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Crossdykes Wind Farm, Dumfries and Galloway

Cultural Heritage

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Crossdykes Wind Farm, Dumfries and Galloway

Cultural Heritage

9 Chapter Nine: Cultural Heritage

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9.1 Introduction

This chapter considers the effects on cultural heritage interests of the construction and operation of the proposed wind farm. The assessment has been carried out by CFA Archaeology Ltd (CFA) using information provided by Historic Scotland (HS) and the Dumfries & Galloway Council Archaeology Service (D&GCAS).

The study has been conducted in accordance with the Chartered Institute for Archaeologists' 'Code of Conduct'¹, and 'Standard and Guidance for historic environment desk-based assessment'².

The specific objectives of the cultural heritage study were to:

- Identify the cultural heritage baseline within the proposed development site;
- Assess the proposed development site in terms of its archaeological and historic environment potential;
- Assess the potential effects of the construction and operation of the proposed development on the baseline cultural heritage resource, within the context of relevant legislation and planning policy;
- Propose measures, where appropriate, to mitigate any predicted significant adverse effects, assessing residual effects taking this into account;
- Assess the potential cumulative effects of the proposed development in combination with other existing or proposed developments, upon the baseline historic environment resource.

The assessment is supported by Figures throughout. **Figure 9.1 - Figure 9.5** are photographic plates of particular or typical heritage assets identified within the proposed development site.

Figure 9.6 shows the proposed development Site Boundary and the Survey Area together with the identified heritage assets. Gazetteers of these heritage assets are provided in **Technical Appendix 9.1**.

Figure 9.7 depicts the turbine blade tip height ZTV and the location of heritage assets within 10km of the proposed development from which there could in theory be a view of the turbines. **Technical Appendix 9.2** provides a list of these external receptors and a tabulated summary assessment of the predicted effects on their individual settings.

Figure 9.8 shows the proposed development together with the turbine blade tip height ZTV; the locations of key heritage assets within 10km of the outermost turbines from which there is a theoretical visibility of one or more turbines, and the locations of other cumulative developments within the 10km study area. Potential cumulative effects are discussed below (**Section 9.7.3**).

9.2 Planning and Legislative Background

Planning policies relevant to the assessment are set out and discussed in more detail in the accompanying Planning Statement. Legislation, Planning Policy and Guidance relevant to the cultural heritage assessment is listed below.

¹ Chartered Institute for Archaeologists (CIfA) (2014) 'By-Laws: Code of Conduct', Chartered Institute for Archaeologists, London

² Chartered Institute for Archaeologists (CIfA) (2014); 'Standard and guidance for historic environment desk-based assessment', Chartered Institute for Archaeologists, London

³ Scottish Government (2014) 'National Planning Framework for Scotland 3'. Edinburgh

⁴ Scottish Government (2014) 'Scottish Planning Policy'. Edinburgh

⁵ Scottish Government (2011) 'Scottish Historic Environment Policy'. Edinburgh

⁶ HM Government (1979) 'Ancient Monuments and Archaeological Areas Act 1979' (reprinted 1996). HMSO London

⁷ HM Government (1997) 'Planning (Listed Buildings and Conservation Areas) (Scotland) Act' 1997. HMSO, London

⁸ Scottish Government (2011) 'Planning Advice Note (PAN) 2/2011: Planning and Archaeology'. Edinburgh

9.2.1 National Planning Policy, Legislation and Guidance

The primary planning policy, legislation and guidance at the National level comprises:

- National Planning Framework for Scotland 3 (NPF3)³;
- Scottish Planning Policy (SPP)⁴;
- Scottish Historic Environment Policy (SHEP)⁵;
- Ancient Monuments and Archaeological Areas Act 1979 (1979 Act)⁶;
- Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 (1997 Act)⁷;
- Planning Advice Note 2/2011 (PAN 2)⁸; and
- Scottish Historic Environment Strategy⁹;
- Historic Scotland 'Managing Change in the Historic Environment – Setting'¹⁰;
- Conservation Area Management (PAN 71)¹¹;

9.2.2 Regional and Local Planning Policy

The current Regional and Local Planning Policy comprises the Dumfries & Galloway Council Local Development Plan (LDP) (2014)¹². Relevant policies are:

- Policy HE1: Listed Buildings;
- Policy HE2: Conservation Areas;
- Policy HE3: Archaeology;
- Policy HE4: Archaeologically Sensitive Areas; and,
- Policy HE6: Gardens and Designed Landscapes.

9.2.3 Heritage Assets

Cultural heritage resources (hereafter heritage assets) include sites, features and areas with statutory and non-statutory designations as set out in SPP and SHEP.

Assets with statutory designations that are relevant in the context of this assessment include:

- Scheduled Monuments (SM);
- Listed Buildings; and,
- Conservation Areas (CA).

Assets with non-statutory designations that are relevant in the context of this assessment include:

- Inventory status Gardens and Designed Landscapes (GDL);
- Non-Inventory Designed Landscapes (NIDL)¹³;
- Archaeologically Sensitive Areas (ASA)¹⁴;

⁹ Scottish Government (2014). Our Place in Time - The Historic Environment Strategy for Scotland. Edinburgh.

¹⁰ Historic Scotland (2010) 'Managing Change in the Historic Environment – Setting'. Edinburgh

¹¹ Scottish Government (2004) 'Planning Advice Note (PAN) 71: Conservation Area Management. Edinburgh

¹² Dumfries & Galloway Council (2014) Dumfries & Galloway Council Local Development Plan. Dumfries

¹³ Under the D&GCLDP, D&G Council have published lists and extents of Non-Inventory Gardens and Designed Landscapes (NIDL). These are parks, gardens and designed landscapes which do not qualify for inclusion in the Inventory of Gardens and Designed Landscapes in Scotland but which are of regional/local interest. Their designation is non-statutory in effect but they are provided for under LDP Policy HE6: Gardens and Designed Landscapes.

¹⁴ Under the D&CLDP, D&G Council has published lists of designated ASAs. Their designation is non-statutory in effect but they are provided for under LDP Policy HE4: Archaeologically Sensitive Areas. .

- Archaeology; and,
- Other Historic Environment Interests.

9.3 Approach to Assessment

9.3.1 Consultation

Scoping Opinions relevant to this assessment were received from HS and D&GCAS.

Further, post-scoping consultation responses on cultural heritage matters were received from HS and D&GCAS. A summary of the responses is provided in Table 1.

Table 9. 1: Summary of Scoping and Consultation Responses

Consultee	Response	Action
Historic Scotland Scoping Opinion (28.08.14)	<p>Confirmed that there are no SMs, Category A Listed Buildings, Historic Battlefields or GDLs within the proposed development site.</p> <p>Recommended that potential cumulative impacts be assessed within the ES.</p> <p>The impact of the Proposed Development on the settings of the following assets should be taken into account:</p> <ul style="list-style-type: none"> - Newland Hill, fort 1100m ENE of Capelfoot (Index no. 3964); - Newland Hill, settlement 1560m E of Capelfoot (Index no. 12667); - Craighousestead, fort (Index no. 2330); and, - Pearsby Hill, enclosures and settlement 1250m E of Craighousestead (Index no. 12674), <p>Recommended that development in the southern part of the proposed development site, in particular on Percy Hill, would result in indirect impacts upon those assets listed above.</p> <p>Requested that the following visualisations be produced to support the ES:</p> <ul style="list-style-type: none"> - Newland Hill, fort 1100m ENE of Capelfoot (Index No. 3964): a photomontage taken from the northern defences of the fort, looking towards the Proposed Development; - Craighousestead, fort (Index no. 2330): a photomontage taken from a viewpoint within the fort, looking towards Newland Hill fort and the proposed development; 	<p>Cumulative impacts are assessed in section 9.7.3 'Potential Cumulative Effects'.</p> <p>The development layout has been devised to keep turbines off the summit area of Percy Hill.</p> <p>Effects on the settings of heritage assets are assessed in Section 9.7.2: 'Potential Indirect (Operational Phase) Effects'.</p> <p>Visualisations are presented as Figures 9.9 to 9.18.</p>

Consultee	Response	Action
	<ul style="list-style-type: none"> - Newland Hill, settlement 1560m E of Capelfoot (Index no. 12667): a wireframe taken from within the monument; and, - Pearsby Hill, enclosures and settlement 1250m E of Craighousestead (Index no. 12674): a wireframe taken from the approximate centre of the monument, looking towards Newland Hill fort and the proposed development. 	
D&GCAS Scoping Opinion (15.09.14)	<p>Stated that the methodology set out in the Scoping Report for assessing direct and indirect effects is appropriate.</p> <p>Stated that potential direct effects within the site should be assessed so that assets can be avoided or mitigation can be identified.</p> <p>Drew attention to the number of designated hill forts and defended settlements to the north and south of the proposed development, to Seven Brethren and Little Hartfell stone circles, and Boyken Burn ASA, and highlighted the potential for adverse indirect effects on their settings.</p> <p>Confirmed that they were content with the list of potential cultural heritage visualisations provided in section 11.6.2 of the Scoping Report, and that draft wireframes should be provided to D&GCAS to determine which visualisations should be represented by photomontage.</p> <p>Stated that there will be likely cumulative effects with the operational wind farm at Minsca to the south, and the consented wind farms at Ewe Hill and Craig to the east which will require assessment in the ES.</p> <p>Requested that cumulative wirelines be included in the ES.</p>	<p>The development layout has been devised to avoid known heritage assets and upstanding remains.</p> <p>Direct effects are assessed in Section 9.7.1: 'Potential Direct (Construction Phase) Effects'.</p> <p>Draft wireframes of proposed visualisations sent to D&GCAS on 15.10.14 as part of post-Scoping consultation with consultees.</p> <p>Cumulative effects are assessed in Section 9.7.3: 'Potential Cumulative Effects'.</p> <p>Cumulative wirelines are presented as Figures 9.9 to 9.18.</p>
Historic Scotland Consultation Response (05.11.14)	<p>Reiterated the issues raised in Scoping Opinion.</p> <p>Were content with the proposed list of cultural heritage visualisations.</p> <p>Confirmed that a 10km assessment radius for the identification of assets which may undergo indirect impacts is acceptable.</p> <p>Confirmed that there are no additional assets other than those already listed, which require specific assessment within the ES.</p>	<p>Noted. See actions above.</p> <p>Further consultation with Historic Scotland on the design evolution of the proposed development undertaken (29.01.15) see below.</p>

Consultee	Response	Action
	Confirmed that there are currently no assets proposed for scheduling within the assessment radius.	
Historic Scotland Design Evolution Consultation Response (17.02.15)	Noted that the removal of a turbine from the summit of Percy Hill (Design Option A) has reduced the potential impacts of the proposed development as it reduces the number of turbines in proximity to the four scheduled monuments to the south. Nevertheless, the proposed level of development within the southern part of the proposed development area would be likely to have a significantly adverse effect on the setting of the monuments in the vicinity. Recommended that further mitigation through reduction of the number of turbines, design and layout is explored.	Following feedback a decision was taken to remove turbines and associated infrastructure from the southern part of the proposed development site and redesign the layout.

9.3.2 Data Collection

A desk-based study and walk-over field survey were undertaken in order to assess the potential cultural heritage sensitivity of the development site.

9.3.2.1 Desk-based Study

The following information sources were consulted in the course of the desk-based assessment:

- HS Data Warehouse¹⁵ provided details of the locations and extents of SMs, Listed Buildings, GDLs and CAs, in GIS format;
- The Royal Commission on the Ancient and Historical Monuments of Scotland database (RCAHMS) - Canmore¹⁶;
- Dumfries & Galloway Historic Environment Record (HER);
- Ordnance Survey maps (principally 1st and 2nd Edition), and other published historic maps held in the Map Library of the National Library of Scotland;
- aerial photographs held by the Royal Commission on the Ancient and Historical Monuments of Scotland. In addition, available modern online aerial photography imagery¹⁷ was examined;
- published bibliographic sources including historical descriptions of the area (including the Statistical Accounts¹⁸);
- the Scottish Palaeoecological Database (SPAD)¹⁹; and,
- the Historic Land-use Assessment Data for Scotland (HLAmap)²⁰.

¹⁵ Historic Scotland (2013) Spatial Data Warehouse, [online GIS downloader], Available from http://data.historic-scotland.gov.uk/pls/htmldb/f?p=2100:10:0:::CURRENT_GIS:about. Accessed May 2014

¹⁶ RCAHMS (2013) Pastmap <http://jura.rcahms.gov.uk/PASTMAP/start.jsp>. Accessed May 2014

¹⁷ Google™ (2011) Google maps [online], available from <http://maps.google.co.uk>. Accessed May / June 2014 and Bing maps [online], available from <http://www.bing.com/maps/>. Accessed June 2014

¹⁸ Statistical Account of Scotland (1791-99) Parish of Tondergarth, v.19 p.443-446 and United Parishes of Hutton & Corrie, v.13 p.567-581; New Statistical Account of Scotland (1834-45) Parish of Tondergarth, v.4 p.195-202 and United Parishes of Hutton & Corrie, v.4 p.537-552

9.3.2.2 Reconnaissance Field Survey

A reconnaissance walk-over field survey (equating to a RCAHMS Level 1 Survey (RCAHMS 2004-2009)²¹) was undertaken of the proposed development site Survey Area (**Figure 9.6**). The aims of the field survey were to:

- locate all visible heritage assets, both those identified during the desk-based assessment and any previously unrecognised, and to record their character, extent and current condition;
- identify areas with the potential to contain unrecorded, buried archaeological remains, taking into account factors such as topography, geomorphology and ground conditions; and,
- inform the assessment of the possible effects of the proposed development on those features.

The positions of identified assets (and where appropriate their extents) were logged using a ProMap Mobile Mapper GPS Navigator system accurate to around +/- 1m. The baseline condition of identified assets was recorded on pro-forma monument recording sheets and by digital photography.

The field survey was carried out over a period of two days in May 2014, followed by an additional day survey in February 2015 to assess the site access track and compounds area. Weather conditions were generally fair and did not impede the surveys; visibility was good during both visits. Ground conditions included semi-improved pasture grass along the Milk Water valley and Carling Sike, with areas of knee-high grass and reeds and upland heather and bog along the Carling Sike, at Pleamoss Hill and across much of Friar Edge. Such ground cover may have restricted the visibility of some low relief features in heavily vegetated areas. Conditions did not, however, significantly hinder the identification and recording of features, and all the heritage assets recorded in the HER and by the RCAHMS database were visited, identified and recorded.

Visits to key cultural heritage assets in the wider landscape were also undertaken, in order to assess the character and heritage importance of the setting of the identified assets, and to assess the impacts of the proposed development on those settings. The site visits focused on cultural heritage assets most likely to receive significant impacts on their settings (i.e. those closest to the development area) and those specifically identified as requiring assessment by HS and the D&GAS. Factors considered to aid the assessment were:

- The location and orientation of the site;
- Designed views of or from principal façade (of listed buildings);
- The importance, if applicable, of designed settings and,
- Any obvious views or vistas.

¹⁹ Coles, G.M., Gittings, B.M., Milburn, P. and Newton, A.J. (1998) Scottish Palaeoecological Archive Database [online], available from <http://www.geo.ed.ac.uk/spad/>. Accessed June 2014

²⁰ RCAHMS (2013) Historic Land-Use Assessment for Scotland (HLAmap) [online], available from <http://www.rcahms.gov.uk>. Accessed May 2014

²¹ Royal Commission on the Ancient and Historical Monuments of Scotland Corporate Plan (2004-9), Survey and Recording Policy, p.12. Available at: <http://www.rcahms.gov.uk/survey>

9.4 Impact Assessment Methodology

9.4.1 Assigning Heritage Importance to Assets

The assessment of importance of heritage assets reflects the relative weight given to them in SHEP²² and SPP²³.

Table 9.2 summarises the relative importance of those heritage assets which are relevant in the context of this assessment.

Table 9. 2: Importance of Heritage Assets

Heritage Importance	Definition
National	Assets of national importance including: - Scheduled Monuments, and sites proposed for scheduling; - Category A Listed Buildings; - Inventory Gardens and Designed Landscapes; - Historic Battlefields; and, - Undesignated archaeological sites and areas identified in the D&GC HER as being of national significance grade ²⁴
Regional	Assets of regional importance including: - Archaeological sites and areas of distinctive regional importance; - Category B Listed Buildings; - Conservation Areas; - Archaeologically Sensitive Areas (ASA's); - Non-Inventory Designed Landscapes (NIDL's) identified in D&GC HER ; and, - Undesignated archaeological sites and areas identified in the D&GC HER as being of regional significance grade
Local	Assets of local importance including: - Category C Listed Buildings; - Undesignated archaeological sites and areas identified in the D&GC HER as being of local significance grade - Archaeological sites of local importance; and, - Unlisted historic buildings and townscapes with local (vernacular) characteristics
Lesser	Assets of little or no importance including: - Sites of former archaeological features; - Unlisted buildings of minor historic or architectural interest; - Poorly preserved examples of particular types of feature; and, - Artefact find-spots

²² Scottish Government (2011) 'Scottish Historic Environment Policy'. Edinburgh

²³ Scottish Government (2014) 'Scottish Planning Policy'. Edinburgh

²⁴ The D&G HER includes a 'significance grade' for each heritage asset recorded in the HER. The grading is the result of a desk based review of information held in the HER and no specific site visits have been carried out to inform this baseline grade assessment. Factors taken into account include the state of preservation of the monument, and the relative rarity of that particular form of site both at a regional and national level. More information, for instance from individual site visits or surveys, may result in a re-grading of the sites. For the purposes of this assessment, the HER significance grades have been

9.4.2 Assessment of Direct (Construction Phase) Effects

Criteria for assessing magnitude of direct (construction phase) effects, which measures the degree of change to the baseline condition of a heritage asset that would result from the construction of one or more elements of the proposed development, are presented in **Table 9.3**.

Table 9. 3: Magnitude of Direct (Construction Phase) Effects

Magnitude of Effect	Definition
High	A fundamental change to the baseline condition of the heritage asset, leading to total or major alteration of character.
Medium	A material, partial loss or alteration of character.
Low	A slight, detectable, alteration of the baseline condition of the asset.
Imperceptible	A barely distinguishable change from baseline conditions.

9.4.3 Criteria for Assessing Significance of Construction (Direct) Effects

The importance of the asset (**Table 9.2**) and the magnitude of the predicted effect (**Table 9.3**) are used to inform the professional judgement of the likely significance of the direct impacts. Table 4 summarises the criteria for assigning significance of direct effects.

Table 9. 4: Significance of Direct (Construction Phase) Effects

Magnitude of Effect ▼	Heritage Importance ►			
	National	Regional	Local	Lesser
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Imperceptible	Minor	Negligible	Negligible	Negligible

Major and moderate effects are considered to be 'significant' in the context of Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011 (EIA Regulations) (Scottish Government, 2011)²⁵. Minor and negligible effects are considered to be 'not significant'.

9.4.4 Assessment of Indirect (Operational Phase) Effects on Setting

Historic Scotland's guidance document Managing Change in the Historic Environment: Setting²⁶ notes that "setting should be thought of as the way in which the surroundings of a historic asset or place contribute to how it is experienced, understood and appreciated. Setting often extends beyond the immediate property boundary of a historic structure into the broader landscape". The guidance also suggests that if a proposed development is likely to affect the setting of a cultural heritage asset, an objective, written assessment should be prepared by the applicant to inform the decision-making process. The conclusions drawn should take into account the significance

used to assess the importance of heritage assets included in the assessment, but have been informed (and revised where appropriate) following the results of the field survey.

