

# Chapter 1

## Cultural Heritage

### Introduction

**10.1** This chapter presents the findings of the assessment of the likely effects of the proposed Glenmuckloch to Glenglass Reinforcement Project (GGRP) on the historic environment, or, in the terminology of the EIA Regulations, cultural heritage. Cultural heritage comprises *"the physical evidence for human activity that connects people with place, linked with the associations we can see, feel and understand."*<sup>1</sup> Its constituent parts are referred to in this chapter as 'heritage assets'. These can be tangible features (such as buildings or places), intangible stories, traditions and concepts<sup>2</sup> that provide physical evidence of past human activity and hold sufficient value (i.e. cultural significance) to this and future generations to merit consideration in the planning system.<sup>3</sup> This assessment therefore focuses on if, and how, the GGRP will change the cultural significance of heritage assets within and around it.

**10.2** Heritage assets may also be discussed in the Landscape and Visual Impact Assessment (LVIA) presented in (Chapter 6: Landscape and Visual Amenity) of this EIA Report; however, LVIA focuses on the effect that a development's visibility from a location, which may be a heritage asset, has on visitors to that location, whereas the cultural heritage assessment focuses on effects to the cultural significance of heritage assets. Each assessment therefore considers different kinds of receptors (people vs. cultural significance) and effects, and can come to differing conclusions on levels of effect relating to the same asset.

**10.3** This chapter is supported by the following three figures:

- **Figures 10.1a-b:** Designated and non-designated heritage assets in 3km study area;<sup>4</sup>
- **Figures 10.2a-c:** Cultural heritage wireframe and photomontage for St Connel's Church and Churchyard scheduled monument.
- **Figure 10.3:** GGRP zone of theoretical visibility within the 3km study area.
- The following appendices are also referred to throughout the chapter:
- **Appendix 10.1: Historic Environment Assessment.**

**10.4** Planning policies of relevance to this assessment are provided in **Chapter 5: Planning Policy**.

**10.5** The cultural heritage assessment was undertaken by a chartered Historic Environment Specialist at LUC, as noted in **Appendix 1.1: Statement of Competency**.

### Scope of the Assessment

#### Effects Scoped In

**10.6** The following key issues were identified at the scoping stage for consideration in the assessment:

- Direct effects during construction on the cultural significance of heritage assets within the GGRP construction footprint and Infrastructure Location Allowance
- Direct effects during operation on the cultural significance of heritage assets in the study areas<sup>5</sup> of the GGRP; and
- Cumulative effects during operation on the cultural significance of heritage assets in the GGRP study areas.<sup>6</sup>

#### Effects Scoped Out

**10.7** On the basis of the desk based and field survey work undertaken, the professional judgement of the EIA team, experience from other relevant projects and policy guidance or standards, and feedback received from consultees, the following effects have been 'scoped out' of detailed assessment:

- Direct effects to the cultural significance of heritage assets within the Site or Study Areas as a result of setting change during construction. (This is because such effects are temporary and fully reversible, and so, in EIA terms, will not be significant);
- Cumulative effects to the cultural significance of heritage assets during construction as a result of setting change. (This is because such effects are temporary);
- Indirect physical effects on assets or features of national, regional or local cultural heritage value as a consequence of vibration, dewatering or changes in hydrology (since such effects are unlikely, and will not be significant, given the scale and nature of the GGRP); and
- Cumulative physical effects (these will not arise given the physical distance between the Proposed Development and other schemes).

### Assessment Methodology

#### Legislation and Guidance

##### Legislation

**10.8** This assessment is carried out in accordance with the principles contained within the following legislation<sup>7</sup>:

- Ancient Monuments and Archaeological Areas Act 1979;
- Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997; and
- The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017.

##### Guidance

**10.9** This assessment is carried out in accordance with the principles contained within the following documents:

- Institute of Environmental Management and Assessment (IEMA) (2021) Principles of Cultural Heritage Impact Assessment in the UK (hereafter referred to as PCHIA).
- Historic Environment Scotland (HES) (2020) Managing Change in the Historic Environment Guidance Notes – setting (hereafter referred to as the HES setting guidance).
- HES and Scottish Natural Heritage (SNH) (2018), Environmental Impact Assessment Handbook (particularly the framework for Cultural Heritage Impact Assessment provided in Appendix 1; hereafter this guidance is referred to as the EIA Handbook).
- The Chartered Institute for Archaeologists (CIfA) (2017), Code of Conduct.

<sup>1</sup> HES, 2014. The Historic Environment Strategy for Scotland, pp. 2.

<sup>2</sup> SNH and HES, Environmental Impact Assessment Handbook, p.172, (2018).

<sup>3</sup> Ibid, p.175.

<sup>4</sup> Throughout this chapter 'Site' is used to refer to the area of the GGRP demarcated by the red line boundary, whereas 'site' is used to refer to archaeological or heritage sites.

<sup>5</sup> The study areas are defined at paragraph 10.11.

<sup>6</sup> The study areas are defined at paragraph 10.11.

<sup>7</sup> References to all legislation relate to legislation as amended and in force at the time of writing of this chapter

- ClfA (2017), Standard and guidance for historic environment desk-based assessment.
- Scottish Government (2011), Planning Advice Note 2/2011: Planning and Archaeology.

### Consultation

**10.10** In undertaking the assessment, consideration has been given to the scoping responses and other consultation undertaken as detailed in **Table 9.1**.

**Table 10.1: Consultation Responses**

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
Dumfries and Galloway Council (December 2020)	Scoping Opinion	Requested that the EIA include assessment of the potential for effects to the nationally important St Connel's Church (HER ref: MDG75) (which at that time was under review for scheduling).	An assessment of the effects of the GGRP on St Connel's Church has been undertaken and the findings presented within this chapter.
		Requested that the EIA include consideration of the Scottish Governments new LiDAR data.	This LiDAR data has been considered as part of the baseline (included in <b>Appendix 10.1</b> ) which informs this chapter.
		Welcomed and agreed with the scheme measures identified where adverse effects to the cultural significance of assets were identified.	Noted.
		Confirmed that the proposed methodology was appropriate.	Noted.
Historic Environment Scotland (February 2020)	Scoping Opinion	Confirmed that they were content that no assets within their remit (e.g. world heritage sites, scheduled monuments and their settings, category A-listed buildings and their settings, inventory gardens and designed landscapes, inventory battlefields and historic marine protected areas (HMPAs)) would be affected and that cultural heritage could be scoped out of the EIA.	Since this response was received St Connel's Church has been scheduled (see above).
Dumfries and Galloway Council (September 2022)	Post-scoping consultation	LUC sent an email confirming that cultural heritage was scoped into the EIA and that following review of the bare earth Zone of Theoretical	N/A

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
		Visibility (ZTV) a reduced 3km study area was proposed for the consideration of setting effects, with physical effects to be considered where assets intersected with the development footprint (including micrositing). No comment has been received to date.	
Historic Environment Scotland (September 2022)	Post-scoping consultation	LUC sent an email highlighting that cultural heritage was scoped in and that following review of the bare earth Zone of Theoretical Visibility (ZTV) a reduced 3km study area was proposed for the consideration of setting effects, with physical effects to be considered where assets intersected with the development footprint (including micrositing).	HES confirmed via email that they are content with the proposed study area.

### Study Area

**10.11** To consider the assessment of physical effects a 200m study area has been defined around the construction footprint of the GGRP, which is based upon the infrastructure locations and their 50m Infrastructure Location Allowance (ILA)<sup>8</sup>. This has also been used to provide context to the identification and understanding of assets and potential archaeological remains within the GGRP study area.

**10.12** To inform the assessment of potential setting effects a 3km study area (measured from the tower locations and the proposed Glenmuckloch substation) has been used. This study area has also been used for contextual purposes relating to archaeological potential.

**10.13** The extent of this 3km study area has been determined by use of a bare earth Zone of Theoretical Visibility (ZTV) calculated in relation to the overhead line towers. It indicates that there would be greater visibility of the northern end of the GGRP than the southern end, but that visibility would not extend out to 3km in either direction. East to west there is greater visibility along the valley of the River Nith, but beyond 3km visibility becomes more localised. As such, significant visual effects to the setting of assets are not considered likely after 3km.

### Desk Based Research and Data Sources

**10.14** The following data sources have informed this assessment:

- HES spatial datasets and database for designated assets:
  - World Heritage Sites.
  - Scheduled Monuments.
  - Listed Buildings.
  - Inventory-listed Garden and Designed Landscapes.
  - Inventory-listed Battlefields.

<sup>8</sup> The ILA is shown on **Figure 4.1**. It should be noted that the ILA does not apply to the Glenmuckloch substation.

- HES National Record of the Historic Environment ('Canmore') data.
- Local authority conservation area information.
- Dumfries and Galloway Council's Historic Environment Record (DGHHER).
- Ordnance Survey (OS) current and historic mapping.
- Scottish Government LiDAR data.
- British Geological Survey mapping online.<sup>9</sup>
- Secondary published and online sources.
- Visualisations of the GGRP.

### Field Survey

**10.15** A walkover survey of the 200m study area, and visits to relevant assets likely to experience setting change, was undertaken in March 2021 to inform the assessment. Weather conditions during this survey were poor, but sufficient to understand the presence/absence, condition and setting of assets. It allowed for the verification of all known heritage assets, confirming their interpretation, location, and likely sensitivity to change, and informed the assessment of likely effects on those assets. Assets of regional or national importance within the 3km Study Area likely to be sensitive to setting change were also visited to confirm their cultural significance, the contribution made by setting to that cultural significance, and for the likelihood of effects.

**10.16** A digital photographic record was made of the Site visit and selected photographs are included in **Appendix 10.1**.

### Assessing Cultural Significance

**10.17** The assessment approach adopted follows the six analytical steps set out in the PCHIA guidance for understanding cultural heritage assets and evaluating change:

1. describe the asset
2. ascribe cultural significance
3. attribute importance
4. understand change
5. assess impact
6. weigh the effect.

**10.18** The assessment methodology also draws on the guidelines set out in the SNH/HES 2018 EIA Handbook, as far as it is compatible with, or complements, the PCHIA guidance.

### Description

**10.19** All cultural heritage assets are described factually and in a manner proportionate to their importance. The description of these assets includes sufficient detail to understand the effect of the GGRP on their cultural significance and, consequently, only information that is relevant to understanding how cultural significance might be affected by the proposal has been included.

### Receptor Value

**10.20** Heritage assets are important due to their cultural significance, which can be articulated in various ways. This assessment draws upon the heritage values referenced by the Historic Environment Policy for Scotland (HES, 2019), which in turn are drawn from The Burra

Charter<sup>10</sup> and detailed in the Australia ICOMOS (2013) Understanding and Assessing Cultural Significance Practice Note. These values comprise:

- **Aesthetic value:** This refers to the sensory and perceptual experience of a place; that is, how we respond to visual and non-visual aspects such as sounds, smells and other factors having a strong impact on human thoughts, feelings and attitudes. Aesthetic qualities may include the concept of beauty and formal aesthetic ideals. Expressions of aesthetics are culturally influenced.
- **Evidential value:** This refers to the information content of a place and its ability to reveal more about an aspect of the past through examination or investigation of the place, including the use of archaeological techniques. The relative scientific value of a place is likely to depend on the importance of the information or data involved, on its rarity, quality or representativeness, and its potential to contribute further important information about the place itself or a type or class of place or to address important research questions.
- **Historic value:** This is typically either illustrative or associative. It is intended to encompass all aspects of history; for example, the history of aesthetics, art and architecture, science, spirituality, and society. It therefore often underlies other values. A place may have historic value because it has influenced, or has been influenced by, an historic event, phase, movement or activity, person or group of people. It may be the site of an important event. For any place, the cultural significance will be greater where the evidence of the association or event survives at the place, or where the setting is substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains cultural significance regardless of such change or absence of evidence.
- **Social/ Spiritual value:** This refers to the associations that a place has for a particular community or cultural group and the social or cultural meanings that it holds for them. Spiritual value refers to the intangible values and meanings embodied in or evoked by a place which give it importance in the spiritual identity, or the traditional knowledge, art and practices of a cultural group. Spiritual value may also be reflected in the intensity of aesthetic and emotional responses or community associations and be expressed through cultural practices and related places.

**10.21** The ICOMOS values are a more consistent and easily understandable way of framing the values encapsulated by the designation criteria,<sup>11</sup> which offer an alternative framework for understanding cultural significance.

### The contribution of setting to cultural significance

**10.22** The ICOMOS heritage values are a way of transparently and consistently articulating the cultural significance of any heritage asset, including any contribution made by setting to that cultural significance. The HES (2020) setting guidance explains that setting is the way the surroundings of an asset or place contribute to how it is understood, appreciated, and experienced in the present landscape. All assets have a setting, but the contribution that this makes to their cultural significance varies in line with the location, form, function and preservation of the asset and its surroundings. Setting can be integral to the cultural significance of an asset (contributing to one of more of its heritage values or their appreciation), therefore a change in an important element of an asset's setting can equate to a direct impact to its cultural significance. Equally, where setting does not contribute to an asset's cultural significance, no effect can result from setting change.

**10.23** The contribution made by setting to an asset's cultural significance is set out discursively as part of the assessment.

### Asset Importance

**10.24** Establishing the importance of an asset is a key stage of the assessment process as it influences the way in which decisions are made during the development of a proposal as well as the weight to be given it by the decision-maker. Whilst the heritage values set out above can help explain an asset's cultural significance, they do not set out the scaled importance (e.g. high, medium, low) of that cultural significance. Normally, importance will be determined using professional judgement alongside an understanding of local, regional, and national historic environment research objectives and, where appropriate, the use of the designation criteria for assets of national cultural significance. However, DGHHER has had importance ratings assigned to it by Dumfries and Galloway Council, taking into account the state of preservation of the asset, and the relative rarity of that particular asset type, both at a regional and national level. These levels of importance have therefore been taken as the starting point for determining importance, and have been verified or moderated through further research and professional judgement. The broad criteria used for determining the importance of a heritage asset is set out in the

<sup>9</sup> <https://geologyviewer.bgs.ac.uk/>

<sup>10</sup> Australia ICOMOS, 2013.

<sup>11</sup> HES 2020. Designation Policy and Selection Criteria.

table below and draws upon the ratings used by the DGHER. Records assigned 'None' or 'N/A' importance ratings in the DGHER have been verified and excluded from the assessment.

**Table 10.2: Heritage asset importance**

Importance	Criteria
High	Designated cultural heritage assets. Non-designated cultural heritage assets that meet the criteria for statutory designation.
Medium	Non-designated heritage assets of regional or regional/local value.
Low	Non-designated cultural heritage assets of local value.
Very low	Non-designated cultural heritage assets of less than local or other value.

**Identifying assets sensitive to change as a result of the GGRP**

**10.25** Identification of assets sensitive to physical change has been based on the intersection analysis of assets within the GGRP footprint, including the 50m ILA, proposed felling areas and wayleave corridor.

**10.26** To identify which assets in the 3km Study Area the GGRP may be sensitive to effects arising from setting change assets with theoretical visibility of the GGRP were identified (visibility being a key factor in setting) using a locational search based on the GGRP bare earth Zone of Theoretical Visibility (ZTV) within the 3km study area (see **Figure 10.3**). Assets identified as being within the ZTV were then subject to a high-level desk-based appraisal of their cultural significance (including the contribution made by setting) and their potential interaction with the GGRP. Assets lying outside the ZTV were also subject to a high-level review to see if they had the potential for change to their cultural significance because of in combination views. As indicated above, assets identified through this process were visited during the survey process to verify their survival, condition, cultural significance, including the contribution made to that cultural significance by setting.

**10.27** An asset's sensitivity to change does not automatically equate to its importance. It varies depending on the nature of a heritage asset's cultural significance, the contribution that setting makes to that cultural significance, and the character of the GGRP and the way in which it interacts with that cultural significance.

**10.28** Unless otherwise stated, all heritage assets within the 200m study area have been assumed to be of high sensitivity to physical change as their heritage significance is derived primarily from their form and fabric, which will be diminished or lost if physically altered.

**10.29** Sensitivity to setting change is variable and has been established based on an understanding of the contribution made by setting to an asset's cultural significance and the likely interaction of the GGRP with that contribution. Sensitivity to setting change has been articulated by describing the way a heritage asset's setting contributes (or not) to its cultural significance (or understanding that significance), with reference to HES' setting guidance (2020), and how that contribution may be changed by the GGRP.

**Magnitude of change (PCHIA 'scale of impact')**

**10.30** Assets identified as potentially sensitive to change have then been assessed. The first step of assessment is to understand and factually describe the change. The next step is to understand the impact or magnitude of that change on the asset's cultural significance. The magnitude of change to an asset's cultural significance as a result of the GGRP has been assessed using professional and objective judgement informed by the evidence gathered in the previous steps of the assessment, using the criteria set out in **Table 10.3** below. For transparency and robustness, the magnitude of change (and whether it is temporary or permanent) has also been described with explicit reference to the heritage value(s) affected, as required by the EIA Handbook (2018) and the PCHIA (2021) guidance.

**Table 10.3: Magnitude of change (PCHIA 'scale of impact') criteria**

Magnitude of Change	Description
Large	Total or near total loss of an asset's cultural significance through physical and/or setting change. Substantial level of change to how that significance is understood, appreciated or experienced.
Medium	Medium loss or alteration of an asset's cultural significance through physical and/or setting change. Medium level of change to how that significance is understood, appreciated, or experienced.
Small	Small loss or alteration of an asset's cultural significance through physical and/or setting change. Small level of change to how that significance is understood, appreciated or experienced.
No change	No change to the cultural significance of the heritage asset.

**Level of effect (significance of effect in EIA Terms)<sup>12</sup>**

**10.31** The predicted level or weight of the effect has been determined using professional judgement to reflect the importance of the heritage asset using the scaled criteria in Table 10.4 below. The justification for the significance of effect has been reported clearly, within a few concise sentences. Again, this approach follows the guidelines for assessment set out in EIA Handbook (2018) and by the PCHIA (2021) guidance.

**10.32** All effects assessed and reported herein are adverse. Only in rare circumstances can a new development make a positive contribution to the significance of a heritage asset, for example by removing harmful elements of its current setting and thereby better revealing its character and significance.

**10.33** A clear statement has been made as to whether an effect is a significant effect in terms of the EIA Regulations. Major and moderate effects are considered significant in the context of the EIA Regulations, based on professional judgement of the available evidence.

**Table 10.4: Level of effect criteria / significance for the purposes of EIA**

Level of Effect	Description
Major	A large magnitude of change (e.g. total or near total loss) to the cultural significance of an asset of medium or high importance.
Moderate	A medium magnitude of change (e.g. substantial loss or alteration) to the cultural significance of an asset of medium or high importance; or a high magnitude of change (total or near total loss) to an asset of low importance.
Minor	A small magnitude of change (slight loss or alteration) to the cultural significance of an asset of medium or high importance; a medium or low (slight to substantial loss or alteration) to the heritage value of an asset of low importance; or any change to an asset of very low importance.
No effect	No change to the cultural significance of an asset.

**Assessment Limitations**

**10.34** The assessment has utilised a range of sources on the area's historic environment. Much of this is necessarily secondary information compiled from a variety of sources (e.g. HER data and grey literature reports). It has been assumed that this information is reasonably accurate unless otherwise stated.

**10.35** There is an unavoidable inherent uncertainty in the discussion of buried archaeological remains and archaeological potential.

<sup>12</sup> In EIA terms the level of effect is typically referred to as the significance of effect. This terminology has deliberately been avoided to prevent confusion with the discussion of cultural significance.



**10.36** Whilst some information gaps have been inevitable given the buried nature of archaeological remains, it is considered that there is sufficient information to enable an informed decision to be taken in relation to the identification and assessment of likely significant environmental effects on cultural heritage. A precautionary approach has been applied, based on the available information and the professional experience and judgment of the project team, to ensure that all likely significant effects have been assessed and reported. No 'uncertain' classification of asset importance, magnitude of change/scale of impact, or level of effect is required for the purposes of this assessment, as the levels could reasonably be established from the available evidence. For the avoidance of doubt, when any asset is identified as being of 'uncertain' importance, a precautionary approach would be applied, and the effect reported as potentially significant.

## Existing Conditions

### Baseline summary

#### Designated assets

**10.37** There are four listed buildings in the 200m study area. These listed buildings all stand near to existing accesses and are not at risk of physical change. Two [HES refs: LB10240 and LB10275] have visibility of (or in-combination) with the Proposed Development but only one [HES ref: LB10240] has been identified as potentially sensitive to effects arising from setting change.

**10.38** Within the 3km study area for considering operational setting change the recorded designated assets comprise:

- Five listed buildings (four Category B and one Category C) all of which have theoretical visibility of the GGRP.
- One scheduled monument – St Connel's Church and graveyard [NHLE ref: SM134747] - with theoretical visibility of the GGRP.

**10.39** These designated assets are mapped on **Figures 10.1a& b**

**10.40** A high-level review of the sensitivity of these asset's' cultural significance to change as a result of the GGRP identified that the scheduled monument and two listed buildings – Kirkland Farmhouse [NHLE ref: LB10239] and Knowe Farmhouse [NHLE ref: LB10240] – would be considered further as part of the assessment. The other listed buildings have been scoped out on the basis that the ability to experience the GGRP within their setting will not affect their cultural significance, or the ability to understand, appreciate, or experience that significance.

#### Non-designated assets

**10.41** The HER records 22 assets<sup>13</sup> within 200m of the GGRP, seven<sup>14</sup> of which lie within the construction footprint or ILA. For the most part these are post-medieval assets of low or unknown importance, but the nationally important Deil's Dyke is also crossed by the route of the GGRP. With the exception of a Bronze Age cairn, the other assets are of medieval and later date and typically of low or unknown importance.

**10.42** Through desk-based research and the site survey a total of 13 additional assets have been identified within the construction footprint or ILA of the GGRP. The GGRP potentially physically interacts with three of these assets. With the exception of the nationally important Deil's Dyke (discussed below), the assessment of likely physical and setting effects to these assets is considered in the Historic Environment Assessment (HEA) (**Appendix 10.1**) as the effects identified are not significant in EIA terms. These non-designated assets are mapped on **Figures 10.1a-b**.

### Archaeological and historical background

**10.43** The earliest human activity in the Nithsdale area dates to the Mesolithic and is typically recovered from coastal and riverine locations. With the exception of a possible Neolithic (3,500 - 2,250 BC) cup-marked stone [Canmore ref: 370772] the earliest evidence for human activity around the GGRP dates to the later prehistoric period. No known prehistoric assets lie within the GGRP footprint or ILA, but within the 200m study area there is a probable Bronze Age (2,250 BC- 700 BC) burial mound [HER ref: MDG26119] on the southern side of the river valley near Rack Wood. There is also a square enclosure of possible late prehistoric or later date [HER ref: MDG25713], recorded on the southern side of the river valley, in Polmeurhill Wood.

**10.44** Beyond the 200m study area, a potentially later prehistoric enclosure [HER ref: MDG24843] is located c. 420m north of the proposed substation, on the northern side of the Nith valley. A possible late prehistoric settlement [HER ref: MDG13383], comprising a souterrain, two hut bases and a ditch, has been identified via aerial photography to the north of Kelloholm, c. 2.4km from the GGRP and there are also antiquarian reports of a possible prehistoric enclosure [MDG129] being discovered at Kelloway Farm, further east along the river valley.

**10.45** There is also some evidence for Roman (AD 77 - AD 400) activity outwith the 200m study area, during the later Iron Age. A small temporary, possibly Roman camp [HER ref: MDG115] was identified via aerial photography in field on Buttknowe farm c.250m east of the GGRP and a Roman fortlet [HER ref: MDG116] is also recorded, just north of Kelloholm. Both were attested physically in the 1950s. The same investigation discovered a metalled road at the southern entrance of the Roman fortlet. It has been speculated that this road [HER ref: MDG21103] might continue east to another fortlet at Sanquhar, and potentially west to the temporary camp at Buttknowe. There is evidence for an ancient drove road traversing the northern hillslope of the Nith Valley [HER ref: MDG8960], which may have its origins in this period. Finally, a 'Roman' cinerary urn containing a cremation burial [HER ref: MDG125] was reportedly discovered near Kirkconnel Bridge.

**10.46** During the 6th to 9th centuries, Dumfries and Galloway was under the influence of the Kingdoms of Rheged and then Northumbria, which were Brittonic and Anglian respectively. From the 9th century on the area was subject to increased Norse influence, as evident from the place-name evidence including 'Kirk' which is derived from the Old Norse for church - kirkja.

**10.47** Kirkconnel derives its name from the now-scheduled remains of the Church and churchyard of St Connel [NHLE ref: SM13747], which are 1.2km to the northeast of the GGRP, partway up the northern side of the Nith valley next to the ancient drove road. Investigations have revealed that the church dates to the 9th century. Between Glenwharrie, at the edge of the 200m study area and the spur of Little Kirkland Hill, there are a number of earthwork features including farmsteads and a number of turf-walled houses [HER ref: MDG77, MDG21444 and MDG8961] as well as a series of agricultural features [e.g. HER ref: MDG78, MDG25801, MDG25799, MDG21442, MDG79, MDG8961], which evidence what is likely to be a small broadly contemporary settlement dispersed around the church. Historic maps suggest that a late medieval building may once have stood at the northern end of the GGRP, near the extant Lagrae Cottage [HER ref: MDG26969], with another at Glenmuckloch [HER ref: MDG23940].

**10.48** The remains of another medieval or pre-Improvement farmstead survive as earthworks at Rack [HER ref: MDG26118], just south of the river. Further south again, as the topography rises, are the remains of linear feature known as Deil's Dye. This 10km long earthwork is of unknown date or function. However, rig and furrow earthworks reportedly respect it, and it appears to delineate upland pasture from lowland arable, suggesting that it may be an agricultural boundary of medieval or earlier date.

**10.49** The new parish church in Kirkconnel was built in the 18th century and the historic linear settlement adjacent developed in the later 19th century following the arrival of the railway. Kelloholm is a wholly modern extension to the settlement.

**10.50** The 18th century also saw a push for agricultural improvements that resulted in the widespread restructuring of the agricultural landscape across Scotland. This restructuring is clear in the study area, particularly around Rack, where the ruins of a later post-Improvement farmstead stand just a short distance from the earwork remains of an earlier pre-improvement farmstead [HER ref: MDG26118] and probable contemporary features.

**10.51** Agriculture was not the only industry in the area. Historic mapping illustrates that mineral extraction has long been practiced in the area, including along the route of the GGRP [see LUC refs: 5, 7, and 9]. However, it has increased in scale in more recent times, as evidenced by the large, partially reinstated, opencast site at Glenmuckloch [Canmore ref: 258647]. Further large open cast extraction sites were also worked to the south of the river, along the route of the GGRP, by Rigg [LUC 11, 12 and 13]. However, these have since been reinstated.

**10.52** Forestry is another industry that developed in the area during the 19th century and historic mapping indicates several plantations along and in the vicinity of GGRP. Some of these, such as Kirkland Plantation and Rig Plantation, survive but others, like Polmeurhill Plantation, have been lost leaving little [LUC2] or no trace. Larger-scale modern plantations are also evident over the higher moorlands.

**10.53** Recently, windfarms have started to be built in the area. From north to south, the existing windfarms in the study area include Glenmuckloch Community Energy Park (two 46.1m high turbines), Sandy Knowe Windfarm (which, at the time of writing, is still being completed but is largely built out and comprises 24 149.9m high turbines), Sanquhar Community Windfarm (nine 130m high turbines), and

<sup>13</sup> There are technically 23 referenced records, but three all relate to the same asset - Deil's Dyke. Two records, which correlate to assets, have no references.

<sup>14</sup> Again, technically ten records, but three relate to the same asset – Deil's Dyke.

Whiteside Hill (ten 121.2m high turbines). Two windfarms - Lethans and Glenmuckloch - have also been consented to the north of the GGRP but not yet constructed.

### Future Baseline in the Absence of the Development

**10.54** In the 'do nothing' scenario, there would be little physical change to the cultural significance of the heritage assets within the Study Areas. The 200m study area comprises agricultural land, former extraction sites and commercial forest. Subsequently, land use is limited and there is very limited potential for physical disturbance to heritage assets<sup>15</sup>; only natural decay (weathering and erosion) will affect any surviving upstanding remains. It should, however, be noted that patterns of rural land use may change as a consequence of the UK leaving the European Union and as Scottish Government objectives drive an increase in woodland expansion; both of which may have a potentially adverse effect.

**10.55** The risk of setting change in a do-nothing scenario is impossible to quantify as it primarily rests on whether new proposals for development are brought forward elsewhere within the area.

### Implications of Climate Change

**10.56** The UK Climate Projections CP18<sup>16</sup> for temperature and precipitation indicate that the Solway River Basin is projected to experience conditions that are broadly consistent with projections for the UK as a whole, including:

- Hotter, drier summers; and
- Milder, wetter winters.

**10.57** Increase in rainfall will change groundwater and soil conditions, potentially affecting the preservation of below-ground archaeology and eroding/ flooding above ground assets.

### Project Design Considerations

**10.58** The design of the GGRP has sought to avoid effects to heritage assets and, where that is not possible, to then minimise or mitigate them. Each iteration of the design has been reviewed to ensure that direct physical effects to known assets are avoided. Similarly, how the GGRP will appear within the setting of assets has been a key consideration in design refinements. Care has been taken to avoid towers being either skylined in views toward assets or being located on key lines of sight to and between assets. These considerations have been central to the final layout.

### Infrastructure Location Allowance

**10.59** A micro-siting allowance of 50m has been allowed for all infrastructure with the exception of the Glenmuckloch substation. A review of the ILA indicates that eight assets lie within these areas. Seven of these assets are of low importance and physical effects to their cultural significance have largely been avoided via design meaning that no significant effects will arise; further information on these assets – their cultural significance and change to that cultural significance as a result of physical and/ or setting change is presented in the HEA (**Technical Appendix 10.1**). The eighth asset is a nationally important linear feature [HER ref: MDG11244-6] that has the potential to be physically affected and as already mentioned above, the assessment of the likely effects is reported below.

### Embedded Mitigation

**10.60** As stated above, avoidance of physical effects will be implemented where possible.

**10.61** Good practice measures to prevent, reduce, and/or where possible offset potential physical effects to unknown archaeological remains will be included in the Construction Environment Management Plan (CEMP).

**10.62** Measures which will be adopted include:

- Exclusion of known assets from micro-siting areas.

- The fencing off or marking out of sites or features of cultural heritage importance in proximity to working areas.
- Implementation of a working protocol should unrecorded archaeological features be discovered.
- The use of toolbox talks/a Construction Environmental Management Plan (CEMP) to highlight the cultural heritage sensitivities of the Site to those working on the GGRP.

### Assessment of Effects

**10.63** The assessment of effects is based on the project description as outlined in **Chapter 4: Development Description**. All likely significant effects, including: direct (physical and setting change), indirect, secondary, and cumulative effects have been considered, along with the potential duration of those effects (short, medium and long-term; temporary or permanent), and the nature of their effect on cultural significance – whether positive or negative. Unless otherwise stated, the likely effects identified are considered to be direct, negative, and permanent.

**10.64** Physical effects to known heritage assets have been mostly avoided by design and only one non-designated asset of high importance, Deil's Dyke [HER ref: MDG11244-6], has the potential to be directly affected by the construction and operation of the GGRP. Another three designated assets of high importance – the Scheduled St Connel's Church and Churchyard and two listed buildings - are likely to experience effects as a consequence of setting change arising from the operation of the GGRP.. There is the potential for hitherto unknown archaeological remains to be present across part of the route, but any remains present are anticipated to be of no more than low to medium importance and would only be partially harmed given nature of the scheme. As such, significant effects are not anticipated in relation to hitherto unrecorded archaeological remains and their assessment and mitigation is set out in the HEA (**Technical Appendix 10.1**).

#### Deil's Dyke [HER refs: MDG11244, MDG11245, MDG11246]

##### Description

**10.65** Deil's Dyke is the name given to a linear earthwork which runs for 10km from east of Afton Water (at approximately NS 6169 1142) to Burnmouth (at approximately NS 8400 0500), along the southern side of the Nith Valley, part way up the hillslope. In relation to the Site, it is recorded as running east to west along Polmeurhill Wood, with a second stretch lower down the valley side running through Rig Plantation.

**10.66** Where extant, Deil's Dyke typically comprises an earthen bank of rounded profile measuring between 2.0-4.0m wide and up to 0.7m high. In places there is also a ditch on the uphill side, which typically measures 0.5m wide and 0.4m deep. Where it crosses through the route of the GGRP and 200m study area the condition of the dyke is mixed, as visible from review of historic maps and LiDAR data (see **Plate 1**).

**10.67** The historic mapping shows that historically the dyke bank was not present from the western edge of the study area to NGR 2760357, 611738, which is roughly south of Crockroy Farmstead. This is confirmed by the LiDAR imagery which does not show the bank as being present here; it also suggests that there is little in the way of a surviving ditch. The bank begins to be depicted on the historic mapping just southwest of Crockroy Farmstead, with a track heading south from the farmstead crossing it. This track is no longer extant, but another track now heads south from Crockroy c. 90m further east. This later track leads to a gate just north of where the dyke is, and Google Imagery suggests that the dyke has been crossed here by some kind of vehicular or animal movement as trackmarks can be discerned passing through the gate and heading across to the former Polmeurhill plantation. Field survey has shown that the dyke continues to survive at this crossing point, but only as very slight earthworks.

<sup>15</sup> This assumes that land and forest management will be undertaken in line with the UK Forestry Standards and appropriate archaeological mitigation measures required under relevant Felling Licence applications.

<sup>16</sup> <https://www.metoffice.gov.uk/research/collaboration/ukcp>



Plate 10.1: LiDAR DSM 50cm showing the GGRP intersection with the Deil's Dyke (mapped in pink as per the HER records; ILA area shown in blue, access tracks in black, working areas in orange, and 200m study area in grey)

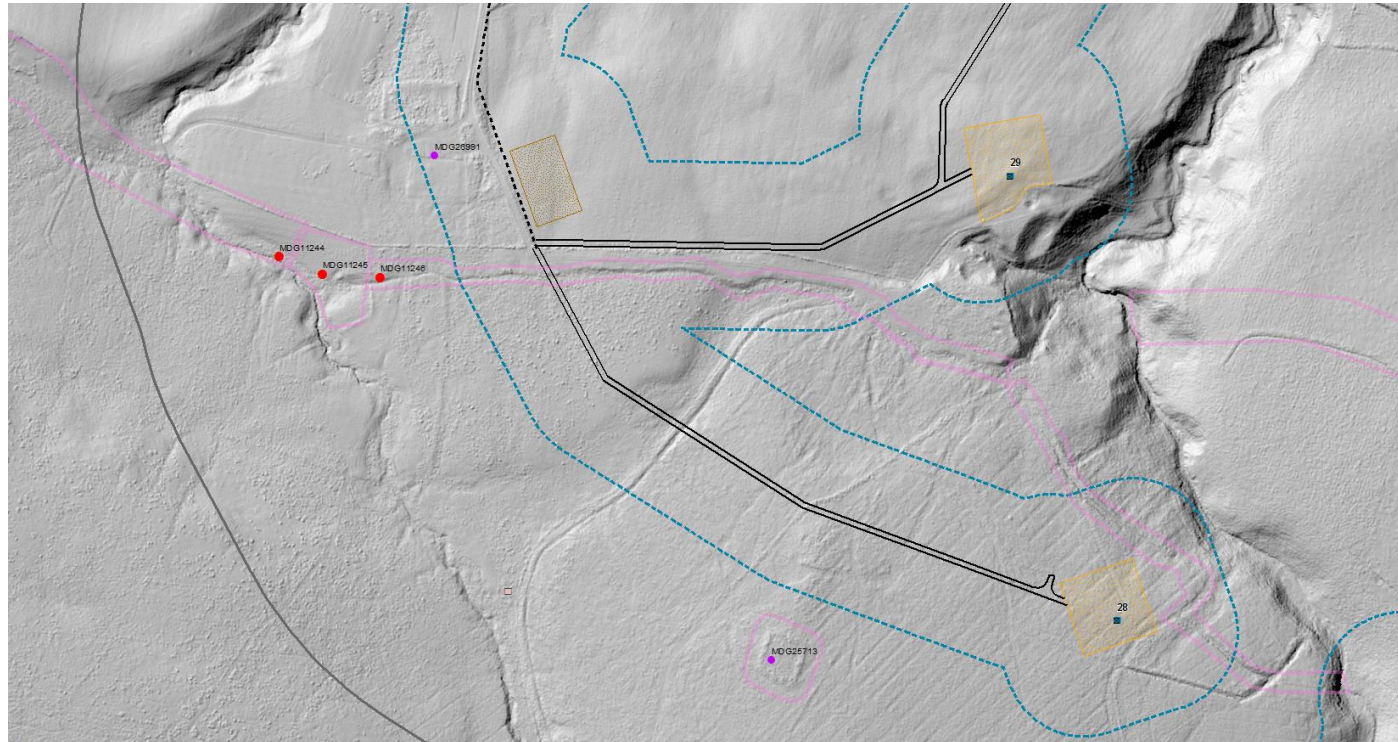


Plate 10.2: Low-level survival of Deil's Dyke by the gate south of Crockroy Farmstead (looking southwest)



**10.68** Moving further east, the bank of the dyke and ditch survive well up until where it coincides with Polmeurhill Plantation bank and an area that was quarried and used as a tip. The HER suggests that the dyke splits at Polmeurhill burn, with one section heading due east and another heading southeast through what as Polmeurhill Plantation. Historical mapping depicts only the more direct eastern stretch, which has since been lost via quarrying activity.<sup>17</sup> The stretch of bank that heads southeast is not depicted on historic mapping, presumably because of the plantation tree cover then present. However, this section of the dyke can still be traced on LiDAR imagery.

**10.69** The function and date of the dyke is unknown. Its size and form do not indicate a defensive function and its irregular route suggests that it is not a political border.<sup>18</sup> However, many stretches have been used, or reused, as a head-dyke that broadly divides upland pasture from lowland arable and several of the changes in direction appear to be deliberate detours to enclose as much favourable arable land as possible. There are also areas of rig and furrow (earthworks derived from ploughing) that respect the boundary.

**10.70** In terms of setting, the section of the dyke that passes through the study area has a largely open rural setting albeit one in which Sandy Knowe Wind Farm is clearly visible to the south and those wind farms along the northern valley ridge, at Glenmuckloch and Lethans will also be visible once constructed.

<sup>17</sup> See NCAP Aerial Photo vertical ASS/62188, Frame 0162, 1988

<sup>18</sup> <https://canmore.org.uk/site/101258/deils-dyke> [accessed 21.10.22]



### Cultural Significance

**10.71** The cultural significance of this asset is derived from the historical illustrative value of its upstanding remains as, whether a single feature of a group of related linear assets, it is of unusual extent and often the bank and ditch survive well. It also derives cultural significance from its scientific/evidential value and the ability for archaeological investigation to inform our understanding of its date and function.

**10.72** Its setting is important to understanding its boundary function between different types of land, as are the adjacent areas of rig and furrow which extend up to it. The undeveloped setting of the asset also allows for some appreciation of the length of the monument, although this is limited by the varying survival/ visibility of the upstanding remains of the monument and the fact that the ground cover or stone walling often conceals its presence.

### Importance

**10.73** The importance of this asset varies in line with its survival, where best preserved it is considered to be of high (national) importance due to it being a well-preserved example of a feature with few parallels in Scotland. In areas where it survives less well, or without upstanding remains its importance is considered to be medium (regional).

### Assessment of change

#### Construction

**10.74** A proposed temporary access to Tower 28 will physically cross Deil's Dyke from the existing trackway past Crockroy through the gate and head southeast to the proposed tower location, as depicted in **Plate 9.2**. The ILA for Tower 28 and its working area, as well as the proposed temporary access to Tower 29 also physically intersect with it. The upstanding earthworks of the section of dyke that the proposed access to Tower 28 will cross, just south of Crockroy, does not survive as well as in other areas, and is an area where some form of existing traffic already crosses it. Nonetheless, there is the potential for the surviving earthworks and any buried remains to be damaged via heavy vehicular movement which could churn up or compress the feature. Depending on the access' method of construction there is also the potential for loss of damage through ground intrusive activity. This would result in a small magnitude of change. There is the potential for similar change to arise in the event that any micrositing of Tower 28 and its working area, as well as the proposed access to Tower 29, although micrositing of the latter is unlikely given the presence of an intervening stone wall.

#### Operation

**10.75** The GGRP OHL will be visible from and in combination with the asset, but such visibility will not affect its scientific or illustrative value, or its appreciation.

### Assessment of effect

#### Construction

**10.76** The GGRP would result in the loss of small section of a much larger asset, at a point where the feature does not survive as well as it does elsewhere; although it still retains some low level upstanding remains. This would result in a minor reduction of the scientific and illustrative value of the feature and the significance of this effect would be minor and not significant in EIA terms.

#### Operation

**10.77** In EIA terms, there will be no effect to the cultural significance of the asset as a result of the operation of the GGRP.

### Mitigation

**10.78** Suitable matting (cordoned either side) and low ground-pressure vehicles will be used to facilitate the access to Tower 28 across this asset. This will prevent any damage to the surviving earthworks and buried remains arising as a consequence of erosion/disturbance or compaction. Micrositing of the access to Tower 28 where it crosses the dyke will not be undertaken and the asset will be cordoned off from these areas.

**10.79** Micrositing of the working area associated with Tower 28 to the north or east will also not be undertaken. Where the dyke passes close to the working area for Tower 28, the standard practice of cordoning off the working area will ensure that no accidental damage arises to it.

**10.80** To prevent any physical harm to the asset, micrositing of the access will not be undertaken to the south of Tower 29.

### Residual effect

#### Construction

**10.81** Following mitigation and best practice measures there would be no physical effect to the cultural significance of the dyke. Therefore, in EIA terms, there will be no residual effect.

#### Operation

**10.82** No effect has been identified in relation to the contribution that setting makes to the cultural significance of this asset. Therefore, in EIA terms, there will be no residual effect.

### Cumulative operational effect

**10.83** No cumulative physical or setting effects have been identified. There is the potential for cumulative schemes (e.g. the Glenmuckloch and Lethans windfarms) to be experienced as part of the asset's setting, in longer distance views. These windfarms are approximately 1km to the south and southwest of where the GGRP intersects with the Dyke and c. 3.8km to the north of the GGRP intersection with the dyke respectively. These consented developments and those with valid applications will visibly increase the amount of modern infrastructure within the setting of the dyke but will not affect its cultural significance, or the understanding, appreciation, or experience thereof. In EIA terms, there will be no residual cumulative effect.

### St Connel's Church and churchyard [HES ref: SM13747]

#### Description

**10.84** This monument comprises the remains of an early medieval parish church and church yard, dedicated to St Connel. Only the foundations of the church remain, but these are visible at ground level having been part excavated in 1929. The excavations revealed a rectangular building orientated east to west and measuring 19.8m x 5.4m, with rough dressed masonry standing to a maximum height of 1.3m. The walls, although not uncovered, are thought to measure c.1m thick. A low wall divides the chancel (to the east) containing the principal altar from the nave (to the west), which provided accommodation for the parishioners. The entrance, which has steps leading down into the church, is in the south side, 4m from the west end. A drystone wall bounds a cemetery surrounding the church, in which several grave markers of 18<sup>th</sup> century date are extant.

**10.85** The church remained in use until 1729, when it was replaced by a new Church within Kirkconnel. Finds from the site include carved stone, including fragments of cross-shafts, of 9<sup>th</sup> to 15<sup>th</sup> century. Some of these early carved stones are on display in a shelter within the graveyard, others have reportedly been taken to Dumfries Museum, or removed to the 'new' church.

**10.86** Today, a cairn stands at the western end of the church foundations, it was erected by the miners that excavated the site under the instruction of the local minister. The monument is referenced in a poem called 'The Covenanter's Tryst' by the local Alexander Anderson (1845-1909) is one of several monuments in the area to be associated with St. Connel. Other features include a nearby spring/ well, stone cross, and a possible (but tentative) 'cup-marked' stone.

**10.87** The spring – known as 'St Connel's well' – is sited a short distance uphill from the monument and was reportedly where the saint conducted baptisms. It is now marked by a relief sculpture of the saint. The stone cross [HER ref: MDG76] is sited on the hillslope c.2.4km to the northwest of the monument. It was erected in 1880 by the Duke of Buccleuch to mark the grave of St Connel, which is marked in that location on the 1864 1" OS map. From the cross it is possible to view the parish churches of Kirkconnel, Sanquhar and Kirkbride – all associated with St. Connel. The 'cupped-stone' is located downhill from the cross at NGR NS7044715674. It is said to mark the site where St. Connel encountered St. Kentigern (Mungo) and became his disciple.

**10.88** The remains of the church of St. Connel are situated on a plateau at the foot of Kirkland Hill (at approximately 240mOD) 2.9km to the north of Kirkconnel, just west of the confluence of two burns that feed the River Nith. From the site there are wide reaching views to the



southeast through to west, with views to the northwest through to east curtailed by the Nith Valley hill ridge. The long-ranging views take in the surrounding landscape, which is characterised by a mix of rough grazing and agricultural land. The latter is primarily defined by rectilinear fields and farms derived from agricultural improvements since the 1700s, such as the category C listed 19<sup>th</sup> century Kirkland Farm 0.6km to the south, and Vennel Farm, 0.16km to the southeast. However, there are potentially older medieval farms evident at Glenwharrie and Old Kirkland and the buried/ earthwork remains of medieval agricultural settlements are present in the vicinity of the Church, showing that it was once the focus of settlement.

**10.89** A historic routeway (possibly Roman in origin) passes through the valley to the north of the Church and to the south, the River Nith itself would have been an important transport route. Its position along these routeways would have strengthened the use of the site as a possible ecclesiastical base to help spread Christianity and for general ease of access for pilgrims and worshippers.

**10.90** To the south of the site, there are several areas of forest plantation (see **Plates 10.3-10.4**). Although the plantation is generally of modern date and derived from the operation of the then Forestry Commission Scotland (now Forestry and Land Scotland), some have their origins in private estate plantings of the 18<sup>th</sup> and 19<sup>th</sup> centuries, and this is the case at Kirkland where the earliest OS maps delineate areas of plantation. To the southeast there is also a large opencast quarry site, and two wind turbines. Further wind turbines are visible to the south, at Sandy Knowe which is currently partially built out (see **Plate 10.3**); Glenmuckloch and Lethans windfarms have also been consented just over 1m to the northwest of the Site. Overhead lines (OHL) are also visible in the landscape to the east of the site near Vennel Farm and a telephone mast is located to the northeast on top of Todholes Hill.

#### Cultural Significance

**10.91** The cultural significance of this asset is derived primarily from a combination its historic and scientific value as one of the earliest medieval religious sites in the region. More specifically, the upstanding remains have historical illustrative value – showing what the site was like – while those parts of the monument not yet investigated, have the potential to inform our understanding of the development of medieval and post-medieval ecclesiastical architecture, church organisation, and religious practices in southwest Scotland. The monument also has some historical associative and social value given its association with St. Connel and the development of the Christian faith in Scotland. The Miners' Cairn is also evidence that the church, even when ruinous and out of use, was still a focal point for the local community.

**Plate 10.3:** View from St Connel's looking south towards the mid to southern end of the GGRP (with Sandy Knowe Wind farm visible)



**Plate 10.4:** View from St. Connel's church, looking southwest towards the northern end of the GGRP and proposed location of the substation (with the Miners' cairn visible in the foreground)



**10.92** In terms of setting, the church has an important historical, functional, and spatial relationship with its churchyard that contributes to both its scientific and historical value by both illustrating burial practice at the site and having with the ability to further inform our understanding of that practice through scientific investigation. The modern cairn also has a historical link to the monument and helps to illustrate its more recent history, as well as providing a link to the mining history of the area.

**10.93** In the wider landscape, the monument has historical associative and functional relationships with St. Connel's spring, cross and stone, and the former settlement and transport routes that once existed around the church. However, these relationships are largely contextual as the ability to visually understand these relationships is relatively limited given that not much survives at ground level that can be seen over the distance between the features and the screening of modern plantation cover.

**10.94** Finally, what remains of the open rural setting of the monument aids in understanding its history and function as a rural parish church. However, the landscape has evolved and changed in several important ways, with the introduction of modern plantation, open-cast mines, OHL, wind farms and the alteration of enclosures, meaning that the contribution made in the last respect is limited. It should be noted that, at present, the closest wind farms to the asset are located on the southern side of the Nith valley.

#### Importance

**10.95** This asset is of high importance as a good example of a multi-period ecclesiastical site with above ground remains. Its national importance is reflected in its recent designation as a scheduled monument.

#### Assessment of operational change

**10.96** The remains of St. Connel's Church are located c. 1.2km northeast of the northern end of the proposed GGRP OHL route, where the new Glenmuckloch substation is proposed. The monument sits at a higher elevation within the Nith valley than the proposed OHL, however, intervening plantation between the farms at Glenwharrie and Kirkland currently screen much of the OHL route, albeit not the Glenmuckloch substation location. As managed forest, its screening effect cannot be relied on in perpetuity and it is liable to successive removal and replanting, which could result in the visibility of the OHL in medium to long distance views from and in-conjunction with the asset. In a worst-case scenario, the bare earth ZTV suggests that between 25 and 30 towers would be visible in conjunction with the Glenmuckloch substation (see the wireframe and photomontage visualisations: **Figure 10.2 and 10.2a-c**). However, it is unlikely that all tree cover would be lost simultaneously, and any loss of cover would likely be relatively short-term given the fell, grow, plant forestry cycle. Due to the height and lower positioning of the GGRP within the landscape it will be less prominent than the closest windfarm – Sandy

Knowe – which includes multiple turbines that are skylined in views from the asset (See Plate 10.3). The Glenmuckloch substation and last few towers will be the most discernible features of the GGRP in the setting of the asset (in a bare earth scenario) as these will be the closest to the monument, and whilst there are wind turbines visible behind them, the turbines are at a much greater distance and less prominent. In contrast the next 15 towers are spread out horizontally across the valley at ever increasing distance from the monument but with larger wind turbines behind them at closer range making them more prominent. A change in direction means that the GGRP towers will then cluster vertically in the view south from monument against a backdrop of multiple wind turbines most of which are larger and more prominent than the GGRP. Against this existing backdrop of infrastructure, the magnitude of change to the setting of the asset would be small.

#### Assessment of operational effect

**10.97** Visibility of the GGRP would add to the amount of energy infrastructure perceived in the setting of St Connel's Church and Churchyard, which in combination with the modern plantation present would diminish the remaining historic rural character of the area and the limited contribution that makes to understanding and appreciating the church as a former rural parish church. In contrast, visibility of the GGRP in combination with the remains of the church and churchyard will not change the scientific value of the buried archaeological remains, nor would it effect its historical associative and social value. The asset's key illustrative value in terms of its physical remains and key elements of setting that contribute to its cultural significance will also not be changed. Given the small magnitude of this change to an aspect of the asset's setting that is already much changed and makes only a limited contribution to its cultural significance, the scale of the effect is considered to be **minor** and not significant in EIA terms.

#### Mitigation

**10.98** No mitigation is proposed.

#### Residual operational effect

**10.99** In the absence of mitigation, the level of effect would remain **minor**.

#### Cumulative operational effect

**10.100** Within the 3km study area there are two consented windfarms, Glenmuckloch and Lethans windfarms, which will be built on the northern valleyside, approximately 1.6km to the northeast of the asset. Applications have also been submitted, but have yet to be determined, to extend Sandy Knowe and Lethans Windfarms. The already consented windfarms will result in much more noticeable change to the setting of the asset, than the introduction of the GGRP as they will be visible along the hill line to the north of the asset. Although located slightly further away than the closest elements of the GGRP, they will be more visible due to their greater height, colour and positioning against the skyline. The extension to Lethans is unlikely to be visible from the asset due to intervening topography but the extension to Sandy Knowe Wind Farm would be visually apparent in views to the southwest, as they are slightly larger turbines and extend the horizontal spread of the windfarm west. That said, this extension is against a backdrop of existing wind turbines, and they would be read as part of the extensive array of existing infrastructure visible in views in that direction. In relation to the cultural significance of the asset, this cumulative change will remain small because of the limited contribution that its already altered rural setting makes to its illustrative value and experience, its key values being in its physical form or other setting relationships as discussed above. In EIA terms, the scale of cumulative effect to the cultural significance of the asset would be **minor**.

#### Mitigation of cumulative operational effect

**10.101** No mitigation is possible.

#### Residual cumulative operational effect

**10.102** There would be a **minor** residual cumulative operational effect to the cultural significance of the asset.

#### Kirkland Farmhouse [HES ref: LB10239]

##### Description

**10.103** This category C listed building is an earlier to mid-19<sup>th</sup> century farmhouse. The house is two-storeys tall and built of coursed and squared rubble with ashlar dressings. The key elevations are to the west and the south, with the steading located to the north. The courtyard steading is not listed, but it is historical albeit with some modern roofing and other minor alterations. Historical maps show two square enclosed gardens to the front of the farmstead, although not as clear, these appear to be broadly traceable on the ground today.

**10.104** A road approaches the farmstead from the south, from which a driveway heads north up to the south and west elevations. This driveway roughly aligns with the historical access route shown on maps, which then continued north into the steading and agricultural landscape beyond. Today, a modern extension to the road continues past the western side of the farmstead, albeit separated by a modern woodland shelterbelt of broadleaved trees and adjoins the historical access to the rear. Other modern woodland plantation has been introduced into the setting of the asset, to the east and northwest. The shelterbelt and plantations largely enclose the farmstead and prevent any wide-reaching views. Only the north-eastern side of the steading has any potential for being viewed and appreciated in its historical agricultural setting and even then, the modern agricultural barns largely obscure the historical farmstead. Additional plantation lies between that surrounding the farmstead and the GGRP.

##### Cultural Significance

**10.105** The cultural significance of this asset is derived primarily from its historical illustrative and aesthetic (architectural) value as a good example of a post-improvement farmstead. The steading may not be covered by the listing, but it is an important part of the buildings setting as it contributes to the legibility of its function. At present the wider agricultural landscape cannot be visually appreciated in combination with the asset due to intervening vegetation and modern built development it therefore does not contribute to its cultural significance. However, this latter aspect of its setting may change over time depending on the felling/ regrowing of the surrounding plantation.

##### Importance

**10.106** This asset is of high importance as a designated asset.

##### Assessment of operational change

**10.107** The GGRP, specifically the Glenmuckloch substation and the northernmost few towers (T38 – T40), will be located 1km to the west of this asset. With the current level of tree cover it will not be possible to perceive the GGRP in combination with or from the asset. It is unlikely that all the intervening plantations to the west of the farmstead would be removed in one felling cycle and the deciduous shelterbelt to the west of the house should remain given its function as a windbreak. The presence of the shelterbelt will screen the GGRP from view even if the surrounding forestry is successively felled.

##### Assessment of operational effect

**10.108** In EIA terms, there will be no effect to the cultural significance of Kirkland Farmhouse as a result of the presence of the GGRP.

##### Mitigation

**10.109** No mitigation is required.

##### Residual operational effect

**10.110** In EIA terms, there will be no residual effect to the cultural significance of this asset.

##### Cumulative operational effects

**10.111** There will be no cumulative effects to the cultural significance of this asset as no cumulative schemes will be visible in combination with the GGRP from or in-combination with the asset.



## Knowe Farmhouse [HES ref: LB10240]

### Description

**10.112** This listed building is an earlier 19<sup>th</sup> century two-storey three-bay farmhouse built of rubble stone with ashlar dressings. The front elevation faces southeast and has a central gabled (ashlar) porch. Also listed are the asymmetrical ranges to rear (west) set out around a cobbled courtyard. These in turn are surrounded by several large-scale modern agricultural structures. To the front of the house is a large, enclosed garden with some deciduous tree cover. This layout remains largely unchanged from that depicted on the first edition OS map, save for the addition of some modern agricultural buildings that have replaced a series of enclosures to the rear of the building.

**10.113** The house is sited on a small plateau within the Nith Valley, c. 300m north of the river, with the rising valley topography framing any open views. The farmstead is located between a railway line, which passes east to west just 20m south of the farmstead at a lower ground level, and a road immediately to the north, which similarly passes east to west. Whilst the rear of the farmstead is relatively enclosed by the modern agricultural buildings it is possible to view the front elevation of the farmhouse when approaching from the southeast and from this perspective the house can be appreciated in its agricultural context, although the steading is not visible. Whilst its agricultural setting can be appreciated it does include an array of energy infrastructure (including existing OHL lines passing either side of the house and in front of it), the railway and the modern forest plantations.

### Cultural Significance

**10.114** The cultural significance of this asset is derived primarily from its historical illustrative and aesthetic (architectural) value as a good example of an improvement era farmstead with a particularly fine steading. The farmstead has an important functional and historical relationship with the surrounding agricultural landscape where it can be appreciated in combination with the asset, which is mainly on the key approach or from the east/ southeast as the historic steading is largely surrounded by modern agricultural buildings.

### Importance

**10.115** This asset is of high importance as a designated asset.

### Assessment of operational change

**10.116** The GGRP is located 0.5km to the east of the farmstead and will pass behind it, north to south. The bare earth ZTV suggests a high level of visibility directly from the listed buildings, but this is unlikely given the orientation of the farmhouse and the fact that there are modern agricultural buildings surrounding the steading to the rear. However, in combination views of a small number of towers (e.g. T33 – T36) and the farmhouse are possible, given the open agricultural setting of the asset. In such views, the towers will be read as a separate distant feature visibility of which will be relatively insignificant in comparison to the existing OHL in front of farmstead. Visibility of the GGRP in combination with the farmhouse will not fundamentally alter its key illustrative or architectural interest. However, it will perceptibly add to the relatively high level of modern energy infrastructure already visible in-combination with the asset, diminishing the contribution of its remaining rural setting that is visible in long distance views (closer views already being affected by the existing OHL). As per the criteria used herein this magnitude of change will be small.

### Assessment of operational effect

**10.117** There are existing OHL, supported on wood poles, that are more prominent in the views of the farmhouse elevation than the GGRP will be. Therefore, the addition of the GGRP will have a barely noticeable effect on the contribution that the asset's rural setting makes to its illustrative value. This setting contribution is important, but its alteration in this way will not affect the legibility of the asset or its appreciation. Therefore, the level of effect is **minor** and is not significant in EIA terms.

### Mitigation

**10.118** No mitigation is possible.

### Residual operational effect

**10.119** In the absence of mitigation, there will be a minor residual effect to the cultural significance of this asset.

### Cumulative operational effects

**10.120** The Glenmuckloch and Lethans windfarm turbines will be visible in-combination with both the GGRP OHL and the farmhouse, in longer range views to the northwest. These two windfarms will be read as a single span of turbines that are clearly set back from the farmhouse along the distant hill line. The Sandy Knowe extension will also likely be visible in-combination with the GGRP when viewing the farmhouse on the approach from the east/ southeast. Although slightly larger and increasing the horizontal spread of the Sandy Knowe layout, the additional turbines will be read as part of the existing spread of wind turbines visible along the southern side of the Nith Valley Hill line. These windfarms will noticeably increase the amount of energy infrastructure visible within the setting of the asset, and will be more prominent than the GGRP due to their scale, colour, and skyline siting. The change wrought by the windfarms will be greater than that effected by the visibility of the GGRP alone, and the contribution that the GGRP makes cumulatively to that change will be negligible. The fact also remains that there is existing OHL in the foreground of the key views that allow for the appreciation of the asset's cultural significance. Therefore, whilst there will cumulatively be a greater level of change to the rural character of the landscape, the magnitude of change remains classifiable as small. This change will again be to an aspect of the asset's setting that makes only a limited contribution to its cultural significance, as its more immediate rural setting is more important. The effect of this change will be **minor** and not significant in EIA terms.

### Mitigation

**10.121** No mitigation is possible.

### Residual cumulative operational effect

**10.122** In the absence of mitigation, there will be a minor residual effect to the cultural significance of this asset.

## Monitoring

**10.123** As no significant effects have been identified, no monitoring of such effects is required. However, it is anticipated that appropriate archaeological monitoring will be secured by condition on an eventual consent.

**10.124** The Applicant anticipates the provision of monitoring and supervision through the provision of an Archaeological Clerk of Works (ACoW). The ACoW would be on site to supervise the installation of protection measures for cultural heritage assets within the construction corridor, particularly those excluded from the ILA, and the protective matting for the crossing of the Deil's Dyke. They will also supervise ground-breaking works in areas of elevated archaeological potential and be available on a call-off basis to advise on any issues during construction, and confirm the acceptability of any repositioning of infrastructure.

## Summary of Significant Effects

**10.125** No likely significant effects have been identified in relation to the cultural significance of any assets as a result of the construction or operation of the GGRP, either alone or in combination with other projects.