assessment. However, the final footprint of the preferred grid route infrastructure is anticipated to be small and provided industry standards and best practice measures (including those to be specified within the CEMP, such as micro-siting) are adhered to, then no additional significant long term habitat loss is anticipated. Similarly, the impacts of construction phase disturbance on protected species are anticipated to be minimised through the adherence to the SPP, which would be informed by the survey of the preferred grid route.
- 8.3.3 Therefore, no additional significant effects are anticipated resulting from the preferred grid route in combination with the Proposed Development.

8.4 Cumulative Assessment

- 8.4.1 In the absence of surveys, it is not possible to do a detailed cumulative assessment of the preferred grid route, however, given the small construction footprint, short and temporary nature of the construction works relative to the nearby developments and adherence to embedded mitigation by all developments, no additional significant long term cumulative effects are anticipated either on habitats or protected species.

8.5 Conclusion

- 8.5.1 It is anticipated that habitat and protected species surveys will be required to inform mitigation and location for the preferred grid route. The mitigation will likely include the need for micro-siting of the poles and laydown/construction areas away from sensitive habitats and species, preparation of and adherence to a CEMP and SPP. Specific measures will likely include the need for floating temporary tracks to minimise impacts on peatland habitats including blanket bog which is present along the preferred grid route.



- 8.5.2 If an application for the preferred grid route was to be submitted, with the mitigation proposed no significant effects are anticipated resulting from the preferred grid route alone, combined with the Proposed Development or cumulatively with other relevant developments.



9 Ornithology

9.1 Introduction

- 9.1.1 This assessment is informed by the RAG Analysis (Appendix B) for the preferred grid route and a review of the constraints and assessment information presented within the submitted EIAR for the Proposed Development and where appropriate, submitted applications for the Lorg Wind Farm Grid Connection and Holm Hill Substation.
- 9.1.2 The preferred grid route follows the Lorg Wind Farm Grid Connection route from the Proposed Development substation to the Holm Hill Substation. No additional survey data has been collected to inform this assessment of the preferred grid route, although a RAG analysis (Appendix B) was carried out to undertake a high-level appraisal of potential constraints. In addition to this, updated third-party data searches were undertaken with the Royal Society for the Protection of Birds (RSPB) and the Dumfries and Galloway Raptor Study Group (RSG). This ornithology assessment is also informed by survey data gathered for the Proposed Development.
- 9.1.3 Chapter 8 Ecology and Ornithology for Lorg Wind Farm Grid Connection concluded that all construction-related impacts can be mitigated through pre-construction surveys and stand-off buffers around nest, roost and/or lek sites. Operational-related impacts were limited to collision mortality to red kite and black grouse. Additional mitigation through the installation of bird diverters along the route of the Lorg Wind Farm Grid Connection from Furmiston Craig (to the east of the Proposed Development) to Holm Hill Substation is proposed and has been assessed to reduce the impact on these species to not significant.
- 9.1.4 Chapter 3 Ecology and Ornithology for Holm Hill Substation concluded that mitigation detailed within the Outline CEMP, alongside embedded mitigation such as nest checks undertaken by the ECoW ahead of works and protection zones for active nests, would reduce any effects on birds and ultimately would result in negligible adverse residual effects on breeding birds.
- 9.1.5 As outlined within the RAG Analysis (Appendix B) for the preferred grid route, the preferred grid route does not directly overlap any designated ornithological sites, including SPAs, SSSIs, Ramsar Sites and RSPB Important Bird Areas and there are no sites identified within the grid corridor or within 2 km of the preferred grid route. Although the route passes through areas that may provide supporting habitat for bird species, no significant ornithological constraints have been identified through the desk-based review.

9.2 Grid Connection

- 9.2.1 There are four main risks to birds from overhead powerlines:
- habitat loss (temporary effects during the construction phase);
 - disturbance/displacement (during both the construction and operational phase);
 - collision-related mortality (during the operational phase); and
 - electrocution (during the operational phase).
- 9.2.2 The preferred grid route lies partly within the bird survey areas for the Proposed Development. The baseline surveys for the Proposed Development between 2018 and 2021 regularly recorded red kite flight activity around the preferred grid route, although flight activity of other species was low. In addition, there was a single snipe territory recorded within 500 m of the preferred grid route, and a black grouse lek (attended by two males) recorded within ~1 km of the preferred grid route. No ornithology figures or supporting technical appendices relating to ornithological findings for the Lorg Wind Farm Grid Connection ornithology assessment are available publicly. Ornithological surveys for Holm Hill Substation recorded a single snipe territory within 500 m of the preferred grid route.
- 9.2.3 The most recent data searches undertaken provided information on black grouse, nightjar, red kite, peregrine and goshawk all within proximity to the preferred grid route. Full details of the results of the data search are presented in a Confidential Appendix that accompanies this report.



- 9.2.4 The RSG returned records of three red kite territories (two with alternate nest sites), two goshawk territories (one with an alternate nest site) and one peregrine nest site. All nest sites fall outside of a 1 km buffer around the preferred grid route. The data search with the RSPB returned several records of black grouse sightings and leks within the area, although only a single black grouse lek site was recorded within a 1 km buffer around the preferred grid route. The site held a single displaying male in 2025. Additionally, a record of a churring male nightjar was also provided by the RSPB in 2021, more than 500 m from the preferred grid route.
- 9.2.5 There are no designated sites for birds within proximity to the preferred grid route with the potential to be affected. However, there is potential for significant effects on the regional populations of black grouse and red kite.
- 9.2.6 Black grouse is listed on the Scottish Biodiversity List (SBL) and is also on the Birds of Conservation Concern (BoCC) red list. The Dumfries and Galloway population was estimated at 200 lekking males in 2015⁹. A lek of two males in proximity to the preferred grid route is therefore potentially regionally important. Therefore, there is potential for impacts on the regional population of black grouse from disturbance-related displacement during construction and through collision mortality during the operational phase.
- 9.2.7 Red kite is afforded elevated protection under the EU Birds Directive Annex I, Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) and is also listed on the SBL. The regional population of red kite is 147 pairs (Challis *et al.*, 2023¹⁰). Given the level of flight activity recorded during baseline surveys for the Proposed Development, it is considered that there could be potential impacts on the regional population of red kite from disturbance-related displacement during construction and through collision mortality and electrocutions during the operational phase.

Embedded Mitigation

- 9.2.8 If an application for the preferred grid route is progressed, a Bird Protection Plan (BPP) would be proposed as part of a CEMP outlining mitigation aimed at protecting ornithological features.
- 9.2.9 Pre-construction and construction phase nesting bird checks will be undertaken within an appropriate survey area around the proposed works. Where any nest sites are identified, appropriate exclusion zones will be applied by an Ecological Clerk of Works (ECoW) to ensure that there is no contravention of legislation. In addition, species-specific black grouse lek surveys and Schedule 1 raptor surveys for red kite will also be undertaken in order to protect these species from disturbance by applying construction-free buffer zones with seasonal and/or temporal limits. Further details on species-specific mitigation is detailed below. The risk of electrocution to raptors such as red kite is also a possibility, whereby this species group use the powerline poles as perches to rest or from which to hunt. It is proposed that design considerations include insulation covers to shield exposed energized conductors, and increased spacing between live phases and grounded hardware components on poles. This reduces/removes the potential for electrocution mortality on red kite and the potential for wildfires occurring from such events¹¹.

Additional Mitigation

- 9.2.10 Pre-construction surveys aimed at locating red kite nest sites within a 300 m buffer of the preferred grid route and associated ancillary infrastructure will be undertaken. Where any nest sites are identified, construction-free buffer zones would be applied until the nest is confirmed as inactive e.g. when the young fledge or the nest fails.

⁹ Galloway and Southern Ayrshire Biosphere (2015). 4.1 *Black Grouse*. Available online at: <https://www.gsabiosphere.org.uk/wp-content/uploads/2022/05/4.1-Black-Grouse-301215.pdf> [Accessed: 12/08/2026].

¹⁰ Challis, A., Beckmann, B.C., Wilson, M.W., Eaton, M.A., Stevenson, A., Stirling-Aird, P., Thornton, M. & Wilkinson, N.I. (2023). *Scottish Raptor Monitoring Scheme Report 2021 & 2022*. BTO Scotland, Stirling.

¹¹ Guil, F., Soria, A., Margalida, A., and Pérez-García, J. (2018). Wildfires as collateral effects of wildlife electrocution: An economic approach to the situation in Spain in recent years. *Science of The Total Environment*. Vol 625, p 460-469, ISSN 0048-9697, <https://doi.org/10.1016/j.scitotenv.2017.12.242>.



- 9.2.11 Surveys for lekking black grouse will be undertaken during the period of March to mid-May, prior to works commencing, following methods described in Gilbert *et al.* (1998)¹². A total of two visits should be undertaken in suitable habitat within the area to establish if any leks are present within 750 m of all infrastructure. Surveys of the preferred grid route should be undertaken and if leks are located within 750 m of construction works additional restrictions may be required. If black grouse leks are present, the BPP for black grouse will be implemented, so that potential effects on lekking black grouse are minimised during the spring lekking period. Should lekking black grouse be located within 750 m of any construction works, the ECoW will advise construction operations.
- 9.2.12 Mitigation to avoid disturbance to lekking black grouse may include:
- Avoidance of construction activity within 750 m of an active black grouse lek between 01 March and 15 May;
 - Timing restrictions on construction operations within 750 m of an active black grouse lek between 01 March and 15 May; and
 - Traffic limitations (i.e. speed restrictions) and demarcation of no stop zones during the period two hours either side of sunrise.
- 9.2.13 Additional mitigation to reduce the potential for significant effects from collision mortality on red kite and black grouse would be proposed through the installation of bird diverters along the entirety of the preferred grid route. It is proposed that the bird diverters installed are the same as those outlined within the Lorg Wind Farm Grid Connection EIAR, whereby they have contrasting colours for maximum visibility in a range of weather conditions and are installed at least every 5-10 m along the powerline. Bird diverters are likely to need replacement during the operational lifetime of the preferred grid route, so will need some level of monitoring. In addition to this, carcass searches may be proposed along the entirety of the preferred grid route during the operational phase to determine the efficacy of the bird diverters.
- 9.2.14 Through the implementation of embedded and additional mitigation measures described above, residual effects upon either red kite or black grouse as a result of the preferred grid route alone are considered to be not significant.

9.3 Combined Assessment

- 9.3.1 Along with the preferred grid route, the Proposed Development is not located within any ecological or ornithological designation. The Proposed Development's submitted EIAR concluded there will be no significant effects on ornithology, although '*additional controls will be put in place during construction through creation of site-specific Construction Environment Management Plan (CEMP), Species Protection Plan, Bird Protection Plan (BPP) and appointing an Environmental Clerk of Works (ECoW) to monitor adherence to such plans*'.
- 9.3.2 Similarly, the embedded and additional mitigation measures outlined above that may be proposed for the preferred grid route reduces potential effects on the regional populations of black grouse and red kite to a level that is considered as not significant. Consequently, no magnification of effects is likely to occur as a result of the preferred grid route, and therefore there is no potential for likely significant effects as a result of the combined preferred grid route and the Proposed Development.

9.4 Cumulative Assessment

- 9.4.1 There is currently no statistical collision risk model for overhead powerlines available which would provide a robust assessment of potential mortality (NatureScot 2025¹³) for the preferred grid route, and therefore NatureScot do not '*currently recommend a generic modelling approach*'.

¹² Gilbert, G., Gibbons, D.W. and Evans, J. (1998). *Bird Monitoring Methods*. RSPB, Sandy.

¹³ NatureScot (2025). *Guidance - Assessment and mitigation of impacts of power lines and guyed meteorological masts on birds*. Available at: <https://www.nature.scot/doc/guidance-assessment-and-mitigation-impacts-power-lines-and-guyed-meteorological-masts-birds> [Accessed on 12/08/2026)].



- 9.4.2 As a result, a quantitative assessment on black grouse and red kite collision mortality cannot be robustly undertaken, however it is considered that all residual effects on both species as a result of the construction and operational phases of the preferred grid route are considered to be negligible as a result of embedded and additional mitigation. Additionally, construction-related impacts are short-term and temporary and are not usually assessed within a cumulative sense, so changes to the cumulative scenario do not affect the conclusions of this assessment.
- 9.4.3 Given that residual effects on red kite and black grouse are predicted to be negligible following mitigation, no significant cumulative effects on these species are anticipated.

9.5 Conclusion

- 9.5.1 The assessment has identified that the preferred grid route has the potential to cause significant effects on the following ornithological features:
- Red kite; and
 - Black grouse.
- 9.5.2 However, through the implementation of embedded and additional mitigation measures, residual effects upon either red kite or black grouse as a result of the preferred grid route are considered to be not significant.
- 9.5.3 In addition, effects upon either red kite or black grouse as a result of the preferred grid route both in combination with the Proposed Development and cumulatively with other developments in proximity to the preferred grid route are considered to be not significant.



10 Hydrology, Hydrogeology and Geology

10.1 Introduction

- 10.1.1 The assessment is informed by the RAG Analysis (Appendix B) for the preferred grid route and a review of the hydrology constraints and assessment information presented within the submitted EIAR for the Proposed Development and submitted applications for the Lorg Wind Farm Grid Connection and Holm Hill Substation.
- 10.1.2 The following water environment constraints have been identified by previous assessments related to the aforementioned applications:
- Proposed Holm Hill Substation:
 - Surface Water Receptors;
 - Groundwater bodies; and
 - Private Water Supplies (PWS).
 - Proposed Lorg Wind Farm Grid Connection:
 - Fisheries;
 - Soils, peat and peatland;
 - Groundwater Dependent Terrestrial Ecosystems (GWDTE);
 - PWS; and
 - Surface Water Receptors.
- 10.1.3 These identified receptors are consistent with the key constraints identified within the RAG analysis (Appendix B). However, it should be noted that the applications have prepared detailed documentation and assessment in the form of an environmental impact assessment or appraisal, and these should be referred to for further context.

10.2 Grid Connection

Carbon-Rich Soils and Peat

- 10.2.1 According to the Carbon and Peatland 2016 map¹⁴, the preferred grid route is proposed to intersect predominantly Class 3 soils with areas of Class 1, Class 2 and Class 5 as shown on AI Figure 1.1. Upon review of the Lorg Grid Connection EIAR¹⁵, pockets of deep peat were encountered as part of the peat depth survey which corresponds with the peat depth survey approach as part of the Proposed Development's submitted EIAR¹⁶.
- 10.2.2 The peatland condition has been described as being "modified" or "drained" as a result of the existing land management activities¹⁴.
- 10.2.3 The preferred grid route may result in effects which include:
- direct loss / disturbance of peat;
 - pollution incidents;
 - modifications to surface drainage patterns;
 - modification of groundwater flows and levels; and

¹⁴ Scotland's Soils (2016) Carbon and Peatland 2016 map. Available at: <https://soils.environment.gov.scot/maps/thematic-maps/carbon-and-peatland-2016-map/>. Accessed: 05/08/2026

¹⁵ Scottish Power Energy Networks (2025) Lorg Wind Farm Grid Connection Environmental Impact Assessment Report – Appendix 10.2: Soils and Peat Management Plan. Available at: https://www.spenergynetworks.co.uk/pages/lorg_wind_farm.aspx. Accessed: 05/08/2026

¹⁶ Vattenfall Wind Power Ltd (2023) Quantans Hill Wind Farm Environmental Impact Assessment Report – Chapter 8: Hydrology, Geology & Hydrogeology. Available at: <https://www.vattenfall.co.uk/our-projects/south-west-scotland/quantans-hill-wind-farm/>. Accessed: 05/08/2026



- compaction of soils.

10.2.4 If an application for the preferred grid route was to be submitted, the following mitigation measures may be proposed:

- a detailed peat depth and condition survey;
- microsinning of wooden poles to avoid peat where practicable; and
- production of a Soils and Peat Management Plan (S&PMP).

Surface Water Hydrology

10.2.5 The preferred grid route would be situated within the catchments of Carsphairn Lane, Water of Deugh, Benloch Burn, Polhay Burn, and Marbrack Burn. The land use in these catchments is predominantly commercial forestry or moorland that is heavily managed through grouse shooting and/or agricultural grazing.

10.2.6 Both the Carsphairn Lane (ID: 10566) and the Water of Deugh (ID: 10563) are classified under the Water Framework Directive (WFD) classification scheme as of “Poor” overall status and are designated as heavily modified water bodies¹⁷. These watercourses have undergone physical alterations as a result of hydroelectricity generation activities.

10.2.7 The preferred grid route will require a total of 14 no. watercourse crossings (assuming worst-case scenario of temporary tracks being required to facilitate the preferred grid route) based on the 1:25,000 OS mapping. Of these 14 no. crossings, 12 no. will likely require circular or bottomless arch culverts. However, two crossings will require further investigation (Water of Deugh and Benloch Burn) due to the size and nature of the watercourse. These watercourses also feature a high likelihood of river flooding¹⁸, with the remaining watercourses featuring surface water and small watercourse flooding (although limited to the channel extents).

10.2.8 The preferred grid route may result in effects which may include:

- pollution incidents;
- erosion and sedimentation;
- changes in water quality;
- increase in run-off;
- modifications to surface drainage pattern; and
- impediments to surface water flow.

10.2.9 If an application for the preferred rid route was to be submitted, the following mitigation measures may be proposed:

- a watercourse crossing assessment for temporary access tracks;
- avoid crossings at Water of Deugh and Benloch Burn by utilising existing access tracks; and
- adopt good practice mitigation and management measures.

Water Resources

10.2.10 The preferred grid route would be situated within the Benloch Burn DWPA, with the surface water intake located at National Grid Reference (NGR) NX 5797 951116. This intake features pipework that connects to the Carsphairn village, via the water treatment works (WTW) (National Grid Reference: NX 56713 93205), and ultimately provides a potable water supply for the village.

¹⁷ SEPA (2025) Water Classification Hub. Available at: <https://informatics.sepa.org.uk/WaterClassificationHub/>. Accessed: 05/08/2026

¹⁸ SEPA (2026) Flood Maps. Available at: <https://beta.sepa.scot/flooding/flood-maps/>. Accessed: 05/08/2026



- 10.2.11 As part of the Proposed Development's submitted EIAR, a Pollution Prevention and Incident Plan (PPIP)¹⁹ was prepared as a technical appendix to support the hydrology, geological and hydrogeology assessment. This PPIP provided control measures that would be adopted to protect the water resources in the Benloch Burn catchment.
- 10.2.12 PWS have been identified by the assessment for both the proposed Holm Hill substation Environmental Appraisal (EA) and proposed Lorg Wind Farm Grid Connection EIAR. Through the associated assessments, hydrological linkages were established between both the proposed Holm Hill substation and the proposed Lorg Wind Farm grid connection with PWS receptors.
- 10.2.13 The preferred grid route may result in effects which may include:
- pollution incidents;
 - erosion and sedimentation;
 - changes in water quality;
 - increase in runoff;
 - modifications to surface drainage pattern;
 - impediments to surface water flow;
 - modification of groundwater flows and levels; and
 - compaction of soils.
- 10.2.14 If an application for the preferred grid route was to be submitted, the following mitigation measures may be proposed:
- adoption of the commitments within the PPIP¹⁹;
 - preparation of a PWS Risk Assessment (PWSRA); and
 - PWS Method Statement, if deemed necessary by the PWSRA.

Ground Water Dependent Terrestrial Ecosystems (GWDTE)

- 10.2.15 As identified through the previous assessments of proposed Lorg Wind Farm Grid Connection, and the proposed Holm Hill substation, there is a potential for GWDTE to be present within the preferred grid route. Further investigation (i.e. NVC surveys) would be required to identify any potential GWDTE habitat present followed by an assessment that would consider the hydrogeological context.
- 10.2.16 The preferred grid route may result in effects that include:
- pollution incidents;
 - modification of groundwater flows and levels; and
 - compaction of soils.
- 10.2.17 If an application for the preferred grid route was to be submitted, the following mitigation measures may be proposed:
- preparation of a GWDTE assessment;
 - avoidance of actual GWDTE habitat where practicable; and
 - compensation/enhancement of habitat through a Habitat Management Plan (HMP).
- 10.2.18 Through the implementation of the proposed mitigation measures described above for the various water environment receptors such as using existing tracks where possible and micro-siting wooden poles, preparation of a S&PMP, as well as adherence to the PPIP, and the implementation of good practice mitigation, there would be no significant effects upon receptors resulting from the preferred grid route alone.

¹⁹Vattenfall Wind Power Ltd (2023) Quantans Hill Wind Farm Environmental Impact Assessment Report – Technical Appendix 8.6: Pollution Prevention and Incident Plan. Available at: <https://www.vattenfall.co.uk/our-projects/south-west-scotland/quantans-hill-wind-farm/> . Accessed: 05/08/2026



10.3 Combined Assessment

- 10.3.1 The preferred grid route and Proposed Development have the potential to affect shared hydrological and hydrogeological receptors identified in Section 10.2. However, assuming implementation of the mitigation measures proposed, and combined with the existing commitments within the Proposed Development's submitted EIAR¹⁶, such as the PPIP, no significant effects are anticipated as a result of the preferred grid route and Proposed Development combined.

10.4 Cumulative Assessment

- 10.4.1 The hydrological cumulative assessment considered the following schemes that have the potential for hydrological connectivity:
- Proposed Development (submitted);
 - Windy Standard 1 Repower (consented);
 - Windy Standard III Wind Farm (construction);
 - Appin Wind Farm (submitted); and
 - Shepherds Rigg (consented).
- 10.4.2 The construction and subsequent operation of the schemes outlined above as well as the preferred grid route and the associated Proposed Development has the potential to cumulatively affect the hydrological, hydrogeological and geological environment, specifically, potential impacts on water quality and surface water resources.
- 10.4.3 However, these wind farm developments are at various stages of development and would unlikely be concurrent in terms of construction. It is assumed that detailed mitigation and monitoring plans (following industry good practice) would be fully implemented for each development. Therefore, it is expected that any cumulative effects would be of minor significance and not significant.

10.5 Conclusion & Recommendations

- 10.5.1 The assessment has identified that the preferred grid route may result in effects on the following receptors:
- carbon-rich soils and peat;
 - surface water hydrology;
 - Benloch Burn DWPA; and
 - PWS.
- 10.5.2 It is recommended that a peat depth survey is undertaken for the preferred grid route to inform the design and site wooden poles away from deep peat deposits. PWSRA is recommended to determine the potential impacts to any nearby PWSs and the level of mitigation required. Depending on the outcome of other discipline surveys (e.g. NVC habitat survey), a GWDTE assessment may be required to assess the presence of actual GWDTE relative to the preferred grid route.
- 10.5.3 It is concluded that through the implementation of the proposed mitigation measures such as using existing tracks where possible and micro-siting wooden poles, preparation of a S&PMP, as well as adherence to the PPIP, and the implementation of good practice mitigation, that there would be no significant effects upon water environment receptors resulting from the preferred grid route alone or combined with the Proposed Development or other cumulative development.



Figures

Figure 1.1: Site Constraints

Figure 5.1: The Preferred Grid Route (Western Terminus), 500 m Study Area and heritage assets

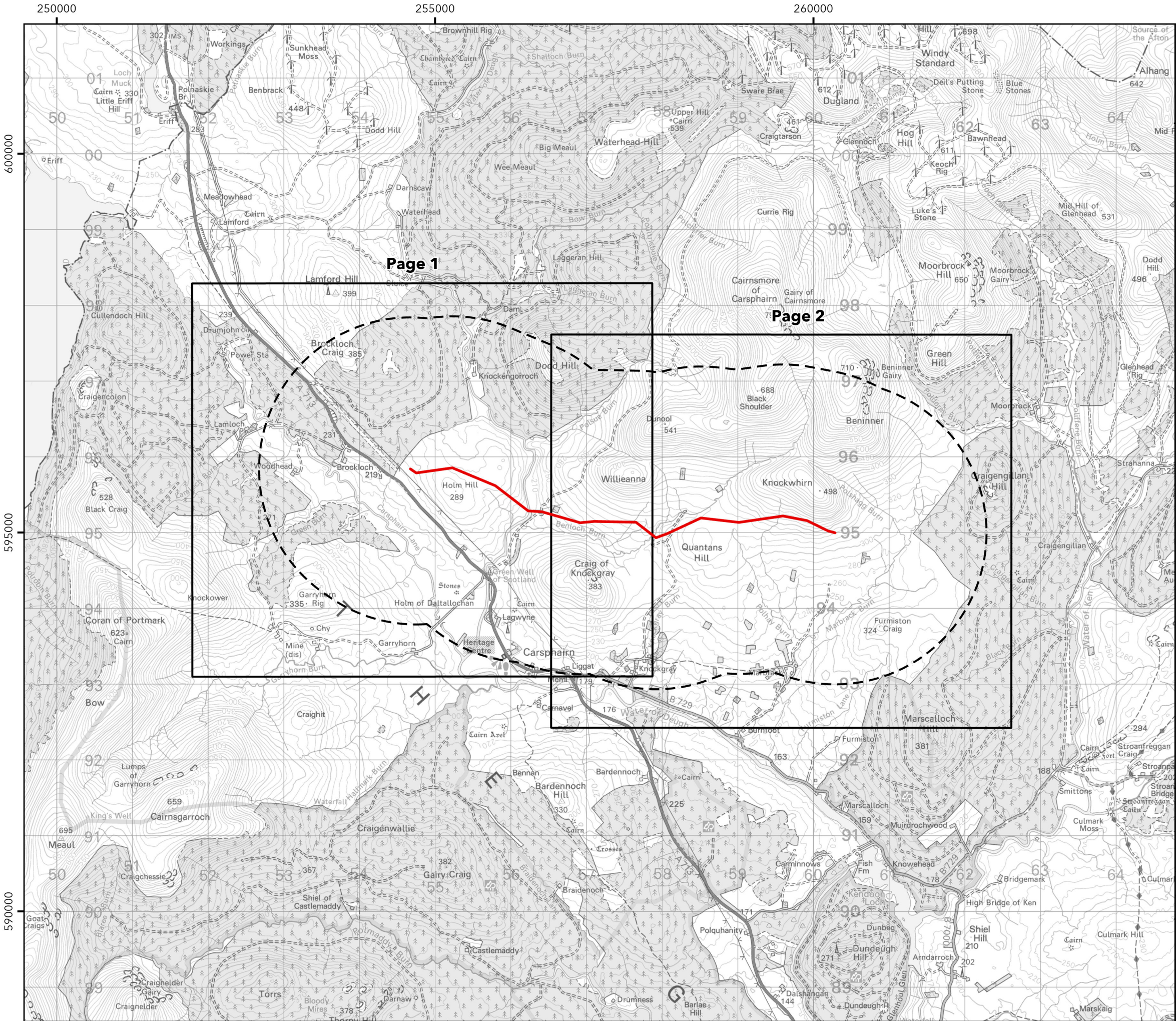
Figure 5.2: The Preferred Grid Route (Western Section), 500 m Study Area and heritage assets

Figure 5.3: The Preferred Grid Route (Middle Section), 500 m Study Area and heritage assets

Figure 5.4: The Preferred Grid Route (Eastern Section), 500 m Study Area and heritage assets

Figure 5.5: The Preferred Grid Route (Eastern Terminus), 500 m Study Area and heritage assets

Figure 5.6: The Preferred Grid Route, 2 km Study Area and designated / HER National heritage assets



Project:
Quantans Hill Additional Information: Grid Route Feasibility

Title:
Figure 1.1: Site Constraints Overview

Key
Preferred grid route
Distance from preferred grid route (2 km study area)

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Scale @ A3: 1:50,000
Coordinate System: British National Grid
0 0.5 1 1.5 2 km

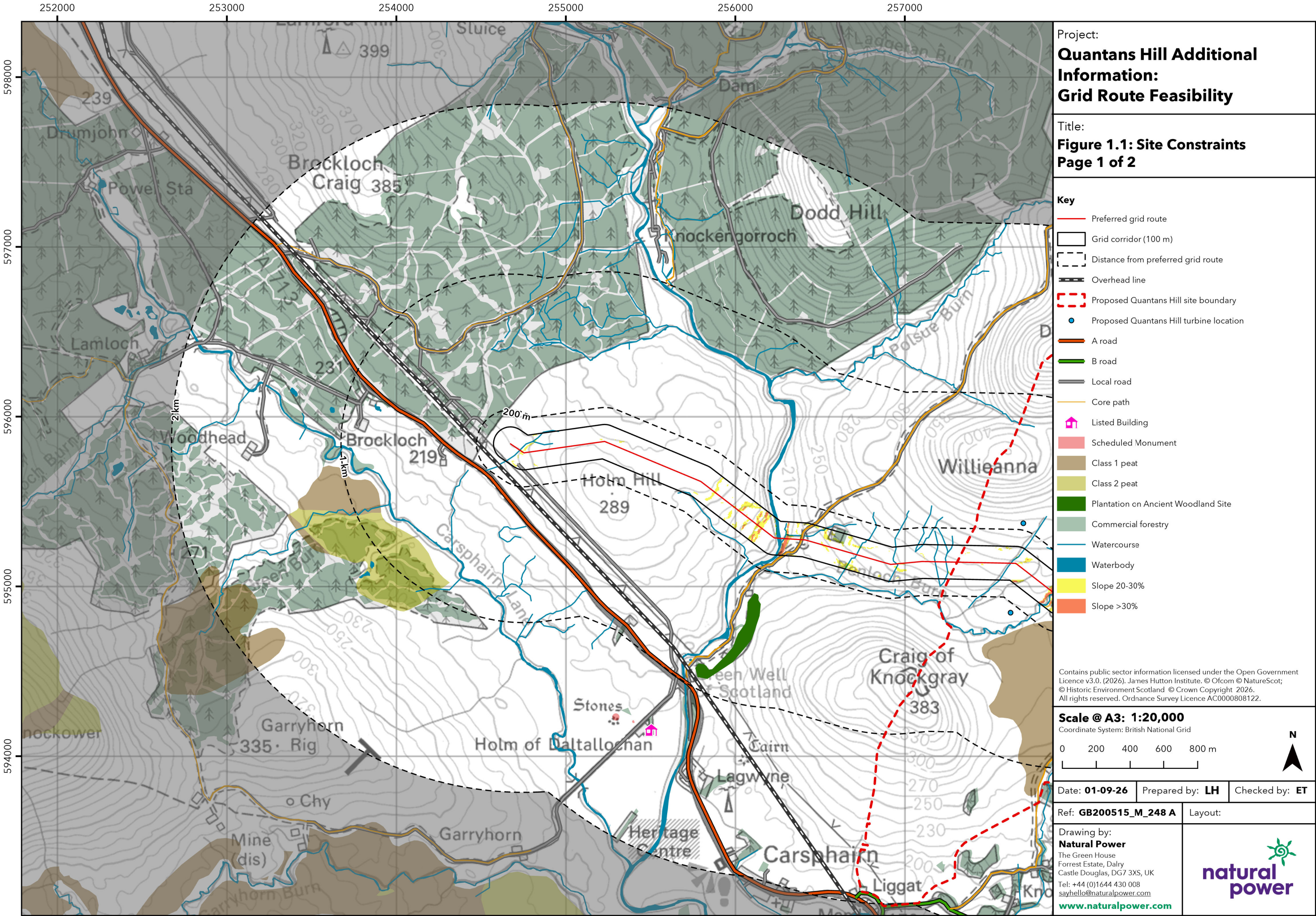
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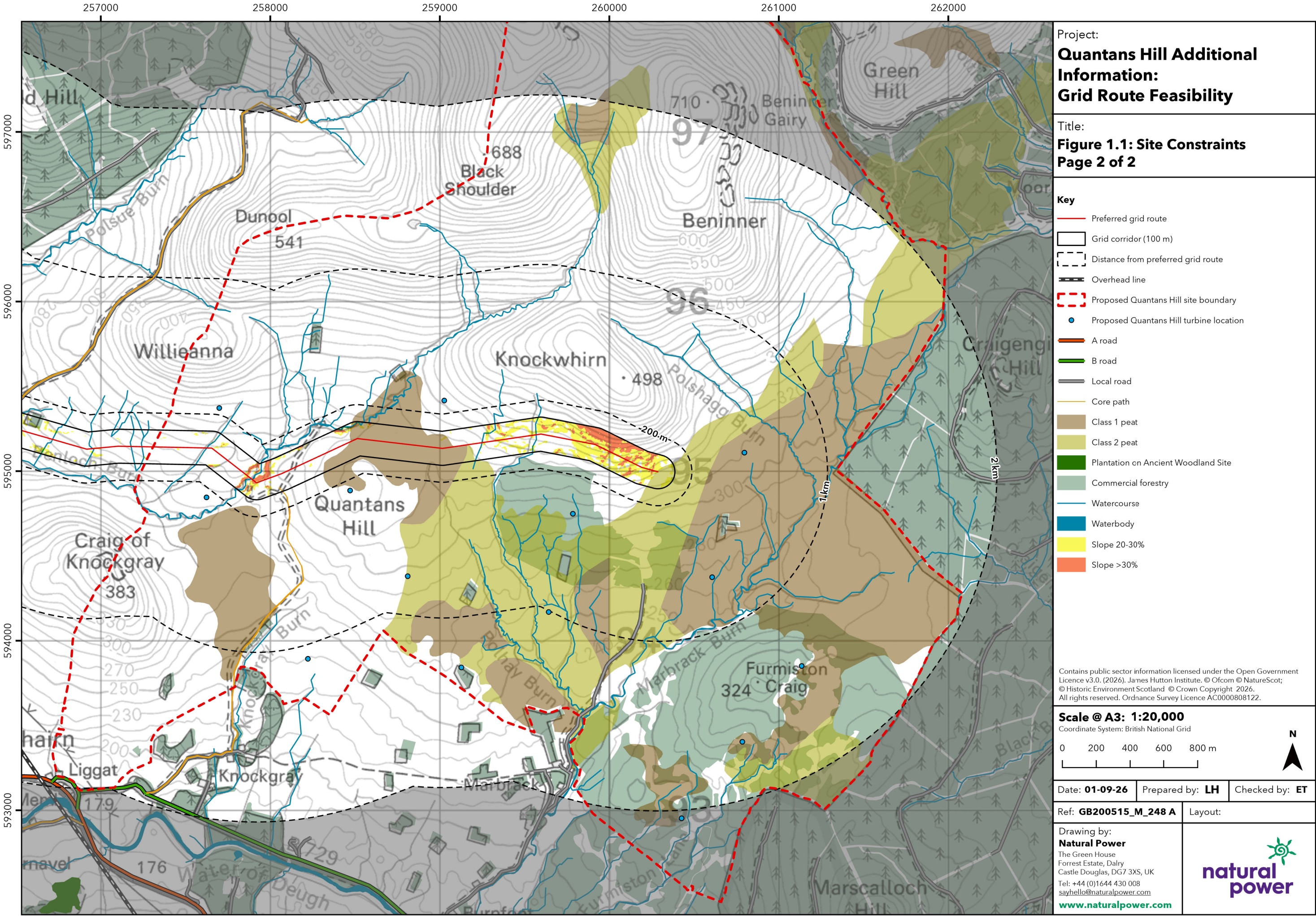
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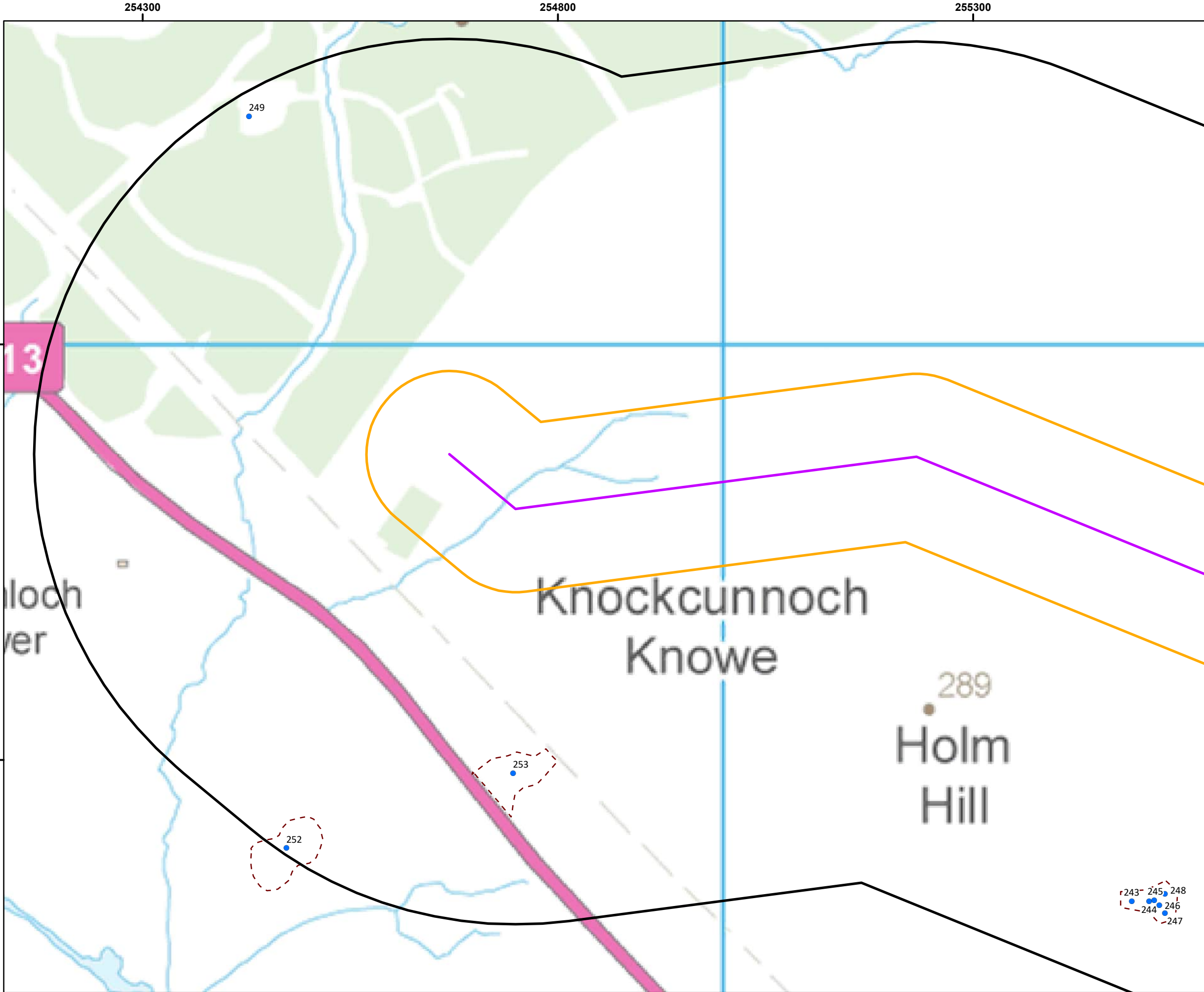


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Project:
**Quantans Hill Wind Farm,
Dumfries & Galloway**

Title:
**Figure 5.1: The Preferred Grid
Route (Western Terminus), 500m
Study Area and heritage assets**

- Key**
- Preferred Grid Route
 - Grid Corridor (100m)
 - Preferred Grid Route 500m Study Area
 - HER Area
 - Non-Designated Heritage Asset

Scale @ A3: 1:4,500
Coordinate System: British National Grid
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0 0.05 0.1 0.15 0.2 km

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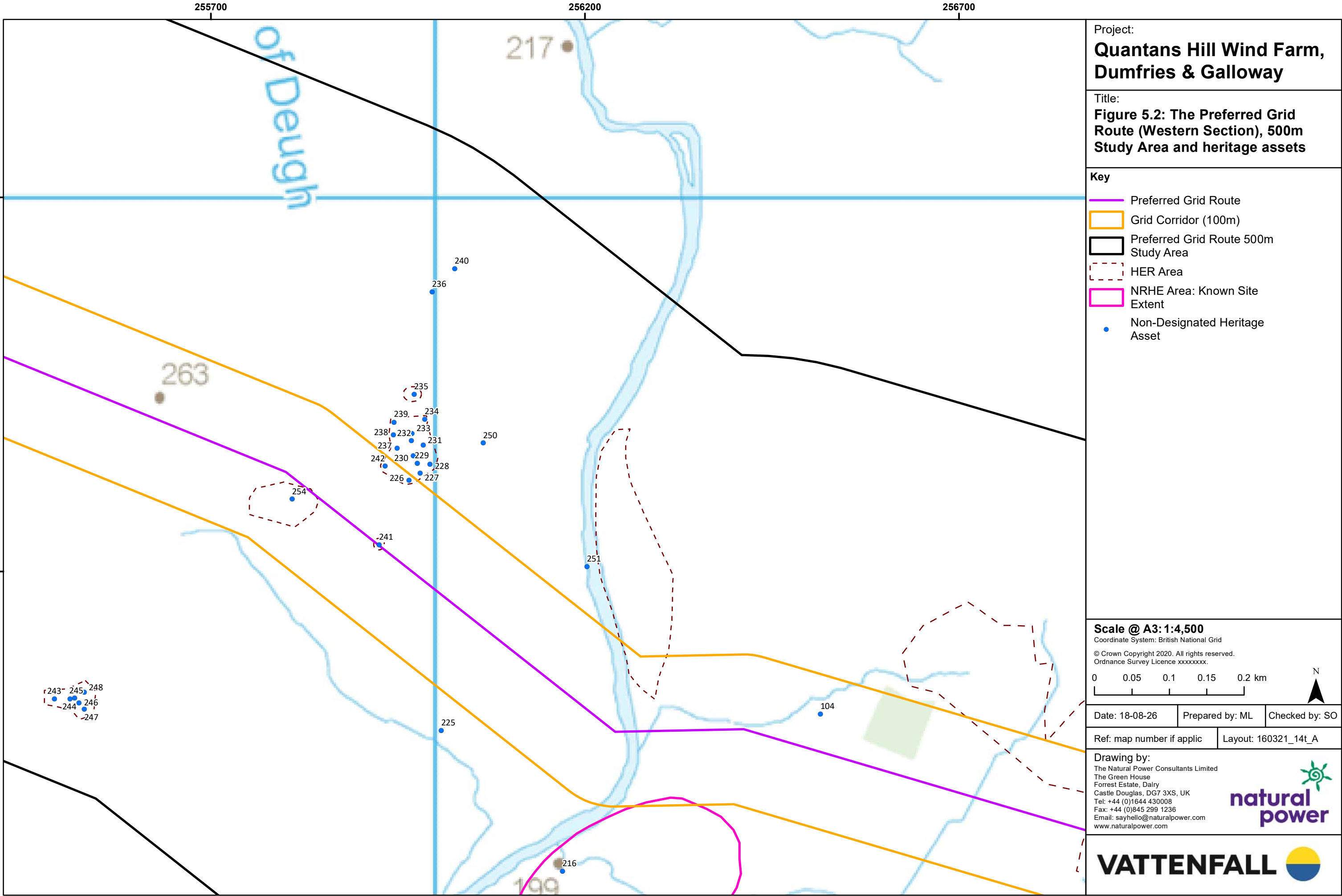
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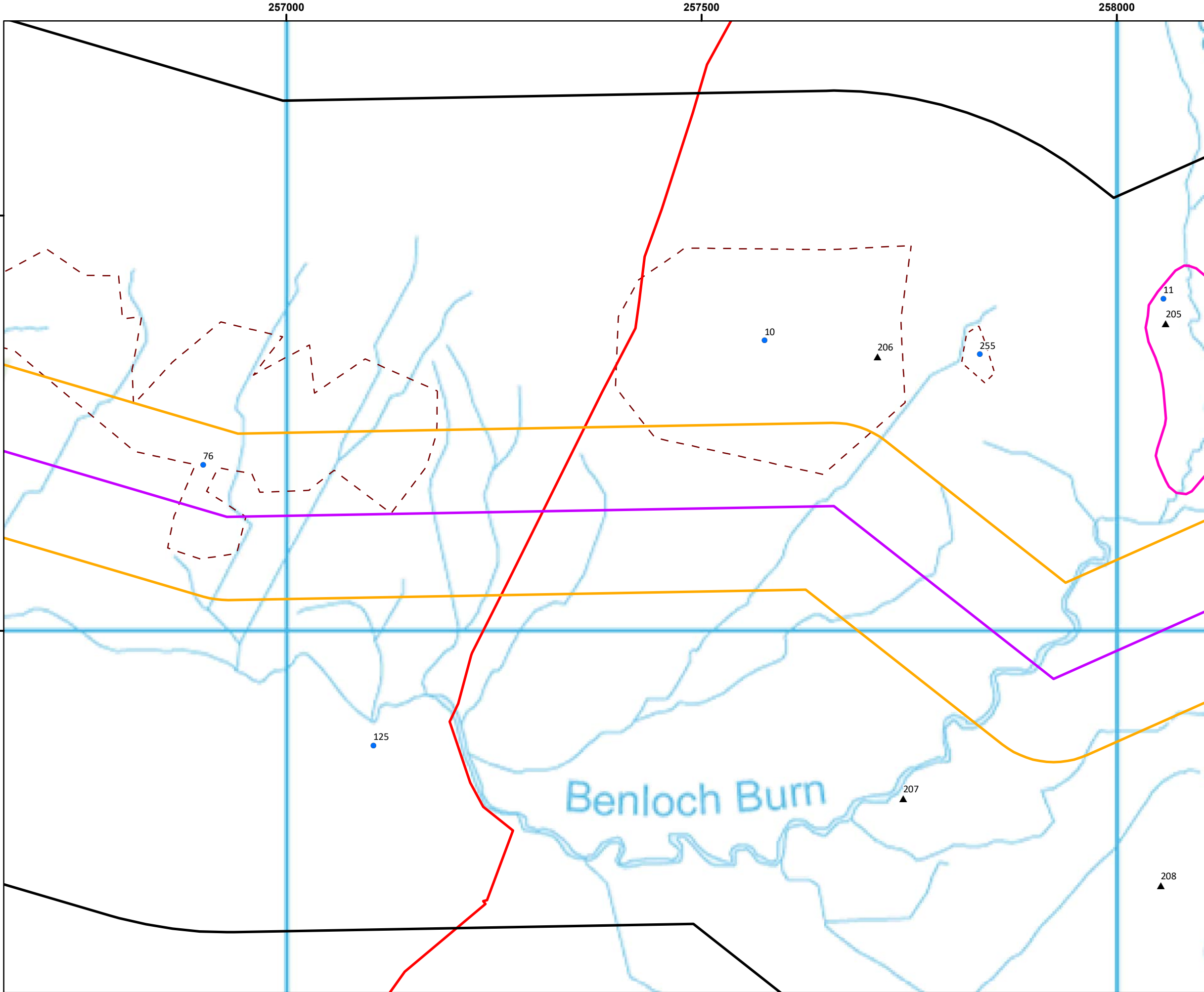
Ref: map number if applic Layout: 160321_14t_A

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natural power

VATTENFALL





Project:
**Quantans Hill Wind Farm,
Dumfries & Galloway**

Title:
**Figure 5.3: The Preferred Grid
Route (Middle Section), 500m
Study Area and heritage assets**

Key

Preferred Grid Route

Grid Corridor (100m)

Preferred Grid Route 500m
Study Area

Proposed Wind Farm
Development Site

NRHE Area: Known Site
Extent

HER Area

Non-Designated Heritage
Asset

LiDAR Feature

Scale @ A3: 1:4,500
Coordinate System: British National Grid
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00.050.10.150.2

km

N

Date: 18-08-26

Prepared by: ML

Checked by: SO

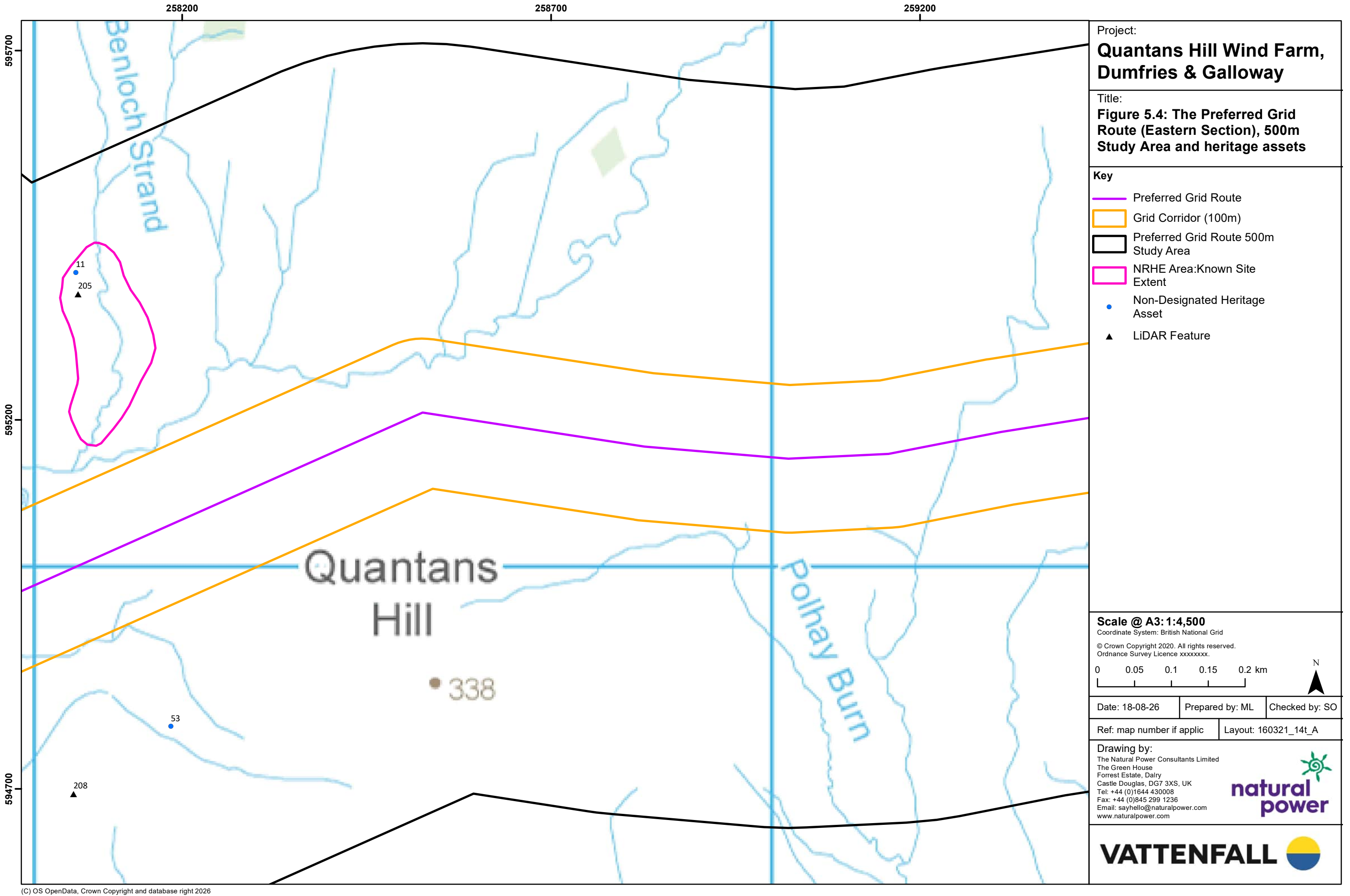
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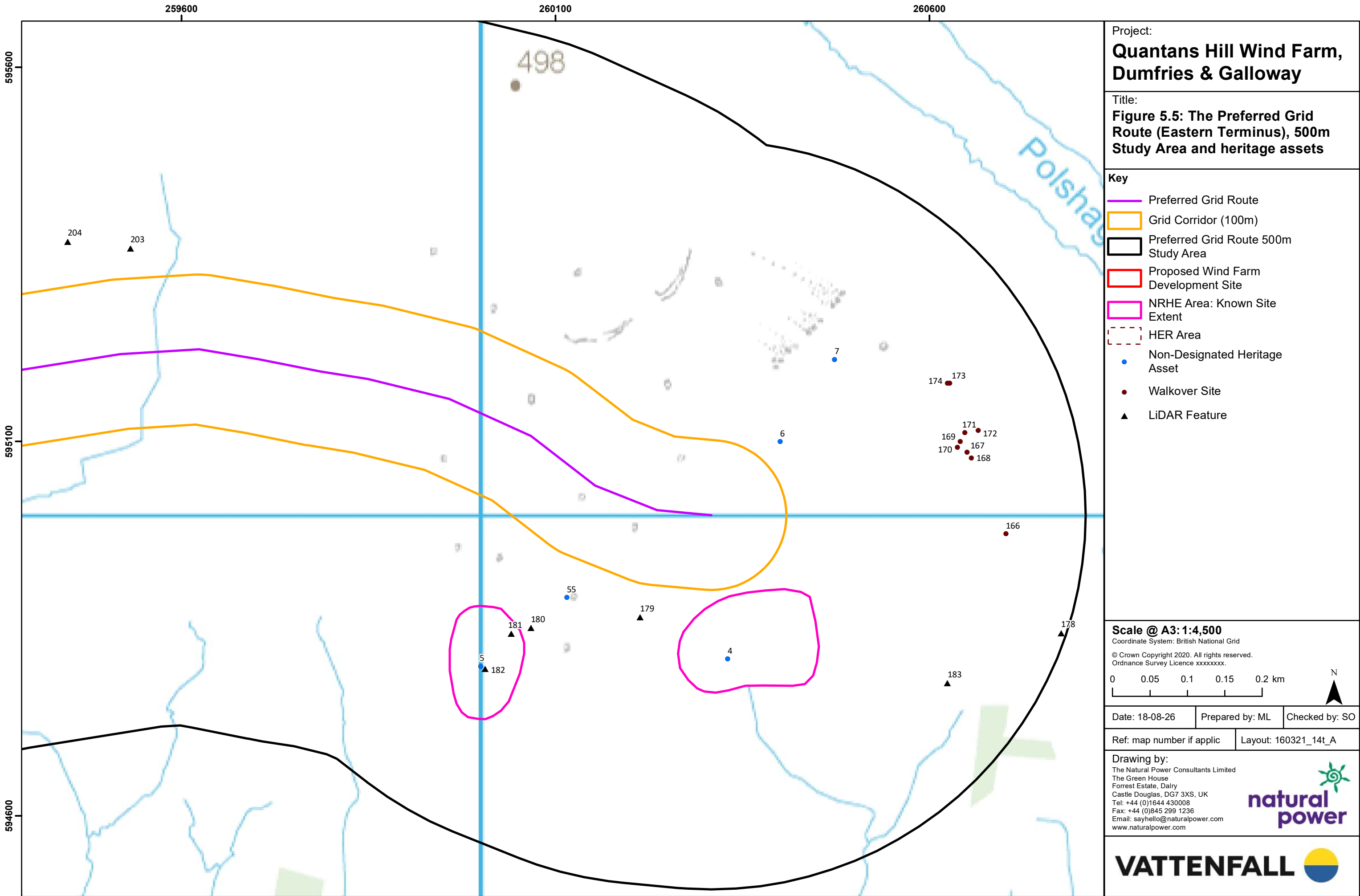
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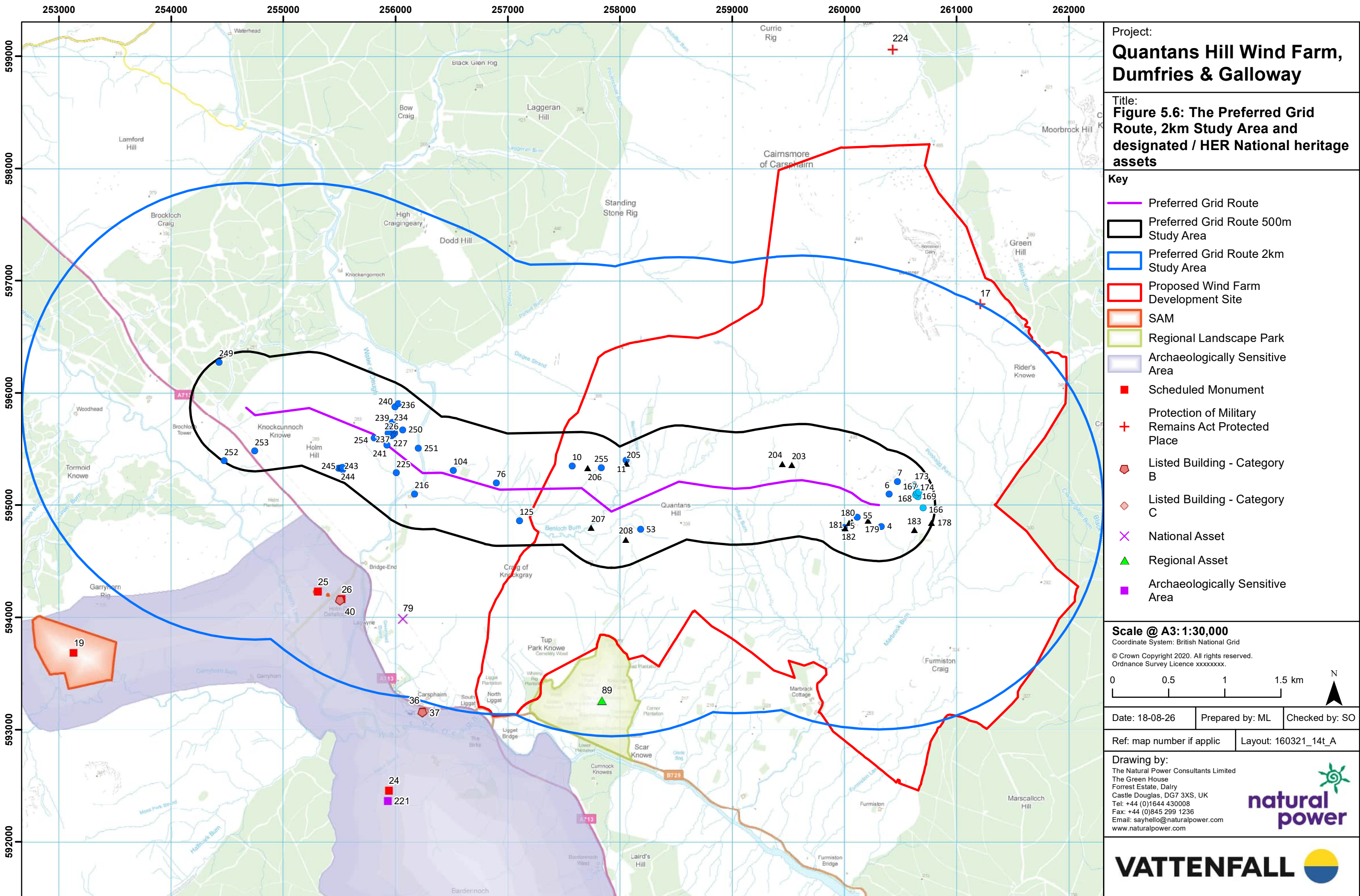
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Appendix A: Ranking Matrix

Quantans Hill Wind Farm Additional Information_ Appendix A RAG Ranking Matrix

		Risk Rating			
Topic	Constraint Description	Green (1) Unlikely to lead to a consenting risk with or without mitigation	Amber (2) Likely to result in some consenting risk but mitigation unlikely to be required	Red (3) Moderate consenting risk and mitigation required	Black (4) High consenting risk and mitigation required and / or mitigation is complex or costly
Ecology	Proximity to sites which are designated for species or habitats which are sensitive to disturbance or loss impacts (e.g. Site of Special Scientific Interst (SSSI), Special Protection Area (SPA), Special Area of Conservation (SAC), Ramsar Sites , Ancient Woodland Inventory (AWI), priority habitats such as watercourses and wetlands.	There are no designated ecological areas of protection (SSSI, SPA, SAC, Ramsar Sites, AWI, Priority Habitats etc) within the grid corridor (the 100 m width corridor between Quantans Hill onsite substation and the Holm Hill substation) or within 2km of the grid route.	The grid corridor area does not overlap but is within 2 km of designated ecological areas of protection whereby there is connectivity to protected habitats or species and potential route to impact.	The grid corridor area overlaps designated ecological areas of protection and there is potential of connectivity between protected features and sources of disturbance or loss, or features that are considered to be highly sensitive to disturbance. Predicted disturbance or loss impacts may result in adverse effects on site integrity.	The grid corridor area overlaps designated ecological areas of protection and there is a high likelihood of connectivity between protected features and sources of disturbance or loss, or features that are considered to be highly sensitive to disturbance. Predicted disturbance or loss impacts are likely to result in adverse effects on site integrity.
Ornithology	Proximity to sites which are designated for species or habitats which are sensitive to disturbance or loss impacts (e.g. Site of Special Scientific Interst (SSSI), Special Protection Area (SPA), Special Area of Conservation (SAC), Ramsar Sites , Ancient Woodland Inventory (AWI), priority habitat .	There are no designated ornithological areas of protection (SSSI, SPA, SAC, Ramsar Sites, AWI, Priority Habitats etc) within the grid corridor (the 100 m width corridor between Quantans Hill onsite substation and the Holm Hill substation) or within 2 km of the grid route.	The grid corridor area does not overlap but is within 2 km of designated ornithological areas of protection whereby there is connectivity to supporting habitats or species and potential route to impact.	The grid corridor area overlaps designated ornithological areas of protection and there is potential of connectivity between protected features and sources of disturbance, or features that are considered to be highly sensitive to disturbance. Predicted disturbance impacts may result in adverse effects on site integrity.	The grid corridor area overlaps designated ornithological areas of protection and there is a high likelihood of connectivity between protected features and sources of disturbance, or features that are considered to be highly sensitive to disturbance. Predicted disturbance impacts are likely to result in adverse effects on site integrity.
Hydrology	Presence of watercourses, wetlands and hydrological features including carbon-rich soils, peat, river basin districts, drinking water protected areas (DWPAs), flood risk, slopes.	There are no sensitive hydrological features (presence of wetlands and hydrological features including carbon-rich soils, peat, river basin districts, drinking water protected areas (DWPAs), flood risk, slopes etc) within the grid corridor (the 100 m width corridor between Quantans Hill onsite substation and the Holm Hill substation) or within 1 km of the grid route	The grid corridor area does not overlap but is within 1 km of sensitive hydrological features or areas whereby there is connectivity with water bodies and potential route to impact.	The grid corridor area overlaps sensitive hydrological features. There is potential of connectivity between features that are considered to be highly sensitive to disturbance. Predicted impacts may result in adverse effects.	The grid corridor area overlaps sensitive hydrological features. There is a high likelihood of connectivity between features that are considered to be highly sensitive to disturbance. Predicted impacts are likely result in adverse effects and would result in unavoidable impacts on water quality or resources.
Settlements and Dwellings	Proximity to residential receptors and settlements and dwellings. Dwellings within 200 m of the cable corridor.	There are no settlements nor dwellings within the grid corridor (the 100 m width corridor between Quantans Hill onsite substation and the Holm Hill substation) or within 200 m of the grid route.	There are settlements and dwellings within 200 m of the grid route but none within the grid corridor.	There are settlements and dwellings in the grid corridor and impacts may result in adverse effects.	There are densely populated settlements and several dwellings within the grid corridor and impacts are likely to result in adverse effects.
Landscape and Visual	Impact on landscape and visual receptors such as National Scenic Areas (NSAs) (if applicable), Special Landscape Areas (SLAs), Landscape Character Areas (LCAs), Wild Land Areas (if applicable) and Local Landscape Areas (LLAs).	There are no designated areas of protection (NSAs, SLAs, LCAs, LLAs, Wild Land Areas etc) within the grid corridor (the 100 m width corridor between Quantans Hill onsite substation and the Holm Hill substation) or within 2 km of the grid route.	The grid corridor area does not overlap a designated area/s but is within 2 km of designated area/s. There is potential for visual impacts to residential properties/settlements and/or other visual receptors.	The grid corridor area does overlap a designated area/s. There is potential for visual impacts to residential properties/settlements and/or other visual receptors.	The grid corridor area overlaps designated areas and is within close proximity to residential properties/settlements. There is a high likelihood of adverse effects on visual receptors.
Cultural Heritage	Presence of known and designated cultural heritage assets including Scheduled Monuments (SM), Listed Buildings (LB), Conservation Areas, Inventory Gardens and Designed Landscapes and Inventory of Battlefields and World Heritage Properties.	There are no designated cultural heritage areas or designated heritage assets (Scheduled Monuments (SM), Listed Buildings (LB), Conservation Areas, Inventory Gardens and Designed Landscapes and Inventory of Battlefields and World Heritage Properties etc) within the grid corridor (the 100 m width corridor between Quantans Hill onsite substation and the Holm Hill substation) or within 1 km of the grid route.	The grid corridor area does not overlap designated cultural heritage areas or designated heritage assets but is within 1 km of designated cultural heritage area/s or designated assets .	The grid corridor area overlaps designated cultural heritage areas and/or there are designated asset/s within the grid corridor. Predicted impacts may result in adverse effects .	The grid corridor area overlaps designated cultural heritage areas or designated heritage assets and there is a high likelihood. Predicted impacts are likely result in adverse effects on site integrity.
Infrastructure	Presence of infrastructure such as major infrastructure crossings (e.g. railways, roads), existing overhead lines and substations.	There is no infrastructure present within the grid corridor (the 100 m width corridor between Quantans Hill onsite substation and the Holm Hill substation) or within 200 m of the grid route.	The grid corridor area does not overlap but is within 200 m of infrastructure .	The grid corridor overlaps infrastructure. Avoidance of infrastructure through refined cable routing and/or mitigation required.	The grid corridor overlaps infrastructure and may result in unavoidable direct impacts on infrastructure where mitigation may be complicated and/or costly (e.g. if the grid corridor runs through an airfield).
Core paths and Rights of Way	Presence of core paths, Public Rights of Way (PRoW) .	There are no core paths, PRoWs etc within the grid corridor (the 100 m width corridor between Quantans Hill onsite substation and the Holm Hill substation) or within 200 m of the grid route.	The grid corridor area does not overlap but is within 200 m of core paths or PRoWs.	The grid corridor overlaps with core paths and/or RoW. Avoidance of through refined cable routing and/or mitigation required (e.g. temporary or permanent diversions).	Unlikely to constitute a black constraint as most impacts to core paths and/or RoW can be mitigated.
Forestry	Presence of forestry blocks	There are no forestry blocks within the grid corridor (the 100 m width corridor between Quantans Hill onsite substation and the Holm Hill substation) or within 200 m of the grid route.	The grid corridor area does not overlap but is within 200 m forestry blocks. No felling of forestry required.	The grid corridor area overlaps forestry blocks. Small scale felling of forestry required but mitigation/compensation may not be required.	The grid corridor area overlaps forestry blocks. Large scale felling of forestry required. Mitigation/compensation will be required. Forestry is not a specific EIA requirement so would not consitute a black constraint but landowner agreements and/or agreements with forestry managers will need to be agreed.



Appendix B: RAG Analysis

Quantans Hill Wind Farm Additional Information Appendix B_ 'Preferred' Grid Route' RAG Analysis						
Scoring						
1	Unlikely to lead to a consenting risk with or without mitigation					
2	Likely to result in some consenting risk but additional mitigation unlikely to be required					
3	Moderate consenting risk and additional mitigation required					
4	High consenting risk and mitigation required and / or mitigation is complex or costly					
Topic	Constraint Description	Risk Rating	Justification	Potential Mitigation	Risk Rating After Mitigation	Justification
Ecology	Proximity to sites which are designated for species or habitats which are sensitive to disturbance or loss impacts (e.g. Site of Special Scientific Interest (SSSI), Special Protection Area (SPA), Special Area of Conservation (SAC), Ramsar Sites, Ancient Woodland Inventory (AWI), priority habitats such as watercourses and wetlands.	1	The preferred grid route does not directly overlap any designated ecological sites, including SACs or SSSIs and there are none within the grid corridor or within 2 km of the grid route. Although the route passes through forestry and peatland habitats that may support ecological receptors, no significant ecological constraints have been identified through the desk-based review. The preferred cable route also lies within the 'transition buffer' of the Galloway and Southern Ayrshire United Nations Educational, Scientific and Cultural Organization (UNESCO) Biosphere Reserve. Biosphere reserves are non-statutory designations and are accolades awarded by UNESCO to recognise areas balancing sustainable development and conservation. They rely on pre-existing statutory protections such as SSSIs and SACs and the transition buffer of a Biosphere reserve is a flexible area where communities and economic activities can exist as long as those activities align with overarching conservation and sustainability goals. As there are no statutory ecological designations within 2 km, the preferred route does not present a significant ecological constraint at this stage.	Walkover surveys are required to determine potential impacts to habitats or species within the grid corridor, if any.	1	If required, mitigation measures will reduce adverse effects on sensitive ecological receptors.
Ornithology	Proximity to sites which are designated for species or habitats which are sensitive to disturbance or loss impacts (e.g. SSSI, SPA, SAC, Ramsar Sites, AWI, priority habitat.	1	The preferred grid route does not directly overlap any designated ornithological sites, including SPAs or SSSIs or SAC or Ramsar Sites or AWI or RSPB Important Bird Areas and there are none within the grid corridor or within 2 km of the grid route. Although the route passes through areas that may provide supporting habitat for bird species, no significant ornithological constraints have been identified through the desk-based review.	Surveys to determine potential impacts to birds or supporting habitats.	1	If required, mitigation measures will reduce adverse effects on sensitive ornithological receptors.
Hydrology, Hydrogeology and Geology	Presence of surface water receptors including WFD waterbodies, groundwater bodies, water resources (PWS and drinking water protected areas (DWPA's)) , GWDTEs, carbon-rich soils, peat and peatland and flood risk.	3	The preferred grid route crosses a number of watercourses and passes through areas of Class 1 carbon-rich soils and peatland. The central section of the grid route and corridor passes through Class1 peat which is nationally important carbon-rich soils, deep peat and priority peatland habitat. Class 1 areas are likely to be of high conservation value. However, the grid route predominantly intersects Class 3 soils which are not regarded as of national importance. However, peat depth and conditions surveys should be undertake to further inform and microsite the final design. There is one DWPA (Benloch Burn) within the grid corridor which supplies potable water to Carsphairn using a Scottish Water intake. The route alignment indicates two direct crossings of main watercourses within the central section of the route which are the Benloch Burn and Water of Deugh as well as some of their tributaries and the tributaries of Polhay Burn to the south. PWSs may be present along the grid route, therefore, further assessment of PWS is required, and, if necessary, a PWSRA is also recommended to determine whether there is a hydrological linkage between the proposed grid route and identified PWS. There is limited surface water flooding although the two main watercourses have a high likelihood of river flooding. Few additional watercourses are present within the grid corridor however, the wider 1 km study area, no other crossings of watercourses are anticipated. GWDTE may be present within the grid route, however NVC surveys would be required to determine if there are potential GWDTE habitat followed by a GWDTE assessment to conclude if they are actual GWDTE.	Microsite the grid route excavation areas away from areas of deeper peat and watercourses. Adherence to the QH wind farm PPIP. Good practice and mitigation measures would be presented in a Soil & Peat Management Plan (S&PMP), Pollution Prevention Plan (PPP) and Construction Environmental Management Plan (CEMP). Preparation of a PWS method statement (PWSMS) subject to the outcome of the PWSRA.	1	Further investigations in the form of peat depth and condition surveys, NVC surveys, PWS surveys (subject to the PWSRA) would provide more site specific information regarding constraints and allow for embedded mitigation to inform the design of the grid route.
Settlements and Dwellings	Proximity to residential receptors and settlements and dwellings. Dwellings within 200 m of the cable corridor.	1	There are no settlements nor dwellings within the grid corridor or within 200 m of the grid route.	N/A	1	no mitigation required as there are no settlemtns within 200m of grid corridor.
Landscape and Visual	Impact on landscape and visual receptors such as National Scenic Areas (NSAs) (if applicable), Special Landscape Areas (SLAs), Landscape Character Areas (LCAs), Wild Land Areas (if applicable) and Local Landscape Areas (LLAs).	3	The entirety of the preferred grid route lies within the Galloway Hills Local Landscape Area (LLA), with the route, the grid corridor and and the majority of the 2 km grid study area falling within the designated landscape. The Galloway Hills are designated as a Regional Scenic Area and largely fall within the bounds of the Galloway Forest Park and the Galloway and South Ayrshire Biosphere. This vast, remote upland area is comprised of three primary glacier-carved ridges. This designation is a local council designation, any development here is strictly governed by the Dumfries and Galloway Council to protect its scenic value, with proposals required to demonstrate appropriate scale, design, and low-carbon credentials. However, the surrounding landscape already contains a number of operational and consented wind farms, associated overhead line infrastructure and forestry operations. As a result renewable energy infrastructure already forms a component of the wider landscape character. The route also lies within the transition area of the Galloway and Southern Ayrshire UNESCO Biosphere Reserve. Biosphere Reserves are non-statutory UNESCO designations that recognise areas where conservation, sustainable development and community use are successfully integrated. As the route lies within the transition area rather than the core or buffer zones, and the designation is not specifically intended to protect landscape character or visual amenity, it is not considered to represent a significant landscape constraint. There are no other landscape designations identified within 2 km of the grid route. Potential visual receptors include residents of Carsphairn and isolated dwellings. The closest dwelling 'Brockloch' is approximately 0.8 km from the grid corridor. And Carspairn is approximately 1.8 km from the gid corridor. This could have localised potential impacts but these would need to be further assessed in a landscape and visual assessment. Other visual receptors of the grid route would include users of the A713 and local minor roads, walkers or cyclists on core paths including - Cairnsmore of Carsphairn by the Green Well (487) - Cairnsmore of Carsphairn by Craig of Knockgrey (182) - Carsphairn Forest and Knockengoroch (594) The Carsphairn paths from ariel imagery look like they travel through forestry blocks which could naturally screen the views of the grid route but also are within very close proximity to the 'Windy Standard Complex' so they would already have views of renewable infrastructure.	Careful route alignment and micrositing should seek to avoid visually prominent locations such as ridgelines and skylines where practicable, and maximise the use of existing forestry and landform to provide natural screening. Grid poles should be located away from sensitive visual receptors, including nearby dwellings and recreational routes, where practicable. Good practice mitigation measures should include a detailed Landscape and Visual Impact Assessment (LVIA) to inform route refinement and micrositing A CEMP to minimise temporary construction effects and ensure appropriate reinstatement following construction.	2	Mitigation measures will reduce potential for negative impacts on visual receptors.
Cultural Heritage	Presence of proximate designated heritage assets.	1	There are no known designated cultural heritage areas or designated heritage assets (Scheduled Monuments (SM), Listed Buildings (LB), Conservation Areas, Inventory Gardens and Designed Landscapes and Inventory of Battlefields and World Heritage Properties etc) within the grid corridor or within the 1 km buffer of the grid route. Cultural Heritage would therefore be unlikely to lead to a consenting risk with or without mitigation. Further out of the 1 km Cultural Heritage study area from the grid route, there are two Scheduled Monuments, one listed building (both Category B) and one HER Archaeologically Sensitive Area where setting effects will need to be assessed. Holm of Daltallochan, cross slab - Scheduled Monument (AOC Asset 25, SM1106); Holm of Daltallochan,stone circle & standing stone - Scheduled Monument (AOC Asset 26, SM1029); Holm of Daltallochan - Listed Building (AOC Asset 40, LB3681); and Bardennoch-Garryhorn - Archaeologically Sensitive Area (AOC Asset 221). The closest designated heritage asset to the grid corridor is Holm of Daltallochan, cross slab - Scheduled Monument (AOC Asset 26, SM1106) which is approximately 1.3 km from the grid corridor. Due to their distance from the grid route, it is considered unlikely that the proposed grid route would result in adverse effects on the Scheduled Monument or Listed Building.	No designated heritage assets have been identified within the grid corridor or within 1 km of the grid corridor. Good practice mitigation should include archaeological assessment during detailed design to identify any previously unrecorded remains, together with a Written Scheme of Investigation (WSI). A CEMP to manage any unexpected discoveries during construction.	1	Mitigation measures will reduce potential for negative impacts on cultural heritage assets. It is recommended that the Proposed OHL and any associated works are micrositied away from the area of the undated sub-square structure and clearance cairns at Willieanna (Asset 76), the possible cairnfield (Asset 254) and a cairn (Asset 241). It is recommended that a walking survey should be undertaken along the Proposed Grid Route to identify any previously unrecorded heritage assets and identify areas, The walkover survey should also identify the requirement for any heritage assets that would need to be fenced off from construction associated with the Proposed Grid Route and areas that should be subject to an Archaeological Watching Brief. It is recommended that all known heritage assets within 50 m of the grid corridor and any associated working areas should be fenced off with a visible buffer under archaeological supervision prior to the start of the construction phase in order to avoid accidental damage by heavy plant movement.
Roads	Presence of roads	3	A single A road (A713) passes through the western and southern parts of the study area on a broadly north-west to south-east alignment, running south of the proposed grid corridor and passing through the vicinity of Carsphairn. The A713 provides the primary access route to the grid corridor and is likely to accommodate the majority of construction traffic. The temporary traffic disruption may occur during construction but the impacts would be considered temporary. A short section of unclassified road (Single Carriageway) is present to the south on the grid corridor and runs parallel to the A713. This section of road appears to end within close proposed Holm Hill Substation and could be used for potential access (subject to any required road improvements/upgrades). The end section of the this road extends into the grid corridor. A unclassified road (Single Carriageway) runs through (south to north) the grid corridor and the preferred grid route. This road is likely used as a Restricted Local Access Road and runs to the top of the hill 'Cairnsmore of Carspahirn'. The two unclassified roads should be avoided where practicable through detailed route alignment. There would also need to be consideration for road closures during construction.	Where road crossings are unavoidable, crossing locations should be selected to minimise disruption to road users. Good practice mitigation measures should include a Construction Traffic Management Plan (CTMP) to manage construction traffic, potential temporary road closures and traffic management	1	Mitigation measures will reduce potential for negative impacts on road users (A road and unclassified roads). Impact will be temporary only during construction.
Infrastructure	Presence of infrastructure	2	An existing overhead line is present within the study area (i.e. within 200 m of the grid route but not within the grid corridor), crossing the western part of the study area on a north-west to south-east alignment. The overhead line passes to the west of the proposed grid corridor. The presence of existing overhead line within the wider landscape demonstrates that overhead line infrastructure is already a feature in the area. No other infrastructure is within 2 km of the grid route.	Detailed surveys to determine existing infrastructure along cable route. Detailed design should maintain a safe distance from the existing overhead line.	1	Further investigation required and mitigations could be put in place.
Core paths and Rights of Way	Presence of core paths, Public Rights of Way (PROW) .	3	Several Public Rights of Way (i.e. Core paths) are present within the study area (i.e within 200 m of the grid route), generally following north-south alignments and connecting to the surrounding rural road network and upland landscape. Two Public Rights of Way are present within the proposed grid corridor, one that crosses the central-western section of the corridor and cable route and a second that terminates within the grid corridor in the central-eastern section. There are no National Trails within 2 km of the grid route. The following paths are present within the study area: *Cairnsmore of Carsphairn by the Green Well (487) *Cairnsmore of Carsphairn by Craig of Knockgrey (182)	Implementation of temporary path management measures, including diversions or short-duration closures where required for health and safety reasons. Advance notification of any temporary restrictions to path users and relevant stakeholders. Reinstatement of any paths or adjacent land disturbed during construction to their original condition, or better, following completion of the works. Adoption of good construction practice, including management of construction traffic and storage areas, to minimise disturbance to recreational users.	1	Mitigations could be put in place.
Forestry	Presence of forestry blocks	2	The grid corridor is predominantly located within open moorland, with extensive commercial forestry situated immediately to the west of the corridor. A small isolated woodland block is present within the vicinity of the proposed Holm Hill Substation and would require consideration during detailed route alignment and pole micrositing to avoid direct impacts where practicable. The forestry provides opportunities for natural screening of the preferred grid route from the west and may also offer potential construction access via the existing forestry track network. The forestry is within the windfarm site of 'The Windy Standard Complex'. There is no forestry block within the grid corridor or within 200 m of the grid route which is Ancient Woodland (of semi-natural origin). Further out within 1 km of the grid route, an area of Plantation on Ancient Woodland covers 4 hectares and is approximately 246 m distance from the grid corridor. No direct or indirect impacts on the Ancient Woodland are anticipated.	Consideration given during detailed design and construction planning to avoid indirect effects. This may include ensuring that temporary construction activities, access arrangements and material storage areas are located outside woodland boundaries and avoiding unnecessary vegetation clearance.	1	Through careful route alignment and micrositing, avoid the need for any forestry disturbance where practicable.



Appendix C: Cultural Heritage Gazetteer

Asset / Event Number	Asset / Event Name	Status	NRHE / HER Reference	Classification	Period	Easting	Northing	Description
4	Marbrack Burn	Non-Designated Heritage Asset	177487 / MDG15850	Enclosure (Period Unassigned), Wall (Period Unassigned)		260330	594810	Two enclosures and a short length of wall annotated 'Old Fences' are depicted on the 1st edition of the OS 6-inch map (Kirkcudbrightshire 1853, sheet 5), but they are not shown on the current edition of the OS 1:10000 map (1980). Information from RCAHMS (AKK) 15 September 1999. The two enclosures, along with a sheep fold to the east that is also depicted on the first edition map, are still visible on recent aerial photographs. The short length of wall is not visible, but the area is covered in bracken so it may still survive. Information from DGC (AJN) 11 October 2013
5	Marbrack Burn	Non-Designated Heritage Asset	177488 / MDG15851	Enclosure (Period Unassigned), Sheepfold (Period Unassigned)		260000	594800	One enclosure or field annotated 'Old Fences' and an attached sheepfold annotated 'Sheep Ree' are depicted on the 1st edition of the OS 6-inch map (Kirkcudbrightshire 1853, sheet 5). One enclosure and a sheepfold are shown on the current edition of the OS 1:10000 map (1980). Information from RCAHMS (AKK) 15 September 1999.
6	Knockwhirn	Non-Designated Heritage Asset	64328 / MDG3918	Building (Period Unassigned)		260400	595100	A short distance E of a triskel sheep shelter which lies just within the N end of a circular area of c 3/4 acre, outlined by a low stone circumference, is an oval stone and turf walled house 7 m by 5 m over 1.5 m wide walls, with a faintly turf outlined annexe attached to the S end. F Newall and W Lonie 1987
7	Knockwhirn	Non-Designated Heritage Asset	MDG3918	Building	Post-medieval	260473	595210	A short distance E of a triskel sheep shelter which lies just within the N end of a circular area of c 3/4 acre, outlined by a low stone circumference, is an oval stone and turf walled house 7 m by 5 m over 1.5 m wide walls, with a faintly turf outlined annexe attached to the S end. F Newall and W Lonie 1987



Asset / Event Number	Asset / Event Name	Status	NRHE / HER Reference	Classification	Period	Easting	Northing	Description
10	Willieanna	Non-Designated Heritage Asset	63839	Structure; Clearance Cairn		257576	595350	Rectangular structure 8.23 m E-W x 5.49 m. Group of 10 small cairns on S slope of hill. A 10.0 m diameter ring cairn. Group of 11 small cairns and 5.49 m diameter ring cairn. Also another 5.49 m diameter ring cairn by shepherd's cairn near square tree wind break on SW approach to Willieanna. M L Ansell 1969
11	Benloch Strand	Non-Designated Heritage Asset	MDG15549	Farmstead (Period Unassigned), Field System (Period Unassigned)	Post-medieval	258056	595400	A farmstead annotated 'Ruins of', comprising two small unroofed buildings and one enclosure, and a large enclosure or field annotated 'Old Fence' are depicted on the 1st edition of the OS 6-inch map (Kirkcudbrightshire 1853, sheet 5). Two enclosures are shown on the current edition of the OS 1:10000 map (1981). Information from RCAHMS (AKK) 15 September 1999.
17	Beninner	PMRA Protected Place		Aircraft Crash Site	WW2	261211	596792	Date: 08-NOV-1939 Time: day Type: Bristol Blenheim Mk IV Owner/operator: Special Duties Flt Royal Air Force (Special Duties Flt RAF) Registration: P4848 C/n / msn: Fatalities: 1 / Occupants: 1 Other fatalities: 0 Aircraft damage: Written off (damaged beyond repair) Location: Ben Inner, near Carsphairn, Kirkcudbrightshire - United Kingdom Phase: En route Nature: Military Departure airport: RAF Perth, Scone, Perthshire Destination airport: RAF St. Athan, Cardiff, South Glamorgan Narrative: Bristol Blenheim Mk. IV P4848, Special Duties Flight, RAF Perth: Written off (destroyed) 8/11/39 when crashed on Ben Inner, near Carsphairn, Kirkcudbrightshire. Pilot - Flight Lt Kenneth Norman Masters Eyres (Service Number 34234) - killed. During 8/11/39 the Special Duties Flight, a unit which was testing radio



Asset / Event Number	Asset / Event Name	Status	NRHE / HER Reference	Classification	Period	Easting	Northing	Description
								and radar equipment among other things for the Air Ministry Research Establishment, were ferrying 5 aircraft (4 Blenheims and 1 Battle) from Perth to RAF St Athan. The Battle landed at Blackpool due to poor weather while three of the Blenheims arrived safely at St Athan. The last aircraft, P4848, had not landed at any airfield and was reported as overdue. The crash site was located more than a week later on 17/11/39 on the lower slopes of Ben Inner near Carsphairn. A guard was provided by No.4 AOS at West Freugh while "the special installation" was recovered by personnel from Air Ministry Research Establishment. The special installation was probably a Mk. II Airborne Interception Radar which was first fitted to Blenheims for testing during November 1939. Note that, officially, according to the Air Ministry file on this accident (File AIR 81/1646), Blenheim P4848 was on charge with 32 MU RAF St. Athan (as per link #2), quote: "Blenheim P4848, 32 Maintenance Unit; aircraft accident, 8 November 1939; Flight Lieutenant K N M Eyres: killed".
25	Holm of Daltallochan, stone circle & standing stone	Scheduled Monument	SM1029	Prehistoric Ritual And Funerary: Standing Stone; Stone Circle Or Ring	Prehistoric	255310	594233	This setting of 13 stones cannot be classified with any certainty. The stones, as stated, vary greatly in size and shape and though all appear artificially placed they rest without any apparent regard for grading, orientation or visual effect. No socket depressions are evident. Coles' plan bears little relation to the present setting which forms a crude oval measuring 24.0 m N-S by 20.0m E-W. Surveyed at 1:10 000. Visited by OS (JRL) 27 February 1978
26	Holm of Daltallochan, cross slab	Scheduled Monument	SM1106	Crosses And Carved Stones: Cross Slab		255520	594167	Evidence for discovery: it was found at the farm of Holm of Daltallochan, but local tradition holds that it came from the Cairn of Daltallochan (63857) to the NNW of the farm, when the cairn was robbed of its stones in 1849. Present location: in the garden of Holm of Daltallochan farm.
40	Holm of Daltailochan	Listed Building - Category B	LB3681	Farmhouse	Post-medieval	255504	594152	Later 18th century. 2-storey, wide 3-bay painted coursed rubble farmhouse with dressed margins.



Asset / Event Number	Asset / Event Name	Status	NRHE / HER Reference	Classification	Period	Easting	Northing	Description
53	Quantans Hill structures	Non-Designated Heritage Asset		Curvilinear Dyke And Structure		258185	594785	Curvilinear dyke, approximately 0.7 m wide, can be traced for 25 m. Roughly 22 m to the north is a possible building or sheep bucht, 5 m by 2 m. Headlands Archaeology, Quantans Hill Wind Farm: Environmental Statement; Walkover Survey dates: 2 nd , 3 rd , 4 th , 5 th and 10 th July 2013
55	Knockwhirn clearance cairns	Non-Designated Heritage Asset		Area Of Clearance Cairns		260115	594892	Area of approximately 16 clearance cairns on slopes below an area of natural scree. The stones have been piled into cairns up to 3 m in diameter and 0.6m high. Some of the cairns are piled around natural large rock outcrops. Headlands Archaeology, Quantans Hill Wind Farm: Environmental Statement; Walkover Survey dates: 2 nd , 3 rd , 4 th , 5 th and 10 th July 2013
76	Willieanna	Non-Designated Heritage Asset	MDG3437	Structure, Clearance Cairn		256900	595200	On the extensive S and SW facing slopes of Willieanna are two distinct areas of field clearance cairns. Centred NX 569 952. Over fifty clearance cairns extend over an area of approximately 8.0 hectares between 244- 290 m OD. Randomly spaced, they range from circular to oval in shape and average 4.0 m in diameter and 0.4m high. No discernible field plots were found nor any ring-like features, although some of the larger cairns have had their centres robbed or disturbed. NX 575953. Approximately 15 clearance cairns extend over an area of about 2.0 hectares between 304 m to 319 m OD. They are of similar shape and dimensions to the other group, and again no field plots or ring-like features were found. The only structure located is at NX 5769 9532, and this is sub-square in shape, 11.0 m x 10.0 m, with slightly bowed 2.0 m wide wall footings, mostly of turf. There is no discernible entrance and the interior is turf covered and featureless. Its age and exact purpose is unknown, and it has no obvious association with the clearance areas. Visited by OS (JRL) 31 October 1978



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79	Lagwine Cairn	HER National Asset	MDG3478	Cairn	Prehistoric	256066	593987	Lagwine Cairn, name confirmed, lies on a level shelf at the foot of a SW-facing hillslope. It has been heavily robbed (possibly during the construction of a nearby sheepfold); however a 1.5 m high central core of small stone survives. Its original dimensions of 30.0 m E-W by 25.0 m N-S are indicated by a spread of stone and in some places a ragged and irregular rim of earth and stone. There is no evidence of a kerb and the centre appears to be undisturbed. Resurveyed at 1:2500. Visited by OS (JRL) 24 February 1978
89	Knockgray Policies	Landscape Park of Regional Significance	MDG25538	Landscape Park	Post-medieval	257840	593260	Significance = Regional To the north-west lies Cemetery Wood, a plantation created in 1894 around the family burial ground.
104	Sheep ree	Non-Designated Heritage Asset		Sheep Ree		256515	595310	
125	Pen	Non-Designated Heritage Asset		Pen		257105	594862	
166	Upright stone	Walkover Site		Upright Stone		260702	594977	Possible standing stone 0.5 m high.
167	Clearance cairn	Walkover Site		Clearance Cairn		260650	595086	Possible clearance cairn 1.5 m x 1.5 m.
168	Clearance cairn	Walkover Site		Clearance Cairn		260656	595078	Possible clearance cairn 1 m diameter.
169	Cist (possible)	Walkover Site		Cist (Possible)		260641	595100	Possible burial cist. Sub-rectangular. Rounded edges. 1.5 m x 1.5 m.
170	Cist (possible)	Walkover Site		Cist (Possible)		260637	595092	Possible burial cist. 1.5 m. Partially hidden by turf.



Asset / Event Number	Asset / Event Name	Status	NRHE / HER Reference	Classification	Period	Easting	Northing	Description
171	Clearance cairn	Walkover Site		Clearance Cairn		260647	595112	Sub-circular.2 m diameter.
172	Clearance cairn	Walkover Site		Clearance Cairn		260665	595115	Irregular.2 m x 2 m.
173	Clearance cairn	Walkover Site		Clearance Cairn		260627	595178	2 m diameter.
174	Clearance cairn	Walkover Site		Clearance Cairn		260624	595178	1.5 m diameter.
178	Enclosure	LiDAR Feature		Enclosure		260776	594844	Enclosure measuring c. 35 m N-S by 25 m E-W. Confidence: Possible
179	Hut Circle	LiDAR Feature		Hut Circle		260213	594865	Possible small circular enclosure measuring c. 9 m in diameter with smaller, attached enclosure to S. Confidence: Low Confidence
180	Structure	LiDAR Feature		Structure		260067	594851	Small rectangular structure, oriented NE-SW, measuring 6 by 4 m. Confidence: Possible
181	Enclosure	LiDAR Feature		Enclosure		260041	594843	Oval enclosure measuring 15 m NW-SE by 11 m. Confidence: Low Confidence
182	Enclosure	LiDAR Feature		Enclosure		260006	594796	Small sub-circular enclosure measuring 8 m in diameter. Possibly NX69SW 55/MDG15851/AOC Site 5. Confidence: Probable
183	Enclosure	LiDAR Feature		Enclosure		260624	594777	Small sub-rectangular enclosure, oriented NE-SW. Measures c. 10 m by 8 m. Confidence: Low Confidence
203	Enclosure	LiDAR Feature		Enclosure		259532	595358	Small sub-circular enclosure measuring c. 6 m in diameter. Confidence; Low Confidence
204	Cairns?	LiDAR Feature		Cairns		259448	595367	Around 20 small (c. 1m diameter) mounds visible. Confidence: Low Confidence
205	Farmstead	LiDAR Feature		Farmstead		258059	595370	Two sub-rectangular buildings with attached rectangular enclosure to SW. Update of location for Benloch Strand (NX59NE 10) AOC Site 11 Confidence: High Confidence



Asset / Event Number	Asset / Event Name	Status	NRHE / HER Reference	Classification	Period	Easting	Northing	Description
206	Cairn?	LiDAR Feature		Cairn?		257712	595330	Annular bank c. 11 m in diameter. Updated location for Willieanna NX59NE 1. AOC Site 10 Confidence: Probable
207	Structure	LiDAR Feature		Structure		257743	594798	Sub -rectangular building measuring 9 m NE-SW by 6 m NW-SE. Located 15 m to SE of Benloch Burn. Confidence: Probable
208	Peat Cutting	LiDAR Feature		Peat Cutting	Post-medieval	258053	594693	Two rectangular areas of peat cutting Confidence: Possible
216	Benloch Burn	Non-Designated Heritage Asset		Corn Drying Kiln (Period Unassigned), Field System (Period Unassigned)		256170	595100	A circular unroofed structure annotated 'Old Cornkiln' and a field-system annotated 'Old Fences' are depicted on the 1st edition of the OS 6-inch map (Kirkcudbrightshire 1853, sheet 5), but they are not shown on the current edition of the OS 1:10000 map (1981). Information from RCAHMS (AKK) 15 September 1999.
221	Bardennoch-Garryhorn Archaeologically Sensitive Area	HER Archaeologically Sensitive Area		Her Archaeologically Sensitive Area	Multi-period	255932	592368	This area recognizes multi-period archaeological remains featuring in a Heritage Trail promoted by Carsphairn Heritage Group. The high quality monuments are in a spectacular landscape setting. Note: 2013update. In the 1970-80's the land use of large areas of Carsphairn parish changed from stock rearing on grazed pasture to commercial forestry. The community was concerned about population decline and community well-being. Establishing a series of heritage trails was a community initiative.
225	Holm Hill East	Non-Designated Heritage Asset		Sheep Enclosure	Post-medieval	256008	595288	Sheep enclosure visible on historic OS maps and modern satellite imagery.
226	N/A	Non-Designated Heritage Asset	N/A	Possible Cairn	Undated	255965	595622	HER does not specify nature of asset. However, it is a likely clearance cairn of unknown date as it is in a mapped area of clearance cairns within the HER.
227	N/A	Non-Designated Heritage Asset	N/A	Possible Cairn	Undated	255980	595632	HER does not specify nature of asset. However, it is a likely clearance cairn of unknown date as it is in a mapped area of clearance cairns within the HER.



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228	N/A	Non-Designated Heritage Asset	N/A	Possible Cairn	Undated	255993	595644	HER does not specify nature of asset. However, it is a likely clearance cairn of unknown date as it is in a mapped area of clearance cairns within the HER.
229	N/A	Non-Designated Heritage Asset	N/A	Possible Cairn	Undated	255976	595645	HER does not specify nature of asset. However, it is a likely clearance cairn of unknown date as it is in a mapped area of clearance cairns within the HER.
230	N/A	Non-Designated Heritage Asset	N/A	Possible Cairn	Undated	255971	595655	HER does not specify nature of asset. However, it is a likely clearance cairn of unknown date as it is in a mapped area of clearance cairns within the HER.
231	N/A	Non-Designated Heritage Asset	N/A	Possible Cairn	Undated	255984	595669	HER does not specify nature of asset. However, it is a likely clearance cairn of unknown date as it is in a mapped area of clearance cairns within the HER.
232	N/A	Non-Designated Heritage Asset	N/A	Possible Cairn	Undated	255968	595675	HER does not specify nature of asset. However, it is a likely clearance cairn of unknown date as it is in a mapped area of clearance cairns within the HER.
233	N/A	Non-Designated Heritage Asset	N/A	Possible Cairn	Undated	255969	595685	HER does not specify nature of asset. However, it is a likely clearance cairn of unknown date as it is in a mapped area of clearance cairns within the HER.
234	N/A	Non-Designated Heritage Asset	N/A	Possible Cairn	Undated	255986	595704	HER does not specify nature of asset. However, it is a likely clearance cairn of unknown date as it is in a mapped area of clearance cairns within the HER.
235	N/A	Non-Designated Heritage Asset	N/A	Possible Cairn	Undated	255972	595737	HER does not specify nature of asset. However, it is a likely clearance cairn of unknown date as it is in a mapped area of clearance cairns within the HER.
236	Small Cairn	Non-Designated Heritage Asset	N/A	Cairn	Undated	255996	595874	HER does not provide any further details.
237	N/A	Non-Designated Heritage Asset	N/A	Possible Cairn	Undated	255949	595665	HER does not specify nature of asset. However, it is a likely clearance cairn of unknown date as it is in a mapped area of clearance cairns within the HER.



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238	N/A	Non-Designated Heritage Asset	N/A	Possible Cairn	Undated	255944	595683	HER does not specify nature of asset. However, it is a likely clearance cairn of unknown date as it is in a mapped area of clearance cairns within the HER.
239	N/A	Non-Designated Heritage Asset	N/A	Possible Cairn	Undated	255945	595700	HER does not specify nature of asset. However, it is a likely clearance cairn of unknown date as it is in a mapped area of clearance cairns within the HER.
240	Small Cairn	Non-Designated Heritage Asset	N/A	Cairn	Undated	256026	595905	HER does not provide any further details.
241	N/A	Non-Designated Heritage Asset	N/A	Possible Cairn	Undated	255925	595536	HER does not specify nature of asset. However, it is a likely clearance cairn of unknown date as it is in a mapped area of clearance cairns within the HER.
242	N/A	Non-Designated Heritage Asset	N/A	Possible Cairn	Undated	255933	595641	HER does not specify nature of asset. However, it is a likely clearance cairn of unknown date as it is in a mapped area of clearance cairns within the HER.
243	N/A	Non-Designated Heritage Asset	N/A	Possible Cairn	Undated	255491	595330	HER does not specify nature of asset. However, it is a likely clearance cairn of unknown date as it is in a mapped area of clearance cairns within the HER.
244	N/A	Non-Designated Heritage Asset	N/A	Possible Cairn	Undated	255512	595330	HER does not specify nature of asset. However, it is a likely clearance cairn of unknown date as it is in a mapped area of clearance cairns within the HER.
245	N/A	Non-Designated Heritage Asset	N/A	Possible Cairn	Undated	255518	595331	HER does not specify nature of asset. However, it is a likely clearance cairn of unknown date as it is in a mapped area of clearance cairns within the HER.
246	N/A	Non-Designated Heritage Asset	N/A	Possible Cairn	Undated	255524	595325	HER does not specify nature of asset. However, it is a likely clearance cairn of unknown date as it is in a mapped area of clearance cairns within the HER.
247	N/A	Non-Designated Heritage Asset	N/A	Possible Cairn	Undated	255531	595316	HER does not specify nature of asset. However, it is a likely clearance cairn of unknown date as it is in a mapped area of clearance cairns within the HER.



Asset / Event Number	Asset / Event Name	Status	NRHE / HER Reference	Classification	Period	Easting	Northing	Description
248	N/A	Non-Designated Heritage Asset	N/A	Possible Cairn	Undated	255531	595339	HER does not specify nature of asset. However, it is a likely clearance cairn of unknown date as it is in a mapped area of clearance cairns within the HER.
249	Sheep Shelter	Non-Designated Heritage Asset	N/A	Sheep Shelter	Undated	254428	596275	No further info in HER.
250	Bank (earthwork)	Non-Designated Heritage Asset	N/A	Bank (Earthwork)	Undated	256064	595672	AOC Centroid of earthworks that form a rough rectangle
251	Unassigned	Non-Designated Heritage Asset	N/A	Unassigned	Undated	256203	595507	No information in HER. Aerial imagery shows an area of partially cleared grassy area.
252	Enclosure	Non-Designated Heritage Asset	N/A	Enclosure	Undated	254473	595394	No further info in HER.
253	Rig Cultivation	Non-Designated Heritage Asset	N/A	Rig Cultivation	Undated	254746	595484	No further info in HER.
254	Cairnfield?	Non-Designated Heritage Asset	N/A	Cairnfield?	Undated	255809	595597	No further info in HER.
255	Cairnfield	Non-Designated Heritage Asset	N/A	Cairnfield	Undated	257835	595333	No further info in HER.
256	Scottish Energy Walkover Survey - Rathmell 2015	Non-Designated Heritage Asset	EDGxxx	Walkover Survey	Undated	255484	594352	No further info in HER.
257	Pre-forestry walkover survey - Rathmell 2020	Non-Designated Heritage Asset	EDGxxx	Walkover Survey	Undated	259558	594198	No further info in HER.



Asset / Event Number	Asset / Event Name	Status	NRHE / HER Reference	Classification	Period	Easting	Northing	Description
258	Pre- forestry walkover survey - R Shaw 2020	Non- Designated Heritage Asset	EDGxxx	Walkover Survey	Undated	258022	596541	No further info in HER.

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