²⁵ Scottish Government (2011) Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011, Edinburgh

²⁶ Historic Scotland (2010) 'Managing Change in the Historic Environment – Setting'. Edinburgh

of the historic asset and its setting and attempt to quantify the extent of any detrimental impact. The methodology and level of information should be tailored to the circumstances of each case.

SMs, Category A and B Listed Buildings, CAs, Historic Battlefields, Inventory status GDLs, ASAs, and NIDLs within 10km of the proposed development are all considered. Assessment of effects on Category C Listed Buildings is restricted to those within 5km of the proposed development as these are all generally minor vernacular building types of the local historic environment, with localised geographical settings. Undesignated assets identified in the D&GC HER as being of national and regional importance and within 10km of the proposed development have also been taken into consideration.

The HS guidance recommends that, for each asset where a potential effect on setting has been identified, the assessment of possible effects should adopt a four-stage approach:

- identification of the characteristics of the setting of the asset;
- assessment of the sensitivity of that setting;
- identification of how the presence of the proposed development would affect that setting (magnitude of effect); and,
- assessment of the likely significance of the effect.

9.4.4.1 Identification of Characteristics of Setting

The baseline setting of each relevant asset or related group of assets is characterised on a case-by-case basis. Characterisation of setting of an asset is based upon its properties and location, and takes into account the factors identified in the guidance issued by HS. The baseline setting of each asset is characterised principally in terms of the:

- archaeological / historical context of the asset;
- current landscape and visual surroundings of the asset; and,
- aesthetic and experiential properties of the asset within its surrounding.

9.4.4.2 Criteria for Assessing Sensitivity of Setting to Change

Sensitivity of setting has been assessed by considering two factors:

- the relative weight which statute and policy attached to the asset and its setting (**Table 9.2**) and
- the degree to which the baseline setting contributes to the understanding and / or appreciation, and hence value, of the asset (**Table 9.5**).

The relative weight that statute and policy attach to the asset and its setting is determined using the heritage importance of heritage assets as set out in **Table 9.2**. The degree to which the baseline setting contributes to the understanding and/or appreciation of the asset has been assessed according to the criteria set out in **Table 9.5**.

Table 9. 5: Contribution of Setting to Understanding and Appreciation of a Heritage Asset

Contribution	Definition
High	A setting which makes a strong positive contribution to the understanding and/or appreciation of the siting and/or historical/archaeological/architectural context of the asset. E.g. a prominent topographic location; surroundings that include related monuments in close association; surroundings that are believed to be little changed from those when the asset was created.

Contribution	Definition
Moderate	A setting which makes some positive contribution to the understanding and/or appreciation of the siting and/or historical/archaeological/architectural context of the asset. E.g. surroundings that complement the siting and appearance of an asset, such as the presence of a feature of the rural past within a more recent farming landscape containing little or no urban or industrial development
Low	A setting which makes little positive contribution to the understanding and/or appreciation of the siting and/or historical/archaeological/architectural context of the asset. E.g. where surroundings only partially complement the siting and appearance of the asset, such as the presence of a feature of the rural past within a partly urbanised or industrialised landscape.
Negligible	A setting which does not contribute positively to the understanding and/or appreciation of the siting and/or historical/archaeological/architectural context of the asset. E.g. immediate surroundings, such as of a commercial coniferous single species woodland or industrial development, that are not relevant to understanding the context of the asset.

The heritage importance of the asset (**Table 9.2**) and the contribution of its setting to its understanding and appreciation (**Table 9.5**) are combined to assess, in combination with professional judgement, the overall sensitivity of the setting to change, as set out in (**Table 9.6**).

Table 9. 6: Sensitivity of Setting of an Asset

Importance of Asset ▼	Contribution of Setting ►			
	High	Moderate	Low	Negligible
National	High	Medium	Medium	Low
Regional	Medium	Medium	Low	Low
Local	Medium	Low	Low	Low

9.4.4.3 Identification of Magnitude of Effect on Setting

The assessment of magnitude of effect has been based on analysis of the turbine blade tip height and hub height ZTVs, taking into account the distance of the assessed asset from the proposed development, the number of blade tips and hubs theoretically visible and the present baseline setting of each asset. The ZTV model is, however, based on bare-earth surface topography and maximum blade-tip and hub heights; it takes no account of obstructions to intervisibility caused by existing forestry and other vegetation or buildings and other man-made features. Therefore, professional judgment has been used to assess the significance of effects informed by the ZTVs.

Where it has been determined that the setting of receptor is such that there is no potential for it to be affected by the presence of the proposed development, the receptor has not been considered further. For the remaining assets, the magnitude of effect on setting was assessed according to the thresholds in set out in **Table 9.7**.

Table 9. 7: Magnitude of Effects on Setting

Magnitude of Effect	Definition
High	A fundamental material impact obviously changing the surroundings of an asset

Medium	An impact discernibly changing the surroundings of an asset
Low	A slight, but detectable impact that does not materially alter the baseline setting of the asset.
Imperceptible	A very slight and barely distinguishable change from baseline conditions.

9.4.4.4 Assessment of Significance of Effect on Setting

The significance of effect on setting depends on both the magnitude of effect and the sensitivity of the setting of the asset. **Table 9.8** presents the matrix used to inform, along with professional judgement, the determination of the significance of effects on setting.

Table 9.8: Significance of Effects on Setting

Magnitude of Effect ▼	Sensitivity of Setting ►		
	High	Medium	Low
High	Major	Moderate	Minor
Medium	Moderate	Moderate	Minor
Low	Minor	Minor	None
Imperceptible	Negligible	Negligible	Negligible

Major and moderate effects are considered to be significant for the purposes of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations (2011)²⁷.

9.5 Baseline Conditions and Analysis of Heritage Importance

Twenty nine heritage assets have been identified within the Site Boundary, of which 25 lie within the Survey Area. The locations and extents of these assets are shown on **Figure 9.6**.

Technical Appendix 9.1 contains detailed descriptions of the character and baseline condition of those heritage assets located and identified within the Site Boundary (including those identified from desk-based sources and through field survey), together with a classification of the heritage importance of each. Assets recorded in the HER and Canmore that lie in close proximity to the main access route (the public road) and within the Site Boundary, have also been included within **Technical Appendix 9.1**.

Numbers in bold and in brackets in the following text, refer to site numbers depicted on **Figure 9.6** and listed in **Technical Appendix 9.1**.

9.5.1 Heritage assets within the Site Boundary

There are no Scheduled Monuments or Listed Buildings within the Site Boundary, and no part of the development would lie within a Garden and Designed Landscape, Historic Battlefield, Conservation Area, ASA or NIDL. The HER

²⁷ Scottish Government (2011) Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011, Edinburgh

²⁸ Roy, W. (1747-55) Military Survey of Scotland

²⁹ Ordnance Survey 1st Edition (1862), Dumfriesshire Sheet XXXV six inches to one mile

Ordnance Survey 1st Edition (1862), Dumfriesshire Sheet XLVI six inches to one mile

³⁰ Ordnance Survey 2nd Edition (1900), Dumfriesshire Sheet XXXV.SE six inches to one mile

Ordnance Survey 2nd Edition (1900), Dumfriesshire Sheet XXXV.SW six inches to one mile

Ordnance Survey 2nd Edition (1900), Dumfriesshire Sheet XLVI.NE six inches to one mile

Ordnance Survey 2nd Edition (1900), Dumfriesshire Sheet XLVI.NW six inches to one mile

holds no records for any undesignated assets assigned a significance grade of national importance within the Site Boundary.

The HER contains records for eight heritage assets (**1-6**, **19** and **20**) within the Site Boundary; all of which relate to medieval or post-medieval areas of former cultivation, enclosures and ring-enclosures. Such features represent areas of relict, pre-improvement period agricultural and pastoral land-use and settlement.

Examination of historical maps provided further information on settlement and land-use within and around the proposed development site. Pre-Ordnance Survey mapping (Roy²⁸) shows the farmstead of 'Crossdykes', corresponding to the present day farm and two farms on the east side of the Water of Milk, named as 'Newlandhill' and 'Howdales', roughly corresponding to locations of assets 1 and 2. The Ordnance Survey 1st²⁹ and 2nd³⁰ Edition maps also show 'Crossdykes' farmstead, with a layout similar to that persisting today and show the land within the proposed development site as largely unenclosed and unimproved land. 'Howgate' is no longer shown, although 'Newlandhill' is depicted, on the south side of the Newland Cleuch, south of Percy Hill.

Examination of the vertical aerial photographs³¹ and modern aerial photographic imagery³² identified two additional assets within the Survey Area (**9** and **10**) and provided additional detail on elements of two known assets (**1** and **5**).

Field survey found an additional eight assets (**11-18** and **22-29**) and several additional elements forming part of assets **5** and **6**.

HLAMap³³ records that much of the land within the proposed development site has remained relatively undeveloped; it is used today predominantly for pastoral purposes, and is comprised largely of rough grazing moorland. Three areas of relict medieval to post-medieval settlement and agriculture and sheep enclosures are shown, roughly corresponding to the HER recorded extents of assets **1**, **5** and **6**.

Documentary sources provided further baseline information on heritage assets previously identified and general background information.

The Scottish Palaeoecological Database (SPAD)³⁴ does not record any palaeoecological sites within the proposed development site.

The heritage assets identified by the study that lie within the Survey Area [and along the main access road] (**Technical Appendix 9.1**) are discussed thematically below.

³¹ Sortie 540/1540, 11.03.55, frames 0037 & 0039, 1:10,000, library ref B0411; Sortie 106G/UK/0429, 10.06.45, FRAMES 4135, 4138, 4132, 4157 & 4160, 1:15,000, library ref B0651; Sortie 39/4720, 28.05.75, frame 057, 1:25,000, library ref C0187

³² Google™ (2011) Google maps [online], available from <http://maps.google.co.uk>. Accessed May / June 2014 and Bing maps [online], available from <http://www.bing.com/maps/>. Accessed June 2014

³³ RCAHMS (2013) Historic Land-Use Assessment for Scotland (HLAMap) [online], available from <http://www.rcahms.gov.uk>. Accessed May 2014

³⁴ Coles, G.M., Gittings, B.M., Milburn, P. and Newton, A.J. (1998) Scottish Palaeoecological Archive Database [online], available from <http://www.geo.ed.ac.uk/spad/>. Accessed June 2014

9.5.1.1 Prehistoric Remains

9.5.1.1.1 Possible burial cairns

A low, turf-covered circular mound (**14**; **Figure 9.1**), 6m in diameter by 0.2m high, was recorded during the field survey, in rough pasture on the summit of the upper terrace / ridgeline forming the south-western end of Friar Edge. Several medium-sized angular stones are visible on its surface and around its perimeter, giving the impression of possible kerb stones surrounding what might be the remains of a former burial cairn. A small drystone built feature, visible as a sub-square pile of interlocking stones, lies on the north-eastern edge of the feature; this is likely to be a later addition, such as a shepherds cairn or marker cairn. The location of the recorded remains commands extensive surrounding views, particularly in the north-west to south-west arc of view, over the Water of Milk valley, and towards the location of a scheduled fort to the south-west (SM No.3964) and it is possible that this feature is a burial cairn of perhaps Bronze Age date.

A second possible burial cairn (**15**) was recorded approximately 30m to the north-east of that described above (**14**). This feature is visible as a larger, oval, turf-covered mound, 9m by 6m by 1m in height, with a few scattered stones visible on its surface and around its edge. However, this feature is slightly less convincing as a possible burial cairn and may simply be a natural bedrock mound.

Both features (**14** and **15**) are considered to be of unknown heritage importance as there is not currently enough known about their baseline character (without further archaeological investigation), to assign a reliable classification of heritage importance. Should one or both features be prehistoric burial cairns, they would be considered to be of regional importance.



Figure 9.1: Possible burial cairn (asset 14)

9.5.1.1.2 Enclosure

A horseshoe-shaped enclosure (**16**) was recorded during the field survey, located in slightly waterlogged ground on a small north-west facing terrace on the upper slopes of Friar Edge. The feature is poorly preserved, visible as low, heather and moss-covered turf banks defining an area 8m by 6m internally. It is unclear what the function or full baseline character of this feature is. However, given its relatively high topographic location, and proximity to other possible prehistoric features (**14** and **15**), it is possible this feature is prehistoric in origin. The RCAHMS Inventory (1997) notes the presence of some former medieval to post-medieval stock enclosures within eastern Dumfriesshire that are located on hill summits and this feature may equally well be one such enclosure. The enclosure is considered to be of unknown, but no more than local, heritage importance given its poor level of preservation.

9.5.1.2 Medieval and Later Remains

9.5.1.2.1 Settlement, Enclosure, and Field Systems

Four groups of enclosures, field systems and settlement remains (**1**, **2**, **5** and **6**) have been recorded within the Survey Area. These are located on the lower valley slopes of the Water of Milk and around its tributaries, within areas of semi-improved ground which likely reflect the extent of the former fields and areas of cultivation.

The largest of the groups (**5**) survives as a relatively well preserved complex of field banks and rig and furrow cultivation (**5.1**, **5.3**, and **5.8**; **5.10** and **5.34**); large sub-rectangular enclosures (**5.15**, **5.20** and **5.35**); circular / sub-circular enclosures (**5.5**, **5.6**, **5.14** (**Figure 9.2**), and **5.16**); rectangular enclosures (**5.11** and **5.18**); and a possible clearance cairn (**5.2**). There are also nine smaller 'ring-enclosures' (**5.4** (**Figure 9.3**), **5.7**, **5.9** (**Figure 9.4**), **5.17**, **5.23**, **5.31**, **5.32**, **5.33**, **5.36**); at least one former building of two compartments (**5.24**); and eleven smaller rectangular structures or possible buildings (**5.12**, **5.13**, **5.19**, **5.21**, **5.22** and **5.25-5.30**). The features survive as turf bank earthworks measuring variously between 1m-2m wide and 0.2m-0.5m high. Two sections of linear bank (**5.1** and **5.10**) have been truncated by a modern farm track and a circular enclosure (**5.6**) has been overlain by a modern fence. There is some evidence for different phases preserved within the remains; for example, where a sub-rectangular structure (**5.11**) intersects with the southern end of a linear field bank enclosure (**5.10**) (**Figure 9.5**), although it is unclear from their relative positions and appearance on the ground, which is the earlier feature.



Figure: 9.2: Enclosure 5.14



Figure9.4: Ring-enclosure 5.9



Figure 9.3: Ring-enclosure 5.4



Figure9.5: Sub-rectangular structure 5.11 and field bank 5.10

A second group of large, square and sub-circular field banks and enclosures (**1**) lies on the northern bank of Newland Cleuch. Although the extent of the asset recorded in the HER extends into the Survey Area, the visible remains all lie outwith the Survey Area boundary, surviving as well-preserved turf banks. This field system roughly corresponds with the locations of 'Howgate' and 'Newlandhill' farmsteads depicted on Roy's map (1747-55) and apparently abandoned prior to the mid 19th century.

The third group (**6**) lies dispersed along the Hare Sike and its junction with the Water of Milk. The features recorded here include: a sub-rectangular enclosure containing possible rig and furrow cultivation surviving up to 0.2m high (**6.9**); three well-preserved and relatively substantial sub-circular stone and turf banked enclosures (**6.1**, **6.5** and **6.7**) surviving up to 0.5m high; two possible sub-rectangular structures (**6.6** and **6.8**), defined by low turf banks no more than 0.3m high; and other possible small structures (**6.2-4**) visible as roughly circular banks of stone and grass tussocks, or roughly circular areas of stone and turf. These remains are likely to be those of old sheep management enclosures.

The fourth group is a cluster of five ring enclosures (**2**) along a narrow ridge to the east of the Water of Milk.

Two other, smaller groups of enclosures and possible structures (**11** and **22**) were identified during the field survey. The first (**11**) lies on the southern banks of the Carling Sike and at a slightly higher altitude to the remains encountered along the Glaister Burn (**5**) and Newland Cleuch (**1**). The features recorded include: two small circular structures or 'ring-enclosures' (**11.1** and **11.4**); a larger sub-rectangular enclosure (**11.2**); a section of linear turf bank (**11.5**); and the very poorly preserved remains of a fourth possible structure (**11.3**). The second group (**22**) lies within an area of semi-improved grass pasture and the remains include: two large turf bank enclosures - one sub-rectangular with a 'rounded' northern end (**22.3**) and a second, sub-circular (**22.4**) at a slightly lower elevation. In addition, two smaller sub-square enclosures or structures (**22.1** and **22.2**), both of which are poorly preserved and survive to no more than 0.2m in height, were also identified.

In addition to those described above, two other enclosures, a rectangular turf bank enclosure (**24**) within an area of reeds and moss and overlain by later drainage, and a small 'ring-enclosure' (**9**), along the Glaister Burn, have also been recorded, together with several small turf bank enclosures and other features lying along the public road. These features include small circular 'ring-enclosures' (**25** and **28**) and another (**3.1**), possibly associated with a section of former turf field bank (**3.2**), a small circular structure (**27**) no more than 3m in diameter and a small sub-rectangular platform (**26**) possibly a former structure.

The RCAHMS³⁵ notes that there is a particular concentration of smaller turf enclosures of varying shapes and sizes along the headwaters of the Esk and across its Watershed into the Water of Milk the precise function, date and contemporaneity of which is not clearly known, but it is likely that they relate to medieval to post-medieval period phases of stock farming (likely sheep) and may have held a variety of functions such as: stacks for feed; ewe and lamb pens; milking pens; and general stock enclosure (p.31).

Based on the survival, condition, character and wider landscape context of these assets as established during the field survey, assets **1** and **5** are considered to be of regional heritage importance. Asset **2**, a group of ring enclosures (likely to be former sheep management features) and asset **6** (a second group of sheep management enclosures) are assessed as being of local importance. The smaller areas of enclosures (**11** and **22**), and those

outlying enclosures (and associated bank) (**3.1-2**, **9**, **24**, **25** and **28**), are considered to be of local heritage importance.

9.5.1.3 Other Features

9.5.1.3.1 Hay Ree

A small circular feature (**7**), annotated as 'Hay Ree' (hay stack) on the Ordnance Survey 1st Edition map³⁶ survives as a circular turf-built structure, on the eastern edge of asset **5** (**Figure 9.2**). The hay ree is considered to be of local heritage importance.

9.5.1.3.2 Sheepfolds

The Ordnance Survey 1st Edition map³⁷ depicts three sheepfolds (**8**, **19** and **20**) along the Glaister Burn. The sheepfolds, all of drystone walled construction, survive up to a height of 1.4m and least two (**8** and **20**) are still in-use. Asset **4**, described in the HER as a ring enclosure, is also most likely to be an early sheepfold. These sheepfolds are considered to be of local heritage importance.

9.5.1.3.3 Turf Banks

Two isolated sections of turf bank (**10** and **13**), measuring between 1m-2m in width and 0.2m-0.5 in height, are considered to be of lesser heritage importance. Two other banks (**29.1-2**), running parallel to each other, measure between 2m-2.5m in width and no more than 0.3m high. These are poorly preserved features and may relate to drainage; they are considered to be of lesser heritage importance.

9.5.1.3.4 Quarry

A small quarry scoop (**23**) 5m in diameter and cut into a west-facing slope was identified during the field survey. The quarry may be associated with the features identified as part of asset **22**, as it lies in close proximity to them. The quarry is considered to be of lesser heritage importance.

9.5.1.3.5 Spring

A spring (**21**) is depicted on the Ordnance Survey 1st Edition map³⁸. The recorded location of the spring is adjacent to a burn an area that is waterlogged and heavily vegetated. The spring is considered to be of lesser heritage importance.

9.5.1.3.6 Peat Cutting

Two areas of peat cutting (**12** and **17**) were identified during the field survey. The former visible as low, overgrown sub-rectangular terraces, 0.2-0.3m deep, cut into the north-east facing hill slopes; the latter as more defined long rectangular cuts, up to 0.5m deep, into the upper slopes of Friar Edge. The peat cutting is considered to be of lesser heritage importance.

9.5.1.3.7 Other Structures

A small section of possible drystone wall, revetted into a north-east facing slope, together with a small possible drystone structure formed from flat-laid interlocking stones (**18**), was identified during the field survey. The function of this feature is not apparent but it is not considered to be of any great archaeological significance and is of lesser heritage importance.

³⁵ RCAHMS (1997) The Royal Commission on the Ancient and Historical Monuments and Constructions of Scotland. Eastern Dumfriesshire: an archaeological landscape. Edinburgh, The Stationary Office. Held at RCAHMS A.1.7.DUM

³⁶ Ordnance Survey 1st Edition (1862), Dumfriesshire Sheet XLVI six inches to one mile

³⁷ Ordnance Survey 1st Edition (1862), Dumfriesshire Sheet XLVI and XXXV six inches to one mile

³⁸ Ordnance Survey 1st Edition (1862), Dumfriesshire Sheet XXXV six inches to one mile

Two other small features: a small, sub-rectangular platform **(26)**, 5m long and 3m wide, possibly the site of a former small building; and a small circular structure **(27)**, 3m in diameter, are considered to be of lesser heritage importance, being poorly preserved minor historic environment features in relation to others recorded in the area.

9.5.2 Historic Landscape Character

The proposed development lies within landscape character types 18 (Annandale Foothills) and 18a (Foothills with Forest - Castle O'er) as described in the Dumfries and Galloway Wind Farm Landscape Capacity Study Appendix report (2011)³⁹. Landscape character type 18 includes small settlements and dispersed farms located in narrow sheltered valleys and lower hill slopes. The foothills are also rich in archaeology with numerous hill forts and settlements and occasional stone circles. In landscape character type 18a there is little settlement but Iron Age hill forts and other archaeological features occur on the edge of the foothills.

The wider landscape in which the development site lies preserves relict remains of medieval to post-medieval settlement and agro-pastoral land-use, surviving in pockets along the Water of Milk valley and its numerous tributaries. These areas are preserved within a modern landscape comprised of a mix of enclosed improved and semi-improved pasture and arable land, together with areas of rough pasture and large tracts of commercial forestry plantation. Interspersed amongst the pre-improvement remains immediately to the south of the proposed development site (and largely located on the higher hill terraces and hill summits), lie several later prehistoric enclosed settlements and hill forts, all of which are scheduled monuments (e.g. SM No's 2330, 3964 **(Figure 9.7)**).

Further afield (e.g. to the north-east of the proposed development site along the Boyken Burn valley) lie other areas of later prehistoric and pre-improvement settlement (including a former township dating to the 14th century (SM No. 4385)).

The evidence for later prehistoric activity, together with that of medieval/post-medieval settlement and farming, shows that the area retains elements of a historic landscape character with considerable time depth. The elements that contribute to this character survive in both the upland moorland and rough pasture locations, and in the semi-improved and improved land of the river valleys.

9.5.3 Archaeological Potential within the proposed development site

The proposed development site lies in both improved and semi-improved pasture and arable land around Crossdykes Farm and along the Water of Milk and Glaister Burn, and the lower reaches of Newland Cleuch, with rough pasture grassland and moorland elsewhere. The landform rises from 200m AOD (Above Ordnance Datum) along the Water of Milk itself, to 322m AOD as the highest point along Friar Edge at the south-eastern boundary of the site.

Historically, the land has been used predominantly for grazing and, to a lesser degree for arable farming, and it retains much of this character today. Evidence from historic map sources suggests that the proposed development site has also retained the largely unenclosed landscape character shown on early Ordnance Survey mapping, remaining conducive to the survival of remains of historic settlement and land-use from at least the later prehistoric period onwards.

Most of the surviving remains lie below the 250m contour and occur in semi-improved pasture and along the many watercourses that flow through the proposed development site. It is in this lower lying land that the archaeological

potential is likely to be highest. On the higher ground of Percy Hill, around possible prehistoric assets **14-16**, there is also potential for encountering previously unknown buried remains.

Taking account of the known heritage baseline the archaeological potential of the proposed development site is assessed to be moderate, particularly in the land below 250m. However, taking into account the nature of the ground over much of the proposed development site (drained upland moorland, grassland and bog) and the limited land take required for the construction of the proposed development, the likelihood of encountering remains of archaeological importance is assessed as being moderate to low.

9.5.4 Heritage Assets within the ZTV and within 10km of the Proposed Development

Within 10km of the proposed development and within the ZTV there are 60 SMs, 14 Category B Listed Buildings, four ASA'S, four NIDL's and 22 un-designated assets with a significance grade of national importance in the HER. There are no Category A Listed Buildings, no GDLs and no CAs within the ZTV and within 10km of the proposed development. Four Category C Listed Buildings lie within 5km of the proposed development and within the ZTV.

9.6 Mitigation by Design

9.6.1 Direct Effects

Heritage assets were recorded in the field using a Global Positioning System (GPS) and the grid references provided are accurate to around 1m. Assets were recorded either as 'point' locations (given for some individual features such as hay rees); as 'linear' elements (given for field banks and other linear physical features); or, as 'areas' (where the asset extends over a wide area or there are multiple components over an extensive area).

The results of the desk-based assessment and field survey were provided as GIS data with the locations and extents of recorded heritage assets highlighted and buffer zones provided.

A buffer zone of 50m radius was placed around the potential prehistoric assets **(14-16)** to protect these assets from direct effects and to reduce the potential for direct effects on any unknown potentially sensitive buried archaeological remains associated with them (such as satellite burials). A buffer zone of 20m radius was placed around sensitive individual assets and areas of potential medieval to post-medieval data (e.g. **5, 6 and 11**), to protect these assets from direct effects and to reduce the potential for direct effects on buried archaeological remains associated with them (most of these assets are individual features such as enclosures, which are unlikely to have extensive remains of sensitive buried archaeological features associated with them).

This data was used during the design phases, in combination with other on-site environmental constraints, to avoid potential direct effects (where possible) on the heritage assets identified within the Survey Area. The layout of the proposed development, including the positioning of the turbines and the layout of access tracks and other infrastructure, has been arrived at through a series of iterative stages to develop the best layout within the context of all environmental and technical constraints (as discussed in Chapter 3: Site Selection). The layout shown on **Figure 9.6** therefore embeds mitigation to avoid direct effects on heritage assets, wherever possible.

³⁹ Dumfries and Galloway Wind Farm Landscape Capacity Study Appendix Report (2011) Carol Anderson and Alison Grant Landscape Architects

Taking the cultural heritage data into account during the iterative design process has resulted in the following changes to the proposed development layout:

- The originally proposed access route to the turbines utilised an existing farm track which passes through asset **5**, a medieval to post-medieval farmstead considered to be of regional heritage importance. An alternative access route was chosen in order to avoid potential direct impacts on this asset;
- A further two access options were considered to the north. The most northerly option was chosen in order to avoid possible direct impacts on medieval to post-medieval assets **22** (a small cluster of enclosures and possible structures) and **24** (an enclosure), both considered to be of local heritage importance, as shown on **Figure 9.6**. This option was also considered to lessen any visual impact associated with the access tracks on the open hill side;
- The finalised access track was micro-sited to avoid features associated with asset **6**, a medieval to post-medieval area of dispersed enclosures and possible structures, considered to be of local heritage importance.

9.6.2 Indirect Effects

Following feedback from Historic Scotland on Design Option A (see Table 1), a decision was taken to completely remove turbines and infrastructure proposed in the southern part of the proposed development site in order to lessen the potential indirect impacts on heritage assets; in particular on Newlands Hill, Fort (SM 3964) and Newlands Hill, Settlement SM (12667), which lie just to the south of the proposed development site boundary (**Figure 9.6**). The distance to the nearest turbine from these assets has increased from 729m and 680m respectively, to 1100m in each case. In addition, the layout has been designed to appear as a more cohesive wind farm, affecting a smaller vertical and horizontal field of view, which has reduced the degree to which the proposed development appears visually within the Water of Milk river valley, a key element of the settings of both of these assets.

9.7 Assessment of Effects

The assessment of effects is based upon the proposed development description outlined in **Chapter 2: Project Description**, and the layout for the proposed development shown on **Figure 9.6**. The assessment is structured as follows:

- Construction effects of the proposed development: direct effects on all cultural heritage assets, either designated or non-designated, within the Survey Area and along the main access route;
- Operational effects of the proposed development: effects on the settings of designated and non-designated cultural heritage assets including: SMs; Listed Buildings; CAs; GDLs; ASAs; NIDLs; and D&GC HER assets of national heritage importance that have been identified from the ZTV to have theoretical intervisibility with the proposed turbines; and,
- Cumulative effects: effects on the settings of cultural heritage assets by the proposed development in combination with other existing or proposed wind energy developments.

9.7.1 Potential Direct (Construction Phase) Effects

Any ground-breaking activities associated with the construction of the proposed development (such as those required for turbine bases and crane hardstandings, access tracks, cable routes, compounds, etc) have the potential to disturb or destroy features of historic environment interest. Other construction activities, such as

vehicle movements, soil and overburden storage and landscaping also have the potential to cause direct, permanent and irreversible impacts on the cultural heritage.

The assessment of potential direct effects has been carried out with reference to the proposed development layout and heritage assets shown on **Figure 9.6**. Using the criteria detailed in **Table 9.3** and **Table 9.4, Technical Appendix 9.1: Heritage Assets within the Study Area**, summarises the predicted direct effects on the identified heritage assets within the Study Area. Potential direct effects are predicted in relation to one heritage asset (**6**).

It is assumed that the same road infrastructure would be used for dismantling and removal of the built features of the proposed development during decommissioning. Therefore no additional impacts on the historic environment are predicted during the decommissioning stage.

9.7.1.1 Potential Direct Effects on Heritage Assets within the Survey Area and along the main access route

The proposed access track from the public road passes through an area (**6**) designated in the HER as a dispersed group of small, circular turf-built enclosures. The access track has been routed to avoid those visible elements of this asset that were recorded during a site survey (**Figure 9.6**). Without further mitigation, it is possible that construction works in this area (vehicle movement and / or spoil storage) could affect one or more of the small enclosures (**6.4-6.7** and **6.9**) of regional heritage importance.

Several other assets lie in close proximity to the main access route along the public road to the development site (**3.1, 3.2, 25, 27** and **28**). Road upgrading along this route could, without further mitigation, affect one or more of these features; three of which (**3.1, 25** and **28**) are small enclosures of local heritage importance.

Mitigation has been proposed to prevent accidental direct effects from occurring to these assets (see Section 9.8 'Mitigation').

9.7.1.2 Potential Direct Effects on Buried Archaeology

Ground disturbing excavations associated with the construction of the proposed development could have an adverse effect on any unrecorded, buried archaeological remains present in affected areas. The potential for encountering buried archaeological remains within the Survey Area is assessed as being moderate, particularly in areas where there are clusters of known heritage assets (**5, 6, 11, 14-16** and **22**). However, the likelihood of encountering remains of archaeological importance is assessed as being moderate to low.

Mitigation has been proposed to address the possibility of encountering hitherto undiscovered buried remains (see **Section 9.8** 'Mitigation').

9.7.2 Potential Indirect (Operational Phase) Effects

The assessment of magnitude of effects on setting has been based on the analysis of the turbine blade tip and hub height ZTVs, taking into account the distance of the asset from the proposed development, the number of blade tips and hubs theoretically visible from the asset and the baseline setting of each asset. The ZTV models are, however, based on bare-earth surface topography and maximum blade-tip and hub heights. They take no account of obstructions to intervisibility caused by existing forestry and other vegetation or by buildings and other man-made features. Therefore, professional judgement, informed by the ZTVs and (where appropriate wirelines or photomontages), has been used to assess the significance of effects.

Those assets judged to have the most sensitive settings, as well as those requested by HS, and D&GCAS to be specifically assessed (**Table 9.1**), have been assessed using photomontage and wireframe visualisations. A list of those heritage assets for which visualisations have been provided is given below (**Table 9.9**).

Technical Appendix 9.2 provides a tabulated summary assessment, on a site by site basis, of the predicted effects on the settings of assets within a 10km radius (and any beyond 10km specifically identified by consultees for inclusion in the assessment) where the blade tip ZTV indicates that there would be theoretical views of one or more turbines (the Appendix also lists the number of turbine hubs theoretically visible). The locations of these assets are shown on **Figure 9.7**.

Table 9.9: List of Cultural Heritage Visualisations

Heritage Asset Name	Status and Asset No.	Visualisation Type and Figure No.
Seven Brethren stone circle, Whiteholme Rig	SM 639	Wireframe: Figure 9.9
Camp Hill, fort 175m WSW of Balliehill / Tanlawhill ASA	SM 647	Wireframe: Figure 9.10
Castle O'er fort and linear earthworks	SM 651	Photomontage: Figure 9.11
Craighousesteads, fort	SM 2330	Photomontage: Figure 9.12
Newhall Hill, enclosures	SM 3963	Wireframe: Figure 9.13
Newland Hill, fort 1100m ENE of Capelfoot	SM 3964	Photomontage: Figure 9.14
Tanlawhill Settlement 1150m SE of / Tanlawhill ASA	SM 4696	Wireframe: Figure 9.15
Newland Hill, settlement 1560m E of Capelfoot	SM 12667	Wireframe: Figure 9.16
Pearsby Hill, enclosures and settlement 1250m E of Craighousestead	SM 12674	Wireframe: Figure 9.17
Boyken Burn ASA (Boyken Burn, township 695m W of Westerhall)	SM 4385	Wireframe: Figure 9.18

9.7.2.1 Seven Brethren stone circle, Whiteholme Rig (Index No. 639; Figure No. 9.9)

Seven Brethren stone circle comprises the remains of at least seven stones, set in a roughly circular arrangement within improved pasture on gentle north-facing slope. The monument lies within the Water of Milk river valley within a wider improved modern rural landscape and is adjacent to a small shelter belt of conifer trees. Distant views across the river valley to the north, and along the valley to the north-east and north-west, are afforded from its location, which contribute to the understanding of the monument's setting. Views to the south are more restricted due to local topography. The stone circle is not an obvious feature in the local landscape, the stones being collapsed and partially overgrown and obscured from view by vegetation; consequently the site has relatively limited aesthetic and experiential properties. The consented turbines of Ewe Hill when built will be visible on the skyline to the north-east, and the existing Minsca Wind Farm is visible to the south; both developments constitute part of the baseline setting of the monument. Seven Brethren stone circle is of national importance and its setting, which provides a moderate contribution to its understanding and appreciation, is assessed as being of medium sensitivity.

Figure 9.9, a wireframe visualisation from the location of the stone circle, provides an indication of the visibility of the proposed development, 6km to the north-east. The wireframe shows that all 15 turbines would be visible from the stone circle, in the same direction as the consented Ewe Hill Wind Farm. The proposed development would be partially screened by the topography and would be no more visually intrusive than the consented Ewe Hill Wind Farm. The proposed development would not intrude into the main views from the monument north-westwards across or south-westwards along the Water of Milk river valley.

The introduction of the proposed development would represent a detectable change to the wider landscape surroundings of the stone circle, being visible in distant views, but its presence would not substantially alter the stone circle's current setting. The visibility of the proposed development from the stone circle would not affect the ability to appreciate and understand the landscape setting of the stone circle, which is understood by its siting on higher ground within and overlooking the Water of Milk river valley. The predicted effect of the proposed development on the setting of the stone circle is assessed as being of low magnitude and of minor significance (not significant in EIA terms).

9.7.2.2 Camp Hill, fort 175m WSW of Balliehill (and Tanlawhill ASA) (Index No. 647; Figure No. 9.10)

The substantial and relatively well-preserved remains of Camp Hill fort, a multiphase fort or defended settlement of the later prehistoric period, lie within improved pasture on the summit of Camp Hill, 1.5km to the north of the proposed development. The fort lies at the eastern edge of the Tanlawhill ASA and is strategically sited at the confluence of the Black Esk and the White Esk, which meet to join the River Esk running to the east and north-east. The fort lies within a surrounding landscape dominated by commercial forestry plantations. Distant views are afforded from the fort over the surrounding landscape when looking west, north and eastwards, but are more restricted in a south-east to south-west arc due to local topography which partly obscures views of the Water of Milk valley. Several other later prehistoric forts and settlements lie within the wider landscape around the fort, within the Tanlawhill ASA, and with which Camp Hill fort may have had some relationship and intervisibility; in particular Castle O'er fort (Index No. 651), which lies approximately 2.7km to the north-west (**Figure 9.7** and **Figure 9.11**), and Tanlawhill Settlement (Index No. 4696) approximately 0.8km to the west (**Figure 9.7** and **Figure 9.15**).

Camp Hill fort lies within Tanlawhill ASA and is part of the Eskdale Prehistoric Trail which is a waymarked visitor trail from Bentpath to Eskdalemuir, with stops along the route to walk to nine prehistoric sites each of which is provided with an interpretation panel. The fort has high aesthetic and experiential properties deriving from its prominent strategic topographic location and wide ranging landscape views as well as the contribution the fort makes to the surviving wider prehistoric landscape. The consented turbines of Ewe Hill will, when built, be visible in views to the south-east from the fort, and constitute part of the baseline setting. Camp Hill fort is of national importance and its setting, which provides a moderate contribution to its understanding and appreciation, is considered to be of medium sensitivity.

Figure 9.10, a wireframe visualisation from the fort, provides an indication of the visibility of the proposed development in views to the south south-east. **Figure 9.10** shows that 12 turbine hubs and an additional two turbine tips would be visible in views from the fort, the nearest turbine being 1.5km distant. The proposed turbines would be visible in the same view as and backdropped by the consented Ewe Hill wind farm, which forms part of the baseline setting. The proposed turbines would not intrude into views along the Esk river valleys however, nor would they intervene in views afforded from the fort towards other related later prehistoric monuments located to the west and north-west. When viewed from Castle O'er (**Figure 9.11**) Camp Hill fort can be seen with the proposed development in the background beyond the intervening commercial forestry.

The introduction of the proposed development would represent a detectable but not fundamental change to the wider landscape surroundings of the fort. Its presence would not substantially affect the ability to appreciate and understand the strategic landscape setting of the fort, which is best understood by its topographical position at the confluence of the Esk rivers, and its relationship to other nearby later prehistoric settlements. The predicted effect of the proposed development on the setting of Camp Hill fort is assessed as being of medium magnitude and of moderate significance (significant in EIA terms). The asset's immediate setting at the head of the Water of Milk valley and the confluence of the Esk River tributaries, would not however be so adversely affected as to diminish the integrity of the asset's setting to an unacceptable degree, within a landscape extensively used for commercial forestry.

9.7.2.3 Castle O'er fort and linear earthworks (Index No. 651; Figure 9.11)

Castle O'er fort is described by HS as being 'by far the most impressive example of a number of broadly contemporary earthwork monuments in Upper Eskdale'. The remains, which lie on the summit of Castle O'er Hill, within Castle O'er Forest, constitute a multi-vallate, multi-period fort together with linear earthworks likely representing the remains of a contemporary land management system. The fort lies to the north of the Tanlawhill ASA within a surrounding landscape dominated by commercial forestry plantations and is sited on one of the highest points in the local landscape, positioned between the Black Esk and White Esk river valleys, and near their confluence forming the River Esk valley. The fort's position commands extensive distant views to the surrounding landscape, and the fort appears to have been strategically sited to provide clear views along the river valleys. Other later prehistoric forts and settlements lie in the wider landscape around the fort (for example, Camp Hill fort (Index No. 647), approximately 2.7km to the south-east, the Haw Birrens settlement and fort (Index Nos. 2852-3) approximately 2km to the west) and Castle O'er hill fort may have been a focal point within this group. Other broadly contemporary forts and settlements lie further afield (for example Newland Hill fort (Index No. 3964), approximately 6.5km to the south) which may have also had intervisibility with Castle O'er, but for which such visual relationships are less readily appreciable on the ground due to the distance between the sites and intervening modern commercial forestry.

Castle O'er fort is part of the Eskdale Prehistoric Trail and has high aesthetic and experiential properties deriving from its prominent strategic topographic location and wide ranging landscape views as well as the contribution the fort makes to the surviving wider prehistoric landscape. The consented Ewe Hill Wind Farm, when built, and four turbine tips of the existing and consented Craig turbines, will be visible in views from the fort to the south-east; these developments constituting the baseline setting of the monument. Castle O'er fort is of national importance and its setting, which provides a moderate contribution to its understanding and appreciation, is considered to be of medium sensitivity.

Figure 9.11, a photomontage of the view from Castle O'er shows that all 15 turbines would be visible when looking in a south south-easterly direction, in one of the main views down the White Esk valley, and towards other potentially related later prehistoric sites (for example, Camp Hill fort (Index No. 647)). However, the proposed turbines, at 4.1km away, would be visible on the distant skyline, beyond the White Esk river valley and the other likely related sites, and in the same view as and backdropped by the consented Ewe Hill Wind Farm. Distant views from the fort in other directions, including that along the Black Esk river valley, and the Esk River valley would remain unaffected, as would views of Castle O'er from the related prehistoric forts and settlements located nearby.

The introduction of the proposed development would represent a detectable change to the wider landscape surroundings of the fort, being visible in clear views, but its presence would not substantially affect the ability to

appreciate and understand the landscape setting of the fort, which is best understood by its topographic position near the confluence of the Esk rivers, and an appreciable relationship to other nearby later prehistoric settlements. The predicted effect of the proposed development on the setting of Castle O'er fort is assessed as being of low magnitude and of minor significance (not significant in EIA terms).

9.7.2.4 Craighousestead, fort (Index No. 2330; Figure 9.12)

The remains of the later prehistoric Craighousestead fort lie within improved pasture on the summit of Craighousesteads Hill, overlooking the Water of Milk river valley to the north, west and south, the smaller tributary valley of the Capel Burn to the north and north-east, and the Priestbutts Burn valley to the south and south-east. Views to the surrounding landscape are provided in all directions, and the fort appears to have been positioned to afford both distant views to the surrounding landscape, now dominated by commercial forestry, and near views along the Water of Milk river valley. The fort forms part of a group of later prehistoric settlement remains which lie within 2km of Craighousestead fort and with which Craighousestead would have had some intervisibility. These include in particular Newland Hill fort (Index No. 3964), approximately 1.5km to the north-east. The location of Craighousestead fort is visible from the local vicinity when travelling through the Water of Milk river valley and when looking towards the fort from nearby hilltops. The consented Ewe Hill Wind Farm will, when built, be visible in views to the north-east of the fort and the existing Minsca Wind Farm is visible to the south-west, both developments constitute part of the baseline setting of the fort.

Craighousestead fort has relatively high aesthetic and experiential properties deriving from its strategic topographic location and wide ranging landscape views as well as the contribution the fort makes to the surviving wider prehistoric landscape. Craighousestead fort is of national importance and its setting, which provides a moderate contribution to its understanding and appreciation, is considered to be of medium sensitivity.

Figure 9.12, a photomontage view from the fort, shows that all 15 turbines would be visible in views to the north-east, beyond Newland Hill in the same direction of view as the consented Ewe Hill Wind Farm. However, the proposed development, at almost 2.7km distant, would not be physically dominant in relation to the fort. The proposed development would not intrude into the views to the west and south along the Water of Milk River valley, or obscure the distant views afforded from the fort to the wider landscape.

The introduction of the proposed development would represent a detectable change to the wider landscape surroundings of the fort, being visible in views behind Newland Hill and on the edge of the Water of Milk river valley, therefore visible in one of the views that contribute to an understanding of the landscape setting of the fort. The proposed development would not however substantially affect the ability to appreciate and understand the landscape setting of the fort, as views in directions other than to the north and those towards nearby related monuments would remain uninterrupted. The predicted effect of the proposed development on the setting of Craighousestead fort is assessed as being of low magnitude and of minor significance (not significant in EIA terms).

9.7.2.5 Newhall Hill, enclosures (Index No. 3963; Figure 9.13)

The well preserved earthwork remains of Newhall hill enclosures lie within pasture on the east south-east facing summit of Newhall Hill, from which distant views overlooking the lower valley ground and towards the higher ground of the valley slopes can be gained in a north-east to south-east arc of view. The remains are those of two prehistoric enclosed settlements and views include those towards the later prehistoric remains located on Newland Hill (Index Nos. 2330 and 12674) to the north. The consented Ewe Hill Wind Farm will, when built, be visible in views to the north-east, and the existing Minsca Wind Farm is visible in views to the south-west. The setting of Newhall Hill enclosures has a high experiential / aesthetic value due to its elevated topographic location above the Water of Milk valley and the wide ranging landscape views as well as the contribution the monument

makes to the surviving wider prehistoric landscape. Newhall Hill enclosures are of national importance and their setting, which provides a moderate contribution to their understanding and appreciation, is considered to be of medium sensitivity.

Figure 9.13, a wireframe visualisation from the location of the monument, provides an indication of the views of the proposed development. The wireframe shows that all 15 turbines would be visible in northerly views on the distant skyline, beyond Newland Hill. However, the proposed development, at 3.9km distant, would not be physically dominant in relation to the two enclosed settlements, and would not be visible in the north-easterly to south-easterly arc of views afforded from the monument, which form the main contribution to the landscape setting of the enclosures.

The introduction of the proposed development would represent a detectable change to the wider landscape surroundings of the enclosures, being visible in distant views; but its presence would not substantially alter the important current aspects of the setting. The visibility of the proposed development from the enclosures would not affect the ability to appreciate and understand the landscape setting of the monument, which is understood by its location in an elevated position with views in a north-east to south-east arc. The predicted effect of the proposed development on the setting of Newhall Hill enclosures is assessed as being of low magnitude and of minor significance (not significant in EIA terms).

9.7.2.6 Newland Hill, fort 1100m ENE of Capelfoot (Index No. 3964; Figure 9.14)

The well-preserved remains of Newland Hill fort lie in rough pasture on the western edge of the summit of Newland Hill, overlooking the Water of Milk valley to the north, west and south, and the smaller tributary of the Capel Burn valley to the south and south-east. Distant views to the surrounding landscape are possible in all directions other than when looking in an easterly direction, which are restricted due to topography. The fort appears to have been positioned to provide both distant views to the surrounding landscape and clear views along the valleys of the Water of Milk and the Capel Burn. The fort forms part of a group of later prehistoric settlement remains which lie within 3km of Newland Hill and with which the fort would have had some intervisibility. These include the Newland Hill settlement (Index No. 12667) approximately 0.4km to the east south-east; Pearsby Hill enclosures and settlement (Index No. 12674) and Craighousestead fort, between 1km and 1.5km to the south and south-west; and Newhall Hill enclosures (Index No. 3963), approximately 2.7km to the south. Newland Hill fort is visible from the local vicinity when travelling through the Water of Milk valley and the fort itself is visible when looking towards it from nearby hilltops. Other broadly contemporary forts and settlements lie further afield (for example Castle O'er fort (Index No. 651), approximately 6.5km to the north, which may have also had intervisibility with Newland Hill fort, but for which such visual relationships are less readily appreciable on the ground due to the distance between the sites and intervening commercial forestry. The consented Ewe Hill Wind Farm will, when built, be visible in near views from the fort to the east and the existing Minsca Wind Farm is visible in views to the south-west.

Newland Hill fort has aesthetic and experiential properties deriving from its strategic topographic location and wide ranging landscape views as well as the contribution the fort makes to the surviving wider prehistoric landscape. The fort is of national importance and its setting, which provides a moderate contribution to its understanding and appreciation, is considered to be of medium sensitivity.

Figure 9.14, a photomontage from the northern rampart of the fort, shows that all 15 turbines would be visible in near views (1.1km away) in a northerly direction beyond Percy Hill. The turbines would be visible alongside but separately from the consented Ewe Hill wind farm, which constitutes part of the baseline setting. **Figure 9.12**, from Craighousestead fort (Index No. 2330), 1.5km to the south-west of Newhall Hill fort, shows that the proposed

development would also be visible behind but not interrupting the view of Newland Hill fort from nearby related monuments on hill tops to the south.

The introduction of the proposed development would represent a noticeable but not fundamental change to the immediate landscape surroundings of the fort. However, views southwards along the Water of Milk valley and those south-eastwards along the Capel Burn, and views in other directions and towards the other likely related later prehistoric monuments located nearby, would remain unaffected. The predicted effect on the setting of Newland Hill fort is assessed as being of medium magnitude and of moderate significance (significant in EIA terms). The asset's immediate setting overlooking the Water of Milk and Capel Burn valleys, and its relationships with nearby related monuments to the east and south, would not be so adversely affected as to diminish the integrity of the asset's setting to an unacceptable degree.

9.7.2.7 Tanlawhill Settlement 1150m SE of (Tanlawhill ASA) (Index No. 4696; Figure 9.15)

Tanlawhill settlement, the remains of the later prehistoric enclosed settlement, lie within Tanlawhill ASA in an elevated position in rough pasture on the north-east facing upper slopes of Downey Hill, overlooking the Black Esk river valley and surrounded by modern commercial forestry. From the location of the settlement, open views are afforded along the Black Esk valley (to the north-west and north-east), and across to the main Esk river valley (to the north east and east), whilst those in other directions are restricted due to local topography. The remains of other later prehistoric settlements, notably Camp Hill fort (Index No. 647), approximately 0.8km to the east, are present in the surrounding landscape. The consented Ewe Hill Wind Farm will, when built, be visible in views from the settlement to the south-east and the will constitute part of the baseline setting.

The settlement has aesthetic and experiential properties deriving from its topographic location and localised valley landscape views as well as the contribution the site makes to the surviving wider later prehistoric landscape and Tanlawhill ASA. Tanlawhill settlement is of national importance and its setting, which provides a moderate contribution to its understanding and appreciation, is considered to be of medium but localised sensitivity.

Figure 9.15, a wireline visualisation from the location of the settlement, provides an indication of the visibility of the proposed development from the settlement remains. The wireframe shows that six turbine hubs and an additional three turbine tips would be visible in views to the south-east, 2.2km distant and backdropped by the consented Ewe Hill Wind Farm. The turbines would not however be present in views eastwards along the Esk river valley, nor would they intervene in views afforded from the settlement towards other likely related later prehistoric monuments located in the ASA to the east and north-west.

The introduction of the proposed development would represent a detectable change to the wider landscape surroundings of the settlement, but its presence would not substantially affect the ability to appreciate and understand the landscape setting of the settlement, best appreciated by its topographical location providing localised views of the Esk river valleys, and an its relationship to other nearby later prehistoric settlements. The predicted effect of the proposed development on the setting of Tanlawhill settlement is assessed as being of low magnitude and of minor significance (not significant in EIA terms).

9.7.2.8 Newland Hill, settlement 1560m E of Capelfoot (Index No. 12667; Figure 9.16)

The later prehistoric remains of Newland Hill settlement, a crescent-shaped bank and ditch which partly enclose the remains of at least two roundhouses, lie in an elevated position on the south-west facing edge of Newland Hill, just below the summit. The location of the settlement, overlooking the Capel Burn valley, allows distant views along and across the valley to the south-east, south and south-west, and across to the Water of Milk river valley to the south-west and west. However, being located below the summit of the hill the site does not appear to have

been located for defensive purposes and the focus of its setting is more localised to the Capel Burn valley. The remains are part of a group of later prehistoric settlement remains, with which the settlement would likely have had some contemporary relationship and intervisibility. These related monuments include Newland Hill fort (Index No. 3964), 0.4km to the west north-west; Pearsby Hill enclosures and settlement (Index No. 12674) and Craighousestead fort, 1km and 2km to the south-west respectively; and remains of two other settlements (HER Nos. MDG 10385 and 10386), to the east and west respectively. The consented turbines of Ewe Hill will, when built, be visible in near views to the east (in an arc from north-east to south-east) and constitute part of the baseline setting.

Newland Hill settlement has aesthetic and experiential properties deriving from its topographic location and landscape views as well as the contribution the settlement makes to the surviving wider prehistoric landscape. Newland Hill settlement is of national importance and its setting, which provides a moderate contribution to its understanding and appreciation, is considered to be of medium but localised sensitivity due to the proximity of the Ewe Hill Wind Farm.

Figure 9.16, a wireline from the monument, provides an indication of the visibility of the proposed development. The wireline shows that all 15 turbines would be visible (1.1km distant) in a northerly direction beyond the hill summit. They would be visible alongside but separately from the consented Ewe Hill wind farm and at similar distance. **Figure 9.17**, a wireline view from Pearsby Hill settlement (Index No. 12674), approximately 1km to the south-west, shows that the proposed development would also be visible behind but not interrupting the view of Newland Hill settlement from nearby related monuments on hill tops to the south.

The introduction of the proposed development would represent a noticeable but not fundamental change to the landscape surroundings of the settlement. However, views along and across the Capel Burn valley (which is an important component of its setting) and those towards the other later prehistoric monuments nearby, would remain unaffected. The predicted effect of the proposed development on the setting of Newland Hill settlement is assessed as being of medium magnitude and of moderate significance (significant in EIA terms). The asset's immediate setting above and overlooking the Capel Burn, and its relationships with nearby related monuments to the west and south, would not however be so adversely affected as to diminish the integrity of the asset's setting to an unacceptable degree, when considered in the context of the baseline setting containing the consented Ewe Hill Wind Farm in close proximity.

9.7.2.9 Pearsby Hill, enclosures and settlement 1250m E of Craighousestead (Index No. 12674; Figure No. 9.17)

The remains of a later prehistoric settlement at Pearsby Hill, a series of superimposed earthwork enclosures and associated domestic structures, lie within pasture on a south-facing slope at the summit of Pike Knowe. The settlement overlooks the Capel Burn valley (to the north and east), the Water of Milk river valley (to the west and south-west) and the Priestbutts Burn valley (to the south and south-east). Distant views are afforded from the settlement in southerly views. The remains are part of a group of later prehistoric settlement remains which lie within 2km of the site, and with which the settlement would likely have had some intervisibility. These include Newland Hill fort and settlement (Index Nos. 3964 and 12667), approximately 1km to the north and north-east; Craighousestead fort (Index No. 2330), approximately 0.8km to the south-west; and Newhall Hill enclosures (Index No. 3963), approximately 1.7km to the south-west. The consented Ewe Hill Wind Farm will, when built, be visible in close proximity to the monument to the north-east and constitute part of the baseline setting.

Pearsby Hill enclosures and settlement has aesthetic and experiential properties deriving from its topographic location and landscape views as well as the contribution the monument makes to the surviving wider prehistoric

landscape. The monument is of national importance and its setting, which provides a moderate contribution to its understanding and appreciation, is considered to be of medium but localised sensitivity due to the proximity of the Ewe Hill Wind Farm.

Figure 9.17, a wireline visualisation from the monument, provides an indication of the views of the proposed development. The wireframe shows that all 15 turbines would be visible, 2.1km distant, in views to the north from the monument beyond the Capel Burn valley and Newland Hill. The proposed turbines would be visible alongside but standing separately from the consented Ewe Hill wind farm. The proposed development would not interrupt views towards associated monuments in the near vicinity nor would the proposed development intrude into views eastwards along the Capel Burn valley, or in a southerly direction towards the Water of Milk river valley, and across the Priestbutts Burn valley.

The introduction of the proposed development would represent a detectable change to the wider landscape surroundings of the monument and would be visible in behind the later prehistoric remains on Newland Hill, in views which contribute to understanding and appreciating the landscape setting of the Pearsby Hill settlement. The presence of the proposed development would not however be physically dominant in relation to the settlement and would not substantially affect the overall ability to appreciate and understand the landscape setting of the monument, as views in other directions from the settlement and towards other nearby monuments would remain unaffected. The predicted effect of the proposed development on the setting of Pearsby Hill enclosures and settlement is assessed as being of low magnitude and of minor significance (not significant in EIA terms).

9.7.2.10 Boyken Burn ASA (Boyken Burn, township 695m W of Westerhall (Index No. 4385) Figure 9.18)

Boyken Burn ASA occupies the steep sided, east facing Boyken Burn river valley, within a largely upland rough pasture landscape. The ASA is bordered to the north, south and west by intensive commercial forestry and opens out onto the River Esk valley to the east. The existing Craig wind turbines are visible to the south-east and, when built, the consented Craig Extension and Ewe Hill Wind Farm will also be visible in views to the south-east and south-west from some parts of the ASA. The ASA contains a cluster of well preserved multi-period archaeological remains, several of which are scheduled monuments; Boyken Burn township (Index No. 4385) is the extensive remains of a pre-Improvement medieval to post-medieval settlement.

Views out to the wider landscape are restricted to those to the east by steeply rising ground and the ASA consequently has a secluded setting. The ASA is considered to be of medium heritage importance and its setting, which provides a moderate contribution to understanding and appreciation of the heritage assets within it, is assessed as being of medium but localised sensitivity.

Analysis of the blade tip height ZTV shows that theoretical visibility of the proposed development from within the ASA is very limited and restricted to higher ground on west facing slopes. A wireline visualisation (**Figure 9.18**) from the south-western edge Boyken Burn township (Index No.4385), provides an indication of the maximum visibility of the proposed development from within the ASA. **Figure 9.18** shows that from this elevated part of the ASA (250m AOD) there would be visibility of eight turbines and an additional five turbine tips; the nearest turbines being 2.4km distant above and beyond the skyline. The proposed turbines would be visible at the head of the Boyken Burn valley alongside the consented Ewe Hill Wind Farm when looking in a westerly direction. The wireframe does not however take account of the extensive commercial forestry covering the hills and in practice the forestry would provide additional visual screening.

The introduction of the proposed development would represent a detectable change to the landscape surroundings of Boyken Burn ASA, but its presence would not substantially affect the ability to appreciate and understand the localised landscape setting of the ASA, nor would the proposed development detract from the ability to appreciate the visual relationships between the various heritage assets which make up the ASA. The predicted effect of the proposed development on the setting of Boyken Burn ASA is assessed as being of low magnitude and of minor significance (not significant in EIA terms).

9.7.2.11 Tanlawhill ASA (Camp Hill, fort 175m WSW of Balliehill (Index No. 647) Figure 9.10 and Tanlawhill Settlement 1150m SE of (Index No. 4696) Figure 9.15)

Tanlawhill ASA covers a range of hills on the southern side of the Black Esk and Esk river valleys, and is largely an area of upland rough pasture, bordered by the Black Esk and River Esk to the north and east, and is almost entirely surrounded by extensive commercial forestry. The consented Ewe Hill Wind Farm will, when built, be visible in views to the east south-east from some of the higher ground within the ASA. The ASA contains several scheduled monuments and other non-designated heritage assets including the well preserved remains of earthworks and other features dating to the later prehistoric period. These remains include Camp Hill fort (Index No. 647) and Tanlawhill settlement (Index No. 4696) (heritage assets assessed individually above). The ASA has a relatively secluded setting, localised to the Esk river valleys, and it is the views along the river valleys of the Black Esk and the Esk, together with the ability to appreciate the visible archaeological landscape preserved within it, which provides the main contribution to the setting of the ASA. The ASA is considered to be of medium heritage importance and its setting, which provides a moderate contribution to its understanding and appreciation, is assessed as being of medium but localised sensitivity taking account of the surrounding commercial forestry landscape.

Two visualisations, **Figure 9.10** from Camp Hill (Index No. 647) and **Figure 9.15** from Tanlawhill settlement (Index No. 4696), provide an indication of the visibility of the proposed development from scheduled heritage assets within the ASA. These wireframes show that all 15 turbines would be visible from Camp Hill fort (Index No. 647), at the south-eastern edge of the ASA and that, from further west along the Black Esk valley, visibility of the proposed turbines would be more restricted due to local topography. The proposed development would not however be visible in the key views along the Black Esk and Esk river valleys, nor would the proposed development intervene in views between various monuments within the ASA.

The introduction of the proposed development would represent a detectable change to the wider landscape surroundings of Tanlawhill ASA, but its presence would not substantially affect the ability to appreciate and understand the localised landscape setting of the ASA within the Black Esk and Esk river valley, nor would the proposed development detract from the ability to appreciate the visual relationships between the various heritage assets which make up the ASA. The predicted effect of the proposed development on the setting of Tanlawhill ASA is assessed as being of low magnitude and of minor significance (not significant in EIA terms).

9.7.3 Potential Cumulative Effects

The cultural heritage cumulative impact assessment focuses on those assets identified by HS, and D&GCAS to be specifically assessed for effects on setting (see **Table 9.1** for details). Cumulative wireline visualisations from these assets are provided on the Figures listed in **Table 9.9**.

Figure 9.8 shows the proposed development, the location of key cultural heritage assets within 10km of the proposed development from which there would be theoretical views of the proposed development and the location of other wind energy developments (other than developments at scoping stage) surrounding the proposed development.

The distribution of cumulative wind farm developments (operational, consented, application, and proposed) within 60km of the proposed development is shown in **Chapter 4: LVIA, Figure 4.12a**.

There are ten cumulative developments within 10km of the proposed development:

- Existing wind farms: Minsca (16 turbines - 120m to tip) and Craig (four turbines – 99.5m to tip);
- Consented and under construction wind farms: Ewe Hill (22 turbines - 111.5m to tip (Note: Six of these turbines were previously consented at 126.5m)), Craig (two turbines - 99.5m to tip) and Solwaybank (15 turbines - 126.5m to tip);
- Wind farms with submitted Scoping Reports: Loganhead (17 turbines - 130m to tip), Kirkleton Farm (single turbine - 46.6m to tip), Hotts Farm (single turbine - 35m to tip), and Balgrayhill Farm (single turbine - 60.5m to tip).

Where visible from assessed heritage assets, these cumulative developments appear on the cumulative wirelines provided.

Cumulative impacts in respect of cultural heritage are most likely to arise from the proposed Development in combination with five of the wind farms listed above and shown on **Figure 9.8**. Those are: Ewe Hill, Loganhead and Craig, to the south-east; Minsca, to the south south-west; and Solwaybank, to the south south-east. The single turbine developments currently at scoping stage are small-medium turbine proposals (less than 80m to tip) at such a distance from the proposed development that a cumulative impact on the setting of cultural heritage assets is avoided.

Cumulative impacts are most likely to arise in relation to three groups of scheduled monuments:

- north-west group: those in and around Tanlawhill ASA;
- east group: those within the Boyken Burn ASA; and,
- south group: those along the Water of Milk valley.

9.7.3.1 North-west group

This group of scheduled monuments includes Camp Hill, fort (647), Castle O'er fort (651) and Tanlawhill Settlement (4696). The visualisations from each of these locations (**Figures 9.10-11** and **Figure 9.15**) show that the proposed development would be visible in the same arc of view of 50 degrees as the consented Ewe Hill Wind Farm, a constituent of the baseline setting,. The proposed Loganhead and Craig Extensions would also be visible along the skyline. The Castle O'er viewpoint (**Figure 9.11** in particular shows the disposition of the various cumulative schemes which would be viewed as one group.

The cumulative impact on these southerly views from adding the proposed development to the consented and proposed wind farms would be no greater than that predicted above (**Section 9.7.2**); that is of no more than moderate significance.

9.7.3.2 East group

This group of scheduled monuments includes Boyken Burn township (4385) and Calkin settlement (4396) both of which lie within the Boyken Burn ASA and from which there is only limited predicted visibility of the proposed development; views being limited to those obtained from the higher west-facing hill slopes. A third scheduled monument in this group (Calkin, settlements and cultivation terraces 300m N of (Index No 4394)) also has some predicted visibility of the proposed development.

The visualisation from Boyken Burn township (**Figure 9.18**) shows that the proposed development would be visible in the same arc of view of 115 degrees as the consented Ewe Hill Wind Farm, which is a constituent of the baseline setting, and the Loganhead and Craig Extensions distributed along the southern skyline. From Calkin settlement (4396) Ewe Hill Wind Farm would be screened from view by local topography and further screened by commercial forestry on the intervening hillsides.

The cumulative impact on these southerly views from adding the proposed development to the consented and proposed wind farms would be no greater than that predicted above (Section 9.7.2); that is of no more than minor significance.

9.7.3.3 South group

This group of scheduled monuments includes Craighoustead fort (2330), Newhall Hill enclosures (3963), Newland Hill fort (3964), Newland Hill settlement (12667), Pearsby Hill enclosures and settlement (12674) and, further afield, Seven Brethren stone circle (639). As a group, these monuments are more widely dispersed throughout the landscape and, with the exception of Seven Brethren stone circle, all occupy positions on or very close to hill summits.

The visualisations from each of these locations (**Figures 9.9, 9.12-14 and 9.16**) show that the other than from Newland Hill fort (3964) and Newland Hill settlement (12667), the proposed development would be visible in the same arc of view to the east and north-east as the consented Ewe Hill Wind Farm, which is a constituent of the baseline setting. From Newland Hill fort (3964) and Newland Hill settlement (12667), the consented Ewe Hill Wind Farm would be visible in views to the east of the assets, offset from those of the proposed development. The proposed Loganhead Wind Farm would also be visible behind Ewe Hill in views from Craighousteads Fort (2330), Newhall Hill enclosures (3963) and Seven Brethren Stone Circle (639). In each case the proposed development would be seen alongside but separate from the Ewe Hill and Loganhead wind farms.

The cumulative impact on easterly views from the monuments in this southern group from adding the proposed development to the consented and proposed wind farms would be no greater than that predicted above (Section 9.7.2); that is of moderate significance for Newland Hill fort (3964) and Newland Hill settlement (12667) and minor significance for all others.

9.8 Mitigation

9.8.1 Mitigation and Monitoring

The emphasis in Scottish Government Planning Advice Note 2/2011: Planning and Archaeology (PAN2) is the preservation of important remains in situ where practicable and by record where preservation is not possible. The mitigation measures presented below take account of this planning guidance and provide options for protection or recording and ensuring that, where practical, surviving assets are preserved intact to retain the present historic elements of the landscape.

All mitigation works presented in the following paragraphs will take place prior to, or, where appropriate, during, the construction of the proposed development. All works will be conducted by a professional archaeological organisation and the scope of works will be detailed in one or more Written Scheme(s) of Investigation (WSI) developed in consultation with (and subject to the agreement of) D&GCAS and be based on planning conditions. The WSI(s) will make provision for appropriate post-excavation analysis and dissemination of the results of the mitigation works, as well as for archiving of the project materials and records.

9.8.1.1 Preservation in situ

In accordance with the requirements of Planning Policy, where heritage assets lie in close proximity to elements of the development, they will be avoided where practicable to ensure their preservation in situ. Where appropriate, surviving heritage assets will be visibly marked-out using appropriate materials and signage (such as posts and warning tape) provided by the contractor / developer, to signal their presence to construction workers and to prevent accidental damage occurring to the remains during construction activities in the vicinity. Where possible, a 10m buffer from the outer edge of each site identified will be employed, and retained throughout the construction phase. Where a 10m buffer is not achievable, the maximum practicable buffer will be applied; determinations of stand-off buffers will be on a case-by-case basis and agreed with D&GCAS.

Sites to be marked off for the duration of the construction phase include:

- Enclosures and structures **6.4-6.7** and **6.9** which lie in close proximity to the on-site access track between the proposed construction compound and concrete batching plant; and,
- Features **3.1-3.2, 27** and **28** which lie alongside the public road along the Water of Milk valley.

9.8.1.2 Watching Brief, Recording, Excavation and Post-Excavation

An archaeological watching brief will be undertaken at the following locations:

- Along the main site access track between the public road junction and turbine 1, where the track passes through the remains that constitute asset **6**; and
- Over the footprints of the construction compound, concrete batching compound, substation and network operator compound areas which lie close to the area recorded as asset **6**.

The purpose of all archaeological works would be to provide a permanent archive record of any surviving remains in sufficient detail to record the date, function and character prior to their removal.

If important discoveries are made during archaeological monitoring and preservation in situ is not possible, provision will be made for an appropriate level of recording that may include excavation, where necessary, of any archaeological remains encountered. Such provision will also include the consequent production of written reports on the findings, with post-excavation analyses and publications of the results of the works, as appropriate.

9.8.1.3 Construction Guidelines

Written Guidelines will be issued for use by all construction contractors, outlining the need to avoid causing unnecessary damage to known archaeological sites. The Guidelines will be incorporated into a Construction Method Statement (CMS) and Environmental Management Plan which will be provided prior to construction; and will set out arrangements for calling upon retained professional support in the event that buried archaeological remains of potential archaeological interest (such as building remains, human remains, artefacts, etc.) should be discovered in areas not subject to archaeological monitoring. The guidance will make clear the legal responsibilities placed upon those who disturb artefacts or human remains

9.9 Residual Effects and Statement of Significance

Table 9.10 summarises the residual effects predicted as a result of the construction and operation of the proposed development and following the implementation of the proposed mitigation measures. The completion of the programme of archaeological mitigation works will compensate for the loss of the archaeological resource that would occur as a result of the construction of the proposed development.

Table 9. 10: Summary of Residual Effects

Effect	Proposed Mitigation	Residual Effect
Direct (Construction Phase)		
Accidental damage to assets in proximity of working areas (3.1, 6.4-6.7, 6.9, 27 and 28)	Fencing off or marking out	None
Direct effects on previously unknown buried archaeology	Archaeological watching brief and recording	Minor
Indirect (Operational Phase)		
Indirect effect of moderate significance on Camp Hill fort (Index No. 647)	None proposed	Moderate
Indirect effect of moderate significance on Newland Hill fort (Index No. 3964)	None proposed	Moderate
Indirect effect of moderate significance on Newland Hill, settlement 1560m E of Capelfoot (Index No. 12667)	None proposed	Moderate
Indirect effects of no more than minor significance predicted for remaining assets within ZTV	None proposed	Minor-Negligible
Cumulative		
Indirect effect of moderate significance on Camp Hill fort (Index No. 647)	None proposed	Moderate
Indirect effect of moderate significance on Newland Hill fort (Index No. 3964)	None proposed	Moderate
Indirect effect of moderate significance on Newland Hill, settlement 1560m E of Capelfoot (Index No. 12667)	None proposed	Moderate

There are no significant residual direct effects predicted arising from the construction and decommissioning of the proposed development.

Indirect and cumulative effects of moderate significance, affecting the settings of three scheduled monuments, are predicted. However, the predicted significant effects would not be so adverse as to diminish the integrity of the setting of these assets to an unacceptable degree, and, when measured against the baseline setting including Ewe Hill Wind Farm, these effects are considered not to be unacceptably adverse.

Technical Appendix 9.1 Heritage Assets within the Site Boundary (Figure 9.6)

Asset No.	Asset Name / Type	HER / RCAHMS No.	Easting	Northing	Source	Description	Heritage Importance (after field survey)	Type of Impact	Magnitude of Impact	Significance of Impact
1	Newlandhill: Cultivation Remains; Enclosure(s)	MDG7503 / NY28NW 17	32460	58700	HER; Canmore; Aerial photos; Field Survey	<p>The HER and the Canmore database record an area of cultivation and enclosures.</p> <p>An area of large sub-rectangular and possible circular former enclosures, defined by turf banks, is visible on modern aerial photography (Google™). None of the features identified fall within the survey area.</p> <p>Field survey did not identify any additional features associated with the enclosure remains lying within the survey area.</p>	Regional	None: avoided	n/a	n/a
2	Water of Milk: Ring Enclosures	MDG11005 / NY28NW 23	32470	58740	HER; Canmore; Aerial photos; Field Survey	<p>The HER and the Canmore database records that a group of at least five ring-enclosures is situated on a narrow rise between the Water of Milk to the west and an un-named stream to the south-east (visited by RCAHMS, May 1993).</p> <p>Only one small circular enclosure, approximately 9m in diameter, is visible on modern aerial photography (Google™).</p> <p>Not visited as lies outwith survey area.</p>	Local	None: avoided	n/a	n/a
3	Crossdykes: Ring Enclosure	MDG11016 / NY28NW 39	32458	58753	HER; Canmore; Field Survey	<p>The HER and the Canmore database record that vertical air photography (543/RAF/1507 2F21 0260-2) has identified a ring-enclosure 310m east of Crossdykes steading (7).</p> <p>Field survey found a circular denuded turf bank enclosure (3.1), measuring 4m in diameter internally, defined by a bank, 1m-1.2m wide by 0.2m high, lying within an area of semi-improved pasture. A linear turf bank (3.2), 1.2m-1.5m wide by 0.3m high, and bisected by the modern road was found to the north of the enclosure at 324584 587601.</p>	Local	None: avoided	n/a	n/a
4	Crossdykes: Ring Enclosure	MDG10384 / NY28NW 61	32483	58780	HER; Canmore; Aerial photos; Field Survey	<p>The HER and the Canmore database records that vertical air photography (OS 71/430/146-7) has revealed a ring-enclosure on the right bank of the Water of Milk some 580m north-east of Crossdykes steading (7).</p> <p>A small circular enclosure, approximately 10m in diameter, is visible on modern aerial photography (Google™).</p> <p>Not visited as lies outwith survey area.</p>	Local	None: avoided	n/a	n/a
5	Water of Milk / Glaister Burn: Enclosure(s); Ring Enclosure(s)	MDG11031 / NY28NE 18	32510	58800	HER; Canmore; Aerial photos; Field Survey	<p>The HER and the Canmore database record that a group of at least seven small, circular turf-built enclosures, and other larger enclosures, are situated close to the junction of the Glaister Burn and the Water of Milk (visited by RCAHMS, May 1993).</p> <p>A group of linear turf banks, circular and sub-rectangular structures and larger enclosures, is visible on modern aerial photography (Google™).</p>	Regional	None: avoided	n/a	n/a

Asset No.	Asset Name / Type	HER / RCAHMS No.	Easting	Northing	Source	Description	Heritage Importance (after field survey)	Type of Impact	Magnitude of Impact	Significance of Impact
						<p>Field survey identified 36 features in total (5.1-5.36), a complex of enclosures, banks, and possible buildings located on along the edges of the Water of Milk burn valley and one of its tributaries, between an area of semi-improved and unimproved ground:</p> <p>Linear banks / fields: three sections of linear turf covered stony bank (5.1, 5.3 and 5.8), two other larger sections of turf bank forming large enclosures or former fields (5.10 and 5.34) and remains of rig and furrow cultivation, much denuded, lying between banks 5.10 and 5.34. The banks generally measure 1m-2m by 0.3m-0.4m high. One (5.1) has been truncated by a modern farm track, and a second appears to have been eroded but may originally have joined with 5.10. The rig measures 6m in wavelength and is upstanding to between 0.1m-0.2m.</p> <p>Large sub-rectangular enclosures: a double conjoined enclosure (5.15) of turf banks 1.5m-2m wide by 0.2m -0.4m high. A second enclosure (5.35) attached to the southern end of linear bank 5.34, is defined by similar banks measuring 1.2m-1.5m wide by 0.3m-0.4m high. A third, smaller enclosure (5.20), measures 28m by 8m internally, and contains a smaller square turf bank enclosures within it.</p> <p>Circular / sub-circular enclosures: four circular enclosures (5.5, 5.6, 5.14, 5.16), measuring between 8m and 11m in internal diameter, defined by turf banks measuring between 1.2m-2m wide by 0.2m-0.4m in height. One of the enclosures (5.6) is overlain by a modern fence.</p> <p>Small circular enclosures: nine small enclosures (5.4, 5.7, 5.9, 5.17, 5.23, 5.31-5.33 and 5.36), measuring between 5m and 7.5m in diameter and defined by turf banks measuring between 1m-1.5m wide by 0.2m-0.4m high.</p> <p>Rectangular buildings / structures: at least one building (5.24) of two compartments and measuring 12m by 4m, defined by turf banks 1.2m wide by 0.3m-0.4m high. Eleven other smaller rectangular possible buildings or structures (5.12, 5.13, 5.19, 5.21, 5.2, and 5.25-5.30) measuring 5m- 8m in length by 2m-4m internally and defined by turf banks measuring 1m-1.5m wide by 0.2m-0.4m high.</p> <p>Small rectangular enclosures: two rectangular enclosures (5.11 and 5.18), internally measuring 10m by 5m and 9m by 5m respectively, defined by turf banks 1m-1.2m wide by 0.3m-0.4m high.</p>				

Asset No.	Asset Name / Type	HER / RCAHMS No.	Easting	Northing	Source	Description	Heritage Importance (after field survey)	Type of Impact	Magnitude of Impact	Significance of Impact
						Possible clearance cairn: a small pile of angular stones (5.2) 2.5m by 1.5m by 0.3m high, lying on the edge of a tributary of the Water of Milk.				
6	Hare Sike / Water of Milk: Enclosure(s); Ring Enclosures	MDG11030 / NY28NE 17	32560	58900	HER; Canmore; Aerial photos; Field Survey	<p>The HER and the Canmore database record that a dispersed group of small, circular turf-built enclosures is situated close to the junction of the Hare Sike and the Water of Milk (visited by RCAHMS, May 1993).</p> <p>At least two large sub-circular enclosures are visible on modern aerial photography (Google™).</p> <p>HLAMap describes this area as containing Medieval/Post-medieval Sheep Enclosures.</p> <p>Field survey identified a dispersed group of nine enclosures and possible structures (6.1-9) in semi improved grass pasture and rough pasture along the Hare Sike:</p> <p>Enclosure / small field: a sub-rectangular enclosure (6.9) 20m by 14m defined by turf banks 1.2m-1.5m wide by 0.3m-0.4m high, and enclosing an area of rig and furrow cultivation. The rig measures 3m crest to crest and is upstanding to 0.2m high. The site has been partly disturbed by later drainage cuts and banks.</p> <p>Sub-circular enclosures: two well preserved sub-circular enclosures (6.5 and 6.7) (shown on the current basemap) 11m internally (6.5) and 10m by 8m (6.7) and defined by stony turf-covered banks 1.2m-1.5m wide by 0.3m-0.5m high. A third, sub-circular, enclosure (6.1) 10m by 8m defined by stony turf-covered banks 1.5m wide by 0.3m-0.5m high. A denuded stony possible bank 1.m wide by 0.2m-0.3m high extends to the north-east and south-west of this enclosure for approximately 8m.</p> <p>Small enclosures / possible structures: two small enclosures (6.6 and 6.8) 6m by 4m (6.6) and 8m by 3.5m (6.8) defined by low turf banks 1m-1.2m wide by 0.2m-0.3m high.</p> <p>Small possible structures: two poorly preserved possible structures (6.2-6.3), defined by roughly circular banks of stones and grassy tussocks, measuring approximately 4m by 3m across with banks 0.8m wide and up to 0.3m high. A third possible structure(s) (6.4) comprises of a two piles of turf covered stones, each approximately 4m across by 0.3m high, truncated by a modern farm track.</p>	Local	None: individual elements avoided	n/a	n/a
7	Hay Ree		325286	588097	Field Survey	<p>The HER notes a 'hay ree' (recorded in HER database as 'other archaeological sites', but given no HER number).</p> <p>A circular hay ree is depicted on the Ordnance Survey 1st</p>	Local	None: avoided	n/a	n/a

Asset No.	Asset Name / Type	HER / RCAHMS No.	Easting	Northing	Source	Description	Heritage Importance (after field survey)	Type of Impact	Magnitude of Impact	Significance of Impact
						<p>Edition map (Dumfriesshire, XLVI, 1862), but is not shown on subsequent Editions.</p> <p>Field survey found a circular turf-built structure measuring 4.5m in diameter internally and defined by banks 1.2m wide by 0.6m high. The hay ree lies within an area of former buildings, enclosures and enclosed fields (5) and is similar in form to other small circular enclosures or structures identified here. It may therefore be related to this larger group.</p>				
8	Sheepfold		325401	587955	Historic maps; Field Survey	<p>The HER notes a 'sheepfold' (recorded in HER database as 'other archaeological sites', but given no HER number).</p> <p>A large circular sheepfold is shown on the Ordnance Survey 1st edition map and subsequent editions (Dumfriesshire, XLIV, 1862; XLIV. NW, 1900 and 1952). The same sheepfold is still depicted on the 2001 Ordnance Survey map.</p> <p>Field survey found a drystone walled sheepfold, in good condition, upstanding to its full height of 1.4m and defined by walls measuring 0.8m wide at the base, to 0.2m wide at the upper course. An entrance, 1m wide, lies on the south side.</p>	Local	None: avoided	n/a	n/a
9	Ring-enclosure / circular structure		325440	588006	Field Survey	<p>A circular feature defined by a turf bank is visible on modern aerial photographs (Google™).</p> <p>Field survey found a circular turf-built structure measuring 4m in diameter internally, and defined by banks 1.2m-1.5m wide by 0.3m high. The feature lies to the east of an area of former buildings, enclosures and enclosed fields (5) and is similar in form to other small circular enclosures identified here. It may therefore be related to this larger group.</p>	Local	None: avoided	n/a	n/a
10	Bank		325751	587978	Aerial photos; Field Survey	<p>A possible turf bank is visible on modern aerial photographs (Google™).</p> <p>Field survey found a low bank, 2m wide by 0.3m high, bordering an area of slightly improved ground at a bend in a small watercourse.</p>	Lesser	None: avoided	n/a	n/a
11	Enclosures		325654	587684	Historic maps; Field Survey	<p>Field survey identified an area of turf-built enclosures and a bank, within an area of slightly improved ground on the edge of the Carling Sike burn valley. The features are similar to some of those identified as part of site 5:</p> <p>Small circular enclosures: two small circular enclosures or structures (11.1 and 11.4) measuring 4m-5m in diameter internally and defined by turf banks 1.2m-2m wide by 0.3m-0.4m high.</p> <p>Sub-rectangular enclosure: an enclosure (11.2) measuring 10m by 5m internally, and defined by banks measuring 1.2m-1.5m wide by 0.2m-0.3m high.</p>	Local	None: avoided	n/a	n/a

Asset No.	Asset Name / Type	HER / RCAHMS No.	Easting	Northing	Source	Description	Heritage Importance (after field survey)	Type of Impact	Magnitude of Impact	Significance of Impact
						<p>Possible structure: the denuded and poorly preserved remains of a possible sub-rectangular structure (11.3) defined by low turf hummocks and tussocks, 0.2m high, enclosing an area c. 9m by 4m.</p> <p>Linear bank: a turf bank (11.5) bordering an area of slightly improved ground on which the other features (11.1-11.4) lie. The bank measures 0.8m-1m wide by 0.2m-0.3m high. A slight ditch, 1m wide by 0.2m deep, runs along the outer (southern) side of the bank.</p>				
12	Peat cutting		325478	587567	Field Survey	Field survey identified an area of possible former peat cutting, visible as 0.2m-0.3m deep sub-rectangular cuts into a north-east facing slope, defining small areas c. 10m-15m across and forming slight terraces into the slope.	Lesser	None: avoided	n/a	n/a
13	Linear bank		325200	586935	Field Survey	Field survey identified a section of linear turf bank, 1m-1.5m wide by 0.2m high, running eastwards along the side of an ESE-facing slope.	Lesser	None: avoided	n/a	n/a
14	Burial cairn (possible)		325586	587170	Field Survey	<p>Field survey identified a probable burial cairn on the summit of a hill terrace forming Friar Edge. The location commands extensive surrounding views, particularly in the north-west to south-west arc over and along the Water of Milk valley.</p> <p>The feature is visible as a low circular turf-covered flat-topped mound, 6m in diameter by 0.2m high, with some medium-sized angular stones visible on the surface and around the edges of the mound, which may be kerb stones. An off-centre, sub-square pile of stones is present on the north-eastern side of the cairn, 1.5m by 1.5m by 0.5m high, which appears to be comprised of slightly interlocking stones and looks structural in origin. This is likely to be a later feature such as a marker cairn, but may overlie an earlier feature such as a burial cist.</p>	Unknown (possibly Regional)	None: avoided	n/a	n/a
15	Burial cairn (possible)		325617	587192	Aerial photos; Field Survey	Field survey identified a second possible burial cairn to the north-east of site 14 . The feature is visible a sub-oval turf mound, 9m by 6m by 1m high, with occasional large to medium sub-angular stones visible on its surface and edge.	Unknown (possibly Regional)	None: avoided	n/a	n/a
16	Enclosure		325593	587223	Aerial photos; Field Survey	Field survey found the poorly preserved remains of a horseshoe-shaped turf bank enclosure in slightly waterlogged ground on a small terrace of a north-west facing slope on Friar Edge a short distance north of the two possible cairns (14 and 15). The enclosure measures 8m by 6m internally, with an opening to the south-east, and is defined by heather and moss-covered banks, 0.8m wide by 0.2m high.	Unknown (Local)	None: avoided	n/a	n/a
17	Peat cutting		326087	587563	Field Survey	Field survey identified two rectangular areas of peat cutting, 5m-8m wide by 0.2m-0.5m deep, along the summit of Friar Edge.	Lesser	None: avoided	n/a	n/a
18	Structure / Wall		326203	588807	Field Survey	Field survey identified a section of possible wall revetted into a north-east facing slope above a tributary of the Water of Milk. The possible wall section measures 8m in length by 1m high	Lesser	None: avoided	n/a	n/a

Asset No.	Asset Name / Type	HER / RCAHMS No.	Easting	Northing	Source	Description	Heritage Importance (after field survey)	Type of Impact	Magnitude of Impact	Significance of Impact
						with a stone 'structure', 1.2m by 1m by 0.7m high, comprised of interlocking flat-laid slabs piled on top of one another, located at the south-western terminus.				
19	Sheepfold	n/a			HER; Historic Maps; Aerial photos; Field Survey	<p>The HER records a sheepfold at this location.</p> <p>A square sheepfold with three compartments is depicted and annotated at this location on the Ordnance Survey 1st Edition map (Dumfriesshire sheet XXXV, 1862). The sheepfold is shown but not annotated on subsequent Editions (Dumfriesshire, sheet XXXV.SW, 1900; 1952).</p> <p>A drystone walled sheepfold with two compartments is visible on modern aerial photography (Google™).</p> <p>Field survey found the sheepfold to be well preserved, upstanding to 1.3m high and constructed of drystone walls 0.8m-0.3m wide at the top. A modern corrugated iron shed lies on its northern side and two compartments are visible within the sheepfold.</p>	Local	None: avoided	n/a	n/a
20	Sheep Shelter	n/a			HER; Historic Maps; Aerial photos; Field Survey	<p>The HER records a sheep shelter at this location.</p> <p>A sub-circular sheep shelter is depicted and annotated at this location on the Ordnance Survey 1st Edition map (Dumfriesshire sheet XXXV, 1862). The sheep shelter is shown but not annotated on the Ordnance Survey 2nd Edition map (Dumfriesshire, sheet XXXV.SW, 1900) and is not shown thereafter.</p> <p>A drystone walled sub-circular sheepfold or shelter is visible on modern aerial photography (Google™).</p> <p>Field survey found a circular sheepfold, 14m in diameter, constructed of drystone walls 1m to 0.4m wide at the top and surviving up to 1.2m in places, but tumbled elsewhere to 0.3m-0.4m.</p>	Local	None: avoided	n/a	n/a
21	Spring				Historic Maps; Field Survey	<p>A spring is depicted and annotated at this location on the Ordnance Survey 1st Edition map (Dumfriesshire sheet XXXV, 1862) and on subsequent Editions (Dumfriesshire, sheet XXXV.SW, 1900; 1952).</p> <p>Field survey found no sign of the spring in an area of dense vegetation.</p>	Lesser	None: avoided	n/a	n/a
22	Enclosures; structures; banks				Field Survey	<p>Field survey identified the remains of four turf bank enclosures or structures (22.1-22.4) in an area of semi-improved grass pasture:</p> <p>Small sub-square enclosures / structures: one (22.1) measures 6m by 4m defined by stony turf covered banks 1m wide by 0.2m high; a second (22.2) measures 4m by 3m defined by turf banks</p>	Local	None: avoided	n/a	n/a

Asset No.	Asset Name / Type	HER / RCAHMS No.	Easting	Northing	Source	Description	Heritage Importance (after field survey)	Type of Impact	Magnitude of Impact	Significance of Impact
						0.7m wide by 0.15m to 0.2m high. Rectangular enclosure: a large rectangular enclosure (22.3) measuring 12m by 8m with a rounded northern end and defined by turf banks 1.5m wide by 0.2m-0.3m high. The northern end has been disturbed by animal burrowing. Circular enclosure: the remains of a sub-circular enclosure (22.4) approximately 13m in diameter defined by turf banks 1m to 1.2m wide by 0.2m high.				
23	Quarry				Field Survey	Field survey identified a small quarry scoop, 5m in diameter by up to 1.5m deep, cut into a west-facing slope and within an area of semi-improved grass pasture.	Lesser	None: avoided	n/a	n/a
24	Enclosures				Field Survey	Field survey identified a rectangular enclosure 12m by 8m defined by turf banks 1m-1.5m wide by 0.2m-0.4m high, within an area of rough pasture and cut by later drainage ditches and banks.	Local	None: avoided	n/a	n/a
25	Enclosure				Field Survey	Field survey identified a circular enclosure 8m in diameter, defined by turf banks 1m-1.2m wide by 0.2m high, within semi-improved grass pasture.	Local	None: avoided	n/a	n/a
26	Platform (possible structure)				Field Survey	Field survey identified a small turf covered sub-rectangular platform, 5m by 3m by 0.3m-0.4m high within an area of semi-improved pasture.	Lesser	None: avoided	n/a	n/a
27	Structure				Field Survey	Field survey identified a small circular structure 3m in diameter and defined by stony, turf banks 0.8m-1m wide by 0.2m-0.3m high.	Lesser	None: avoided	n/a	n/a
28	Enclosure				Field Survey	Field survey identified the poorly preserved remains of a circular enclosure, 7m in diameter, defined by tussocky turf banks 0.8m wide by 0.2m high.	Local	None: avoided	n/a	n/a
29	Turf Banks				Field Survey	Field survey identified two denuded turf banks aligned north-west to south-east and running parallel to each other. The banks are poorly preserved and measure 2m-2.5m wide by 0.2m-0.3m high.	Lesser	None: avoided	n/a	n/a

Technical Appendix 9.2 Heritage Assets within ZTV and within 10km of the Proposed Development (Figure 9.7)

Site ID	Asset Name	Status	Easting	Northing	Distance to Nearest Turbine (km)	No. Turbine Tips visible ¹	No. Turbine Hubs visible	Heritage Importance	Setting	Contribution of Setting	Sensitivity of Setting	Magnitude of Impact	Significance of Impact
1	Hutton Mote, motte	Scheduled	316339	589340	9.3	12-15	8-11	National	Well preserved upstanding remains of medieval motte and possible bailey, located within pasture farmland on a plateau above the Hutton Burn, a tributary of the Dryfe Water. Sited in prominent position commanding good views to surrounding landscape, particularly along Dryfe Water valley. Links to development of medieval land-use, rural settlement and economy.	High	High	Imperceptible: 12-15 turbine tips theoretically and 8-11 hubs visible, but in distant views over 9km away. Proposed development not visible in main Dryfe Water valley setting.	Negligible
636	Little Hartfell, stone circle 1010m NNW of Whitcastles Cottage	Scheduled	322389	588056	3.1	8-11	0	National	Remains of stone circle comprising nine upright stones in circular arrangement located on upper west-facing slopes of Hartfell Rig, within commercial forestry plantation. Main views would have been in wide north, west and south-west arc over the Corrie Water valley. May have had some intervisibility with Seven Brethren stone circle (639) to south.	Negligible	Low	Imperceptible: 8-11 turbine tips (no hubs) theoretically visible, but not in main westerly arc of view and screened by presence of commercial forestry.	Negligible
639	Seven Brethren, stone circle, Whiteholme Rig	Scheduled	321725	582673	6.0	12-15	12-15	National	Remains of at least seven visible upright stones set in a roughly circular arrangement within improved pasture on gentle north-facing slope within Water of Milk river valley. Main views along and across valley in north-east to north-west arc. Views in other directions restricted by topography. Consented Ewe Hill development visible to north-east and existing Minsca Wind Farm to the south.	Moderate	Medium	Low: Figure 9.9 indicates that all 15 turbines visible, 6km away and partly screened by topography on far horizon. Proposed development not within main valley setting views.	Minor
645	Birrens Hill, enclosure and farmstead 750m W of Carruthers	Scheduled	324490	580737	6.5	1-3	1-3	National	Remains of later prehistoric enclosure and pre-improvement farmstead and field system located on Birrens Hill within rough pasture. Main views are to south towards Solway Firth. Other related monuments in vicinity.	High	High	Imperceptible: only 1-3 turbine hubs theoretically visible over 6km away. Proposed development not in main southwards views.	Negligible
647	Camp Hill, fort, 175m WSW of Bailliehill	Scheduled	325602	590518	1.5	12-15	12-15	National	Well preserved remains of later prehistoric fort located within improved pasture on summit of Camp Hill, within Tanlawhill Hill ASA. Strategically sited at Black Esk / White Esk / River Esk confluence (to the north, west and east. Main views are along these river valleys; more restricted to south-east and south-west due to local topography. Other	Moderate	Medium	Medium: Figure 9.10 indicates that 12 turbine hubs and an additional two turbine tips would be visible in near views to south-east, alongside consented Ewe Hill Wind Farm. Proposed	Moderate

¹ Predicted theoretical visibility, based on bare earth ZTV modelling using WindPROP 2.8.

Site ID	Asset Name	Status	Easting	Northing	Distance to Nearest Turbine (km)	No. Turbine Tips visible ¹	No. Turbine Hubs visible	Heritage Importance	Setting	Contribution of Setting	Sensitivity of Setting	Magnitude of Impact	Significance of Impact
									related sites in near vicinity (651, and monuments within ASA). Consented Ewe Hill Wind Farm visible in views to south-east.			development not in main Esk valley views to north, east and west and would not intervene in views with other related sites.	
649	Carthur Hill, fort, Boreland	Scheduled	318393	594017	9.2	4-7	0	National	Remains of later prehistoric fort located on summit of Carthur Hill, on north-west side of Dryfe Water valley within rough pasture farmland. Main views are to north-east and south-west along Dryfe Water valley. Associated monuments in local vicinity and within Dryfe Water ASA.	High	High	Imperceptible: 4-7 turbine tips (no hubs) theoretically visible, but in distant views over 9km away. Proposed development not in main Dryfe Water valley setting.	Negligible
651	Castle O'er, fort and linear earthworks	Scheduled	324199	592813	4.1	12-15	12-15	National	Well-preserved remains of multi-vallate, multi-period fort and linear earthworks, located within rough pasture clearing within forestry on one of highest points in local landscape, between Black Esk and White Esk river valleys, and confluence with River Esk valley. Extensive distant views to surrounding landscape, fort strategically sited to provide clear views along river valleys and towards other related sites in near vicinity (e.g. 647). Consented Ewe Hill, and existing and consented Craig turbines visible in views to south-east.	Moderate	Medium	Low: Figure 9.11 indicates all 15 turbines would be visible in views to south south-east in one of main views down the White Esk valley, and towards other, related later prehistoric sites located in the same direction of view. Proposed development visible together with and backdropped by the consented Ewe Hill Wind Farm, beyond White Esk valley.	Minor
2289	Pyatshaws Rig, settlement 965m NE of Meikle Whitriggs	Scheduled	321479	584589	4.8	12-15	12-15	National	Remains of enclosed and unenclosed later prehistoric settlement located on a south-facing spur of Pyatshaw Rig within rough pasture on edge of Water of Milk river valley. Distant views to surrounding landscape, main views in wide east to south-west arc across and along Water of Milk valley. Other related sites in vicinity.	High	High	Low: 12-15 turbine hubs and tips theoretically visible, but on edge of main arc of view across and along river valley setting in medium-distant views.	Minor
2330	Craighousestead, fort	Scheduled	323758	585199	2.7	12-15	12-15	National	Remains of later prehistoric fort located within improved pasture on summit of Craighousesteads Hill, overlooking Water of Milk river valley to the north, west and south, and Capel Burn valley to north and north-east, and Priestbutts Burn valley to south and south-east. Distant views to surrounding landscape and near views along river valleys,	Moderate	Medium	Low: Figure 9.12 indicates that all 15 turbines would be visible in views to north-east, alongside consented Ewe Hill Wind Farm, beyond Newland Hill and	Minor

Site ID	Asset Name	Status	Easting	Northing	Distance to Nearest Turbine (km)	No. Turbine Tips visible ¹	No. Turbine Hubs visible	Heritage Importance	Setting	Contribution of Setting	Sensitivity of Setting	Magnitude of Impact	Significance of Impact
									particularly Water of Milk. Related monuments in surrounding landscape particularly 3964, 12667 and 12674 to east and north. Consented Ewe Hill Wind Farm visible in views to north-east and existing Minsca Wind Farm visible to south-west.			towards other, related later prehistoric sites located in the same direction of view. Proposed development would be visually separate from the monument and would not intervene in important view along Water of Milk to west and south.	
2346	Bessie's Hill, fort 250m E of summit	Scheduled	325040	595407	6.5	12-15	12-15	National	Well-preserved remains of later prehistoric fort located on a small knoll on east-facing slopes of White Esk valley within rough pasture / commercial forestry. Main views are in east-south arc across river valley. Other related later prehistoric forts in vicinity, to south in particular.	Low	Medium	Low: 12-15 turbine tips and hubs theoretically visible, in middle distance views to south-east, in main views from asset but not in main valley setting and would be beyond other possible related forts to the south.	Minor
2851	Tanlawhill, settlement 480m WNW of	Scheduled	323275	591486	3.8	12-15	12-15	National	Remains of later prehistoric enclosed settlement located within rough pasture on south-east facing slopes of Tanlawhill above Black Esk, within Tanlawhill ASA. Good views in south-east to west arc along Esk valleys and towards head of Water of Milk valley. Other related monuments in near vicinity (e.g 647, 4696).	High	High	Low: 12-15 turbine tips and hubs theoretically visible in one of main arcs of views from monument, almost 4km away and would not intervene in views with other related monuments.	Minor
2852	Haw Birren, enclosure, Westside	Scheduled	322689	592896	5.2	12-15	12-15	National	Remains of later prehistoric enclosure located in clearing on summit of Haw Birrens, within forestry plantation within Black Esk valley. Main views along Black Esk/Esk river valleys. Other related sites in vicinity.	Low	Medium	Low: 12-15 turbine tips and hubs theoretically visible in views to south-east, in one of main directions of view from enclosure along Black Esk/Esk valley, but in middle distance views at over 5km away and beyond other related sites in vicinity.	Minor
2853	Todshawhill, settlement 1085m WSW of	Scheduled	321916	593067	5.9	12-15	12-15	National	Remains of later prehistoric defended settlement located in clearing on summit of Hamlin Knowe, within forestry plantation on edge of Black Esk valley. Would have commanded extensive views, particularly	Low	Medium	Low: 12-15 turbines tips and hubs theoretically visible in views to south-east, in one of main directions of views from	Minor

Site ID	Asset Name	Status	Easting	Northing	Distance to Nearest Turbine (km)	No. Turbine Tips visible ¹	No. Turbine Hubs visible	Heritage Importance	Setting	Contribution of Setting	Sensitivity of Setting	Magnitude of Impact	Significance of Impact
									along Esk river valleys and towards to Dryfe Water valley to west. Other related sites in vicinity.			fort along Black Esk/Esk valley, but in middle distance views at almost 6km away and beyond other related sites in vicinity.	
3834	Fauld Brae-Craik Knowes, Roman road	Scheduled	323484	596637	7.6	12-15	12-15	National	Remains of Roman road surviving within partially forested commercial forestry plantation. Aligned roughly north-west to south-east.	Negligible	Low	Imperceptible: 12-15 turbine tips and hubs theoretically visible, but in distant views over 7km away and road largely outwith ZTV. Proposed development not in views along road alignment.	Negligible
3963	Newhall Hill, enclosures	Scheduled	323848	583700	3.9	12-15	12-15	National	Well preserved remains of later prehistoric enclosures located on south-east facing slopes of summit of Newhall Hill within pasture farmland. Distant views to surrounding landscape, particularly in wide north-east to south-east arc of view. Other related monuments in surrounding area, particularly to north (2330; 12674; 3964 and 12667). Consented Ewe Hill Wind Farm visible to north-east, and existing development of Minsca Wind Farm visible to the south-west.	Moderate	Medium	Low: Figure 9.13 indicates that all 15 turbines would be visible in views to north-east, together with consented Ewe Hill Wind Farm and towards other, related later prehistoric sites located in the same direction of view. Proposed development offset from main arc of view from monument and would be visible on distant horizon, beyond related sites to north.	Minor
3964	Newland Hill, fort 1100m ENE of Capelfoot	Scheduled	324888	586375	1.1	12-15	12-15	National	Well-preserved remains of later prehistoric fort located within rough pasture on western edge of Newland Hill summit, overlooking Water of Milk river valley to north, west and south, and Capel Burn valley to south and south-east. Distant views to surrounding landscape possible in all directions other than to east where views are more restricted by topography. Other related sites in near vicinity (2330, 12667, 12674). Consented Ewe Hill Wind Farm visible in near views to east and existing Minsca Wind Farm visible to south-west.	Moderate	Medium	Medium: Figure 9.14 indicates that all 15 turbines would be visible in views to north-east on near horizon, partly within Water of Milk landscape setting. Views in other directions from monument would remain unaffected.	Moderate
4333	Bankburnfoot, settlement	Scheduled	326489	592762	3.6	12-15	12-15	National	Remains of later prehistoric defended settlement located within clearing in forestry	Negligible	Low	Low: 12-15 turbine tips and hubs theoretically	Minor

Site ID	Asset Name	Status	Easting	Northing	Distance to Nearest Turbine (km)	No. Turbine Tips visible ¹	No. Turbine Hubs visible	Heritage Importance	Setting	Contribution of Setting	Sensitivity of Setting	Magnitude of Impact	Significance of Impact
	375m NW of								plantation on lower south-east-facing slopes of River Esk valley. Main views to east/south-east along Esk river valley, and also some views to south-west down Water of Milk valley. Other related sites in vicinity. Localised setting to valley.			visible, partly in one of main views from site to south-west, but not in main valley setting to south-east.	
4367	Glenkeil Hill, settlement & field system 100m SW of Under Stennieswater	Scheduled	332104	593663	6.7	12-15	4-7	National	Remains of medieval/post-medieval settlement and field system located on northern slopes of Stennies Water valley within rough pasture and adjacent to modern forestry plantation. Main views area along valley to north-east and south-west. Localised valley setting. Other related sites in vicinity.	Moderate (localised)	Medium (localised)	Imperceptible: 12-15 turbine tips and 4-7 hubs theoretically visible, in distant views over 6km away and site largely outwith ZTV.	Negligible
4368	Crooks, scooped settlement 290m NNE of	Scheduled	329787	592449	4.3	4-7	1-3	National	Remains of later prehistoric scooped settlement located on an old river terrace near the confluence of Stennies and Meggat Waters in improved pasture. Main views are to north and south along Meggat Water. Relatively localised setting.	Moderate (localised)	Medium (localised)	Imperceptible: 4-7 turbine tips and only 1-3 hubs theoretically visible in middle distance views to south-east, but not in main valley setting views.	Negligible
4369	The Knowe, settlement 300m S of Castle O'er Farm	Scheduled	324798	592269	3.5	12-15	12-15	National	Remains of later prehistoric settlement enclosure located within clearing in forestry plantation adjacent to road on lower east-facing slopes of White Esk valley. Main views to north, east/south-east along river valley. Other related sites in vicinity. Localised setting to valley.	Negligible	Low (localised)	Low: 12-15 turbine tips and hubs theoretically visible, partly in one of main views from site to south/south-east, but not in main valley setting.	Minor
4371	Georgefield, settlement 230m NNE of	Scheduled	329970	591632	3.9	1-3	0	National	Remains of pre-improvement settlement located on western slopes of River Esk valley within rough pasture and adjacent to modern forestry plantation. Main views are along valley to north-west and south-east. Localised valley setting. Other related sites in vicinity.	Moderate (localised)	Medium (localised)	Imperceptible: only 1-3 turbine tips (no hubs) theoretically visible and not within localised valley setting.	Negligible
4372	Shielburn, settlement 350m NW of	Scheduled	328557	591969	3.2	4-7	1-3	National	Remains of later prehistoric defended settlement on east-facing slopes above River Esk. Main views are along river valley to east / south-east. Relatively localised setting.	High (localised)	High (localised)	Imperceptible: 4-7 turbine tips and 1-3 hubs theoretically visible, in middle distance views and not in main valley setting.	Negligible
4374	Clerkhill, settlements 800m NNW of	Scheduled	325342	598569	9.6	12-15	8-11	National	Remains of an Iron Age enclosed settlement, and later medieval/post-medieval farmstead, located on the lower west side of Clerk Hill within rough pasture farmland in the White Esk river valley. Relatively localised setting to river valley, main views to north and south	High (localised)	High (localised)	Imperceptible: 12-15 turbine tips and 8-11 hubs theoretically visible, in distant views over 9km away. Proposed development	Negligible

Site ID	Asset Name	Status	Easting	Northing	Distance to Nearest Turbine (km)	No. Turbine Tips visible ¹	No. Turbine Hubs visible	Heritage Importance	Setting	Contribution of Setting	Sensitivity of Setting	Magnitude of Impact	Significance of Impact
									along river valley.			not in main river valley setting.	
4380	Bankburnfoot, enclosure 1350m WNW of	Scheduled	325379	592818	3.9	12-15	12-15	National	Remains of later prehistoric enclosed settlement site located in clearing in commercial forestry plantation, adjacent to linear earthwork 4458, on west-facing slope in White Esk river valley. Relatively localised setting to valley, main views would have been south and north along valley. Other related sites in vicinity.	Negligible	Low (localised)	Imperceptible: 12-15 turbine tips and hubs theoretically visible, but proposed development not in main valley setting and screened by forestry.	Negligible
4383	Stennieswaterfoot, settlement 625m NNE of	Scheduled	329753	593306	5.0	8-11	0	National	Remains of late medieval farmstead located on lower west-facing slopes of Meggat Water. Main views are along river valley to north and south but localised and relatively secluded narrow valley setting.	High (localised)	High (localised)	Imperceptible: 8-11 turbine tips (no hubs) theoretically visible, in middle distance views and not in main valley setting.	Negligible
4385	Boyken Burn, township 695m W of Westerhall	Scheduled	331245	589204	3.9	12-15	8-11	National	Remains of a pre-Improvement medieval to post-medieval township located within rough pasture on south-west facing slopes of Boyken Burn valley, within Boyken Burn ASA which contains several later prehistoric and pre-improvement settlement remains. Localised setting to Boyken Burn. Consented Ewe Hill Wind Farm theoretically visible in views to south-west.	Moderate (localised)	Medium (localised)	Low: Figure 9.18 indicates that 8 turbine hubs and an additional 5 tips would be visible in middle distance views, at head of Boyken Burn valley when looking west, together with consented Ewe Hill Wind Farm. Views in other directions unaffected. Asset largely outwith ZTV. Can still appreciate localised valley setting.	Minor
4386	Tanlawhill Cottages, farmstead 865 m E of	Scheduled	324749	590902	2.4	8-11	1-3	National	Remains of probable pre-improvement farmstead located within rough pasture on lower north-east facing slopes overlooking the Black Esk, within Tanlawhill ASA. Views restricted due to topography of river valley. Secluded and localised setting. Other related sites in near vicinity (e.g. 4695).	High (localised)	High (localised)	Imperceptible: 8-11 turbine tips and 1-3 hubs theoretically visible, but in restricted views to south-east and not in main localised valley setting.	Negligible
4391	Bankburnfoot, settlement 1550m WSW of	Scheduled	325212	592124	3.2	8-11	8-11	National	Remains of later prehistoric enclosed settlement overlain by a pre-improvement farmstead and more recent sheepfold. Located on a knoll on lower west-facing slopes of White Esk valley within a clearing in commercial forestry plantation. Main views to north and west/south. Localised valley setting. Other related sites in vicinity.	Negligible	Low (localised)	Low: 8-11 turbine tips and hubs theoretically visible, partly in one of main views from site to south, but not in main valley setting.	Minor
4394	Calkin,	Scheduled	330479	588975	3.2	8-11	4-7	National	Well preserved remains of later prehistoric	High	High	Low: 8-11 turbine tips	Minor

Site ID	Asset Name	Status	Easting	Northing	Distance to Nearest Turbine (km)	No. Turbine Tips visible ¹	No. Turbine Hubs visible	Heritage Importance	Setting	Contribution of Setting	Sensitivity of Setting	Magnitude of Impact	Significance of Impact
	settlements and cultivation terraces 300m N of								earthwork, cultivation terraces of uncertain date and structure and field system dating to the pre-improvement period, located on south-facing slopes above Boyken Burn in semi-improved and rough pasture, within Boyken Burn ASA. Restricted views due to local topography; main views are across and along Boyken Burn valley in south-east to south-west arc, across to similar site 4396. Other related site in near vicinity.	(localised)	(localised)	and 4-7 hubs theoretically visible, partly in main arc of view from site to south, but not in main valley setting and not within views towards related monument 4396.	
4396	Calkin, settlement, farmstead and linear earthworks 500m SSE of	Scheduled	330378	588220	3.3	1-3	1-3	National	Remains of later prehistoric defended settlement and associated linear earthworks, together with pre-improvement farmstead and field system, located in semi-improved and rough pasture on north-east facing slopes above Boyken Burn, within Boyken Burn ASA. Restricted views due to local topography; main views out to north and north-east along Boyken Burn valley towards Esk River. Other related sites in near vicinity.	High (localised)	High (localised)	Imperceptible: only 1-3 turbine tips and hubs theoretically visible; large parts of scheduled area not within ZTV. Proposed development not within localised valley setting or within main views along valley to north and north-east.	Negligible
4398	Effgill, settlement and field system 600m E of	Scheduled	330595	592882	5.1	8-11	4-7	National	Remains of pre-improvement farmstead located within pasture farmland above Stennies Water. Main views area along river valley to east and west. Localised valley setting.	High (localised)	High (localised)	Imperceptible: 8-11 turbine tips and 4-7 hubs theoretically visible, in medium-distant views over 5km away and not in main localised narrow valley setting.	Negligible
4408	Potholm, palisaded settlement 850m ENE of	Scheduled	336238	588007	9.3	8-11	4-7	National	Remains of later prehistoric palisaded settlement located on northern end of summit of Potholm Hill within rough pasture. Good views out to surrounding landscape, particularly to north and east across Ewe Water, and to west and south-west along River Esk.	High	High	Imperceptible: 8-11 turbine tips and 4-7 hubs turbine tips theoretically visible, in distant views over 9km away.	Negligible
4431	Mid Knock, unenclosed settlement 600m SW of	Scheduled	329420	590565	2.8	4-7	1-3	National	Remains of later prehistoric settlement site located on the summit of a spur on north-east side of Mid Knock Hill overlooking River Esk valley, within commercial forestry plantation. Would have had main views to north and east along and across valley.	Negligible	Low	Imperceptible: 4-7 turbine tips and 1-3 hubs theoretically visible, but surrounded by forestry plantation and proposed development not in main direction of view.	Negligible
4457	Deil's Jingle South, linear earthwork	Scheduled	325477	591463	2.3	12-15	12-15	National	Linear earthwork located within commercial forestry plantation, within White Esk river valley. Other, related linear earthworks located in near vicinity on either side of	Negligible	Low (localised)	Imperceptible: 12-15 turbine tips and hubs theoretically visible, but proposed development	Negligible

Site ID	Asset Name	Status	Easting	Northing	Distance to Nearest Turbine (km)	No. Turbine Tips visible ¹	No. Turbine Hubs visible	Heritage Importance	Setting	Contribution of Setting	Sensitivity of Setting	Magnitude of Impact	Significance of Impact
									White Esk valley. Localised setting to valley.			not in main valley setting and relationships to other linear earthworks not readily appreciable on ground.	
4458	Deil's Jingle North, linear earthwork	Scheduled	325397	592948	3.5	12-15	12-15	National	Linear earthwork located within commercial forestry plantation, within White Esk river valley. Other, related linear earthworks located in near vicinity on either side of White Esk valley. Localised setting to valley.	Negligible	Low (localised)	Imperceptible: 12-15 turbine tips and hubs theoretically visible, but proposed development not in main valley setting and relationships to other linear earthworks not readily appreciable on ground.	Negligible
4541	Castlehill, settlement 200m NNW of	Scheduled	324619	594996	6.2	12-15	12-15	National	Remains of later prehistoric defended settlement located within forestry plantation on lower east-facing slopes of White Esk valley. Other related sites in vicinity. Localised setting to valley.	Negligible	Low (localised)	Imperceptible: 12-15 turbine tips and hubs theoretically visible, in middle distance views over 6km away. Proposed development not in main localised river valley setting and screened through forestry.	Negligible
4543	Eskdalemuir Manse, cairn 230m W of	Scheduled	325309	597155	8.2	12-15	8-11	National	Poorly preserved remains of early Bronze Age burial cairn and penannular ditch located on the summit of a knoll to the west of Eskdalemuir Manse within rough pasture on east-facing slopes of White Esk river valley. Relatively localised setting to valley, main views are to east and south-east along valley.	High (localised)	High (localised)	Imperceptible: 12-15 turbine tips and 8-11 hubs theoretically visible, but in distant views at over 8km away. Proposed development not in main river valley setting.	Negligible
4691	Lyneholm, settlement 500m WSW and homestead 250m SW of	Scheduled	327404	591484	2.4	12-15	12-15	National	Remains of a later prehistoric homestead and a defended settlement located on eastern slopes and summit of Lyneholm Hill in the River Esk valley within rough pasture. Main views are to north and east along Esk valley. Relatively localised setting. Other related sites in vicinity.	High (localised)	High (localised)	Imperceptible: 12-15 turbine tips and hubs theoretically visible, in views to south, not in main northern/eastern views or localised valley setting.	Negligible
4692	Tanlawhill, farmstead and field system 1250m NW of	Scheduled	323159	592428	4.6	8-11	0	National	Remains of pre-improvement farmstead located within pasture farmland adjacent to Black Esk river and on edge of Tanlawhill ASA. Localised valley setting.	High (localised)	High (localised)	Imperceptible: 8-11 turbine tips (no hubs) theoretically visible, in middle distance views over 4km away. Proposed development not in main localised river valley setting.	Negligible

Site ID	Asset Name	Status	Easting	Northing	Distance to Nearest Turbine (km)	No. Turbine Tips visible ¹	No. Turbine Hubs visible	Heritage Importance	Setting	Contribution of Setting	Sensitivity of Setting	Magnitude of Impact	Significance of Impact
4693	Black Esk Bridge, farmstead and cultivation remains 680m S of	Scheduled	325131	590018	1.4	12-15	12-15	National	Remains of pre-improvement farmstead located within pasture farmland on north-east facing slopes of the Mill Burn, overlooking Black Esk, within Tanlawhill ASA. Forestry plantation immediately to south. Localised secluded valley setting.	Moderate (localised)	medium (localised)	Imperceptible: 12-15 turbine tips and hubs theoretically visible, but screened by forestry and proposed development not in main localised valley setting.	Negligible
4694	Tanlawhill, settlement 250m S of	Scheduled	323714	591028	3.1	12-15	4-7	National	Remains of Medieval / post-medieval settlement and possible tower house, located within rough pasture on north-east facing slopes of Hind Fell overlooking the Black Esk, within Tanlawhill ASA. Restricted views to within valley to north and east. Relatively localised setting. Other related monuments in near vicinity (e.g. 4386 and 4695).	High (localised)	High (localised)	Imperceptible: 12-15 turbine tips and 4-7 hubs theoretically visible in views to south-east, but not in main localised valley setting.	Negligible
4695	Tanlawhill, farmstead and cultivation remains 950m ESE of	Scheduled	324660	591024	2.5	4-7	4-7	National	Remains of probable pre-improvement farmstead located within rough pasture on lower north-east facing slopes overlooking the Black Esk, within Tanlawhill ASA. Views restricted due to topography of river valley. Secluded and localised setting. Other related sites in near vicinity (e.g. 4386).	High (localised)	High (localised)	Imperceptible: 4-7 turbine tips and hubs theoretically visible, in restricted views to south-east and not in main localised valley setting.	Negligible
4696	Tanlawhill, settlement 1150m SE of	Scheduled	324635	590652	2.2	8-11	8-11	National	Remains of later prehistoric enclosed settlement located in rough pasture on north-east facing upper slopes of Downey Hill overlooking Black Esk to north and east, within Tanlawhill ASA. Main views along Black Esk, relatively localised setting. Other related monuments in near vicinity (651 and other assets within ASA). Consented Ewe Hill Wind Farm visible in views to south-east.	Moderate (localised)	Medium (localised)	Low: Figure 9.15 indicates that 6 hubs and 3 additional tips visible in near views to south-west together with consented Ewe Hill Wind Farm. Proposed development not in main north-east views along Black Esk and would not intervene in views towards other related monuments.	Minor
4720	Watcarrick, earthwork 140m S of Bankhead	Scheduled	325276	596350	7.4	1-3	0	National	Poorly preserved remains of medieval defensive earthwork located within improved farmland adjacent to road, overlain by cemetery, within White Esk river valley. Localised setting to valley, main views are to south. Other medieval earthworks in area.	Low (localised)	Medium (localised)	Imperceptible: only 1-3 turbine tips (no hubs) theoretically visible, in distant views over 7km away. Proposed development not in main localised river valley setting.	Negligible
4966	Clerkhill, homestead, unenclosed	Scheduled	325703	598270	9.1	12-15	12-15	National	Remains of multi-phase late Bronze Age or early Iron Age settlement, includes six unenclosed houses and cultivation remains,	High (localised)	High (localised)	Imperceptible: 12-15 turbine tips and hubs theoretically visible, in	Negligible

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	settlements & field system 400m N of								located within rough pasture farmland on southern slopes of Clerk Hill within White Esk valley. Relatively localised setting to valley. Main views are to south along valley.			distant views over 9km away. Proposed development not in main river valley setting.	
8364	Rangecastle Hill, fort	Scheduled	318996	593660	8.5	12-15	12-15	National	Remains of later prehistoric fort situated on a rocky knoll at the west end of a flat-topped ridge, within rough pasture farmland overlooking Dryfe Water and Boreland Burn valleys. Commands extensive views in all directions, particularly along river valleys. Associated monuments in local vicinity and within Dryfe Water ASA.	High	High	Imperceptible: 12-15 turbine tips and hubs theoretically visible, in distant views over 8km away. Proposed development not in main river valley setting.	Negligible
8366	Castle Hill, fort	Scheduled	318617	592567	8.2	1-3	0	National	Remains of later prehistoric fort located on summit of Castle Hill, on south-east side of Dryfe Water valley overlooking Boreland Burn within rough pasture farmland. Main views are to north-east and south-west along Boreland Burn Valley. Associated monuments in local vicinity and within Dryfe Water ASA.	High	High	Imperceptible: only 1-3 turbine tips (no hubs) theoretically visible, in distant views over 8km away. Proposed development not in main Dryfe Water valley setting.	Negligible
10346	Bessie's Hill, settlement 150m NE of summit	Scheduled	324911	595543	6.6	12-15	12-15	National	Remains of enclosed later prehistoric settlement located on knoll on upper east-facing slopes of White Esk river valley within rough pasture and forestry plantation. Main views to north and east / south-east along and across valley. Other associated later prehistoric settlement sites in vicinity.	Low	Medium	Low: 12-15 turbine tips and hubs theoretically visible, in middle distance views to south-east. Partly in main views from asset but not in main valley setting	Minor
10476	Peat Hill, fort and scooped settlement	Scheduled	317729	593860	9.7	12-15	12-15	National	Remains of later prehistoric fort and later 1st millennium AD settlement located on upper south-east facing slopes of Peat Hill, on north-west side of Dryfe Water valley within rough pasture farmland. Main views are to north-east and south-west along Dryfe Water valley. Associated monuments in local vicinity and within Dryfe Water ASA.	High	High	Imperceptible: 12-15 turbine tips and hubs theoretically visible, in distant views over 9km away. Proposed development not in main Dryfe Water valley setting.	Negligible
10478	Gillesbie Cottages, moated site 160m NNE of	Scheduled	316869	592157	9.6	1-3	0	National	Earthwork remains of a medieval moated homestead of late medieval date located on the south-east side of a wide boggy hollow on upper slopes of Dryfe Water valley within improved rural landscape. Main views are to north-east and south-west along valley. Links to development of medieval land-use, rural settlement and economy.	Moderate	Medium	Imperceptible: only 1-3 turbine tips (no hubs) theoretically visible, in distant views over 9km away. Proposed development not visible in main Dryfe Water valley setting.	Negligible
11921	Raggiwhate, enclosure 210m ESE of	Scheduled	317475	581878	9.6	12-15	12-15	National	Remains of small alter prehistoric enclosed settlement located on south-east facing slope above the Water of Milk, within improved farmland and adjacent to forestry planting.	Low (localised)	Medium (localised)	Imperceptible: 12-15 turbine tips and hubs theoretically visible in distant views over 10km	Negligible

Site ID	Asset Name	Status	Easting	Northing	Distance to Nearest Turbine (km)	No. Turbine Tips visible ¹	No. Turbine Hubs visible	Heritage Importance	Setting	Contribution of Setting	Sensitivity of Setting	Magnitude of Impact	Significance of Impact
									Main views in southerly direction across and along river valley. Relatively localised setting.			away, partially screened by forestry planting and not in main southwards views.	
12663	Minsca, settlement 295m WNW of	Scheduled	322404	581135	6.9	12-15	12-15	National	Well preserved remains of later prehistoric enclosed settlement located in pasture farmland on south-facing elevated position at head of Main Water river valley with screening to north provided by shelter belts. Minsca Wind Farm lies adjacent to monument to the west. Main views are southwards down Main Water valley, and northwards up valley. Relatively localised setting.	Low	Medium	Imperceptible: 12-15 turbine tips and hubs theoretically visible in views up Main Water valley to north, in distant views almost 7km away, partially screened by shelter belts and not in main southwards views.	Negligible
12667	Newland Hill, settlement 1560m E of Capelfoot	Scheduled	325391	586254	1.1	12-15	12-15	National	Remains of later prehistoric enclosed settlement located within rough pasture in elevated position on south-west facing edge of Newland Hill, below the hill summit, overlooking Capel Burn valley. Distant views along and across valley to south-east, south and south-west, and across to Water of Milk river valley to the south-west and west. Other related sites in near vicinity to west and south (2330, 3964, 12674). Consented Ewe Hill Wind Farm visible in views to east.	Moderate (localised)	Medium (localised)	Medium: Figure 9.16 indicates that 10 turbine hubs and an additional five tips would be visible in views to north beyond skyline and at similar distance to the Ewe Hill Wind Farm. Main views to south along valley and towards other related monuments to west and south would remain unaffected.	Moderate
12674	Pearsby Hill, enclosures and settlement 1250m E of Craighousesteads	Scheduled	324666	585304	2.1	12-15	12-15	National	Remains of later prehistoric settlement located on south-facing slope at summit of Pike Knowe within pasture overlooking Capel Burn valley (to the north and east), Water of Milk river valley (to the west and south-west) and Priestbutts Burn valley (to the south and south-east). Distant views to south and west in particular. Other related sites in near vicinity to west and north (2330, 3964, 12667). Consented Ewe Hill Wind Farm visible in views to north-east.	Moderate	Medium	Low: Figure 9.17 indicates that all 15 turbines would be visible in views to north, beyond Newland Hill and towards other, related later prehistoric sites located in the same direction of view. Proposed development would be visually separate from the monument and would not intervene in important view along Water of Milk and Capel Burn to west and south.	Minor
12740	Craig, two forts 650m	Scheduled	333849	587843	6.9	1-3	1-3	National	Remains of two later prehistoric forts located on the lower northern summit of Craig Hill,	High	High	Imperceptible: only 1-3 turbine tips and hubs	Negligible

Site ID	Asset Name	Status	Easting	Northing	Distance to Nearest Turbine (km)	No. Turbine Tips visible ¹	No. Turbine Hubs visible	Heritage Importance	Setting	Contribution of Setting	Sensitivity of Setting	Magnitude of Impact	Significance of Impact
	SSW of								overlooking the River Esk to north, west and east within rough pasture. Main views are along river valley. Other related sites in vicinity.			theoretically visible but sites only just within ZTV. Proposed development not within main river valley views and setting.	
12745	Little Hill, fort	Scheduled	333825	588154	6.9	4-7	1-3	National	Remains of later prehistoric fort located on the summit of Little Hill in a low valley, overlooking the River Esk to north, west and east within pasture farmland. Main views are along river valley. Other related sites in vicinity.	High	High	Imperceptible: 4-7 turbine tips and 1-3 hubs theoretically visible but sites only just within ZTV. Proposed development not within main river valley views and setting.	Negligible
12755	Witchshaw Rig, unenclosed settlement 1290m NE of Heithatpark	Scheduled	318976	590361	7.0	12-15	8-11	National	Remains of four later prehistoric roundhouses and associated enclosure located on the summit of Witchshaw Rig in the White Esk river valley, within open moorland but with forestry plantation to the north, west and south. Main views are along river valley, with some views southwards towards Water of Milk river valley. Several related monument in close vicinity.	High	High	Imperceptible: 12-15 turbine tips and 8-11 hubs theoretically visible, in distant views 7km away. Proposed development not visible in main river valley setting.	Negligible
12764	Corrie Church, church and graveyard	Scheduled	319749	584257	6.5	12-15	12-15	National	Earthwork remains of former parish church of Corrie and associated burial ground dating to medieval period. The building went out of use in 1609. Remains located in pasture/improved farmland on gentle south-east facing slopes. Localised setting.	Moderate (localised)	Medium (localised)	Imperceptible: 12-15 turbine tips and hubs theoretically visible, in distant views over 6km away. Localised setting.	Negligible
12767	Whiteyett, earthworks 575m SSE to 935m S and 650m S to 1060m S of	Scheduled	324925	593349	4.3	12-15	12-15	National	Linear earthwork located within improved pasture farmland adjacent to forestry plantation, within White Esk river valley. Other, related linear earthworks located in near vicinity on either side of White Esk valley. Has clear view to east. Localised setting to valley.	Low	Low (localised)	Imperceptible: 12-15 turbine tips and hubs theoretically visible, in middle distance views over 4km away. Proposed development not in main valley setting and relationships to other linear earthworks not readily appreciable on ground.	Negligible
12775	Over Rig, enclosure 750m SSW of Whiteyett	Scheduled	324569	593482	4.7	12-15	12-15	National	Remains of later prehistoric multi-vallate enclosure located in a natural 'amphitheatre' created by local topography, on the western bank of the White Esk. Part of wider later prehistoric landscape, but likely functioned as a focal point for ritual activity within this landscape. Localised setting within valley.	Moderate	Medium (localised)	Imperceptible: 12-15 turbine tips and hubs theoretically visible, in middle distance views over 4km away. Proposed development not in main localised	Negligible

Site ID	Asset Name	Status	Easting	Northing	Distance to Nearest Turbine (km)	No. Turbine Tips visible ¹	No. Turbine Hubs visible	Heritage Importance	Setting	Contribution of Setting	Sensitivity of Setting	Magnitude of Impact	Significance of Impact
												river valley setting.	
9766	Bankhead, Watcarrick	Category B Listed Building	325265	596350	7.4	1-3	0	Regional	18th-19th century burial ground located within improved farmland in White Esk river valley. Localised setting.	High	Medium	Imperceptible: only 1-3 turbine tips (no hubs) theoretically visible, in distant views over 7km away. Proposed development not within localised setting.	Negligible
9914	Corriestand Farmhouse and Steading	Category B Listed Building	320910	585840	4.8	12-15	12-15	Regional	Mid-19th century farmhouse located within improved farmland adjacent to small plantation to north. Localised setting.	Moderate (localised)	Medium (localised)	Imperceptible: 12-15 turbine tips and hubs theoretically visible, in middle distance views over 4km away. Localised setting.	Negligible
9916	Gillesbie House	Category B Listed Building	316515	591491	9.7	1-3	0	Regional	Probable mid-19th century house incorporating 18th century fabric, located within in Gillesbie NIDL, within improved rural landscape on north-west slopes of Dryfe Water valley. Secluded setting within NIDL, with views screened by mature mixed woodland planting within NIDL.	High	Medium	Imperceptible: only 1-3 turbine tips (no hubs) theoretically visible, in distant views over 9km away. Proposed development screened by woodland and not visible in main Dryfe Water valley setting.	Negligible
16911	Burnhead	Category B Listed Building	319259	581227	8.7	12-15	12-15	Regional	Early to mid-19th century farmhouse located in improved farmland on north-facing gently rising ground. Some screening from shelter belts and trees. Localised setting.	Moderate (localised)	Medium (localised)	Imperceptible: 12-15 turbine tips and hubs theoretically visible but in distant views at over 8km away. Localised setting.	Negligible
16917	Standburn, Hay Barn	Category B Listed Building	321132	582462	6.5	12-15	0	Regional	19th century haybarn located in improved farmland on gently rising ground. Localised setting.	Moderate (localised)	Medium (localised)	Imperceptible: 12-15 turbine tips (no hubs) theoretically visible in distant views over 6km away. Localised setting.	Negligible
16944	West Craigs Farm, Monument to Earl Grey	Category B Listed Building	325991	578716	8.6	1-3	0	Regional	Monument erected in 1832 to Early Grey and the passing of the Reform Act by local farmer, located in pasture farmland adjacent to West Craigs Farm. Minsca Wind Farm forms part of baseline setting in views to north-west. Localised setting.	Moderate (localised)	Medium (localised)	Imperceptible: only 1-3 turbine tips (no hubs) theoretically visible in distant views over 8km away.	Negligible
16954	Kirtleton House and Outbuildings	Category B Listed Building	326898	580145	7.3	1-3	0	Regional	Mid-18th century stables in agricultural use and dovecot converted to garage, located in improved farmland. Localised setting.	Moderate (localised)	Medium (localised)	Imperceptible: only 1-3 turbine tips (no hubs) theoretically visible in distant views over 7km away. Localised setting.	Negligible
16954	Kirtleton House,	Category B Listed	326916	580168	7.3	1-3	0	Regional	Mid-18th century stables in agricultural use and dovecot converted to garage, located in	Moderate (localised)	Medium (localised)	Imperceptible: only 1-3 turbine tips (no hubs)	Negligible

Site ID	Asset Name	Status	Easting	Northing	Distance to Nearest Turbine (km)	No. Turbine Tips visible ¹	No. Turbine Hubs visible	Heritage Importance	Setting	Contribution of Setting	Sensitivity of Setting	Magnitude of Impact	Significance of Impact
	Dovecote	Building							improved farmland. Localised setting.			theoretically visible in distant views over 7km away. Localised setting.	
16957	Waterbeck, The New Cottage	Category B Listed Building	324651	577596	9.8	4-7	0	Regional	Late 18th century row of single storey cottages located in hamlet of Waterbeck within improved farmland. Localised setting.	Moderate (localised)	Medium (localised)	Imperceptible: 4-7 turbine tips (no hubs) theoretically visible in distant views almost 10km away.	Negligible
16957	Waterbeck, Cottage	Category B Listed Building	324653	577545	9.8	4-7	1-3	Regional	Late 18th century row of single storey cottages located in hamlet of Waterbeck within improved farmland. Localised setting.	Moderate (localised)	Medium (localised)	Imperceptible: 4-7 turbine tips and 1-3 hubs theoretically visible in distant views almost 10km away.	Negligible
16957	Waterbeck, Cottage	Category B Listed Building	324646	577541	9.8	4-7	1-3	Regional	Late 18th century row of single storey cottages located in hamlet of Waterbeck within improved farmland. Localised setting.	Moderate (localised)	Medium (localised)	Imperceptible: 4-7 turbine tips and 1-3 hubs theoretically visible in distant views almost 10km away.	Negligible
16957	Waterbeck, Cottage	Category B Listed Building	324661	577551	9.8	4-7	1-3	Regional	Late 18th century row of single storey cottages located in hamlet of Waterbeck within improved farmland. Localised setting.	Moderate (localised)	Medium (localised)	Imperceptible: 4-7 turbine tips and 1-3 hubs theoretically visible in distant views almost 10km away.	Negligible
16970	Albie Aisle (Carlyle Family Aisle)	Category B Listed Building	324584	577437	10.0	4-7	1-3	Regional	Early 18th-early 19th century burial aisle associated with Carlyle family, located in pasture farmland within hamlet of Waterbeck. Localised setting.	Moderate (localised)	Medium (localised)	Imperceptible: 4-7 turbine tips and 1-3 hubs theoretically visible in distant views 10km away	
16981	Carruthers	Category B Listed Building	325219	580675	6.7	1-3	0	Regional	Early 19th century farmhouse located within improved/semi-improved farmland with screening to north, east and west provided by woodland planting. Localised setting.	Moderate localised	Medium (localised)	Imperceptible: only 1-3 turbine tips (no hubs) theoretically visible in middle distance views over 6km away. Localised setting.	Negligible
9767	Eskdalemuir, Black Esk Bridge	Category C Listed Building	325217	590730	2.0	1-3	0	Local	Early 19th century bridge over Black Esk. Localised setting to river valley.	Moderate (localised)	Low (localised)	Imperceptible: 4-7 turbine tips (no hubs) theoretically visible but not in localised valley setting.	Negligible
9876	Whitcastles House	Category C Listed Building	323282	587096	2.2	12-15	12-15	Local	Early 19th century house located in elevated position on south-facing spur within Water of Milk river valley in improved/semi-improved farmland with modern farm buildings adjacent. Screening of views to east and south due to trees/woodland copse. Large forestry plantation to the north and west. Main views in southerly direction down river	Moderate localised	Low (localised)	Low: all 15 turbines theoretically visible in near views from house looking north-eastwards. Some screening from woodland copse. Views of proposed	Negligible

Site ID	Asset Name	Status	Easting	Northing	Distance to Nearest Turbine (km)	No. Turbine Tips visible ¹	No. Turbine Hubs visible	Heritage Importance	Setting	Contribution of Setting	Sensitivity of Setting	Magnitude of Impact	Significance of Impact
									valley. Relatively localised and secluded setting.			development not in main views southwards down valley. Can still appreciate setting of asset.	
9917	Paddockhole Bridge	Category C Listed Building	322983	583398	4.7	8-11	1-3	Local	Early 19th century road bridge spanning Water of Milk. Localised setting.	Moderate (localised)	Medium (localised)	Imperceptible: 8-11 turbine tips and 1-3 hubs theoretically visible, in middle distance views over 4km away. Localised setting.	Negligible
16924	Eskdalemuir, Black Esk Bridge	Category C Listed Building	325217	590730	2.0	4-7	0	Local	Early 19th century bridge over Black Esk. Localised setting to river valley.	Moderate (localised)	Low (localised)	Imperceptible: 4-7 turbine tips (no hubs) theoretically visible but not in localised valley setting.	Negligible
MDG 10345	Potholm Hill Platform	Un-designated HER site	336280	587870	9.4	4-7	4-7	National	Remains of later prehistoric platform located on northern end of summit of Potholm Hill within rough pasture. Good views out to surrounding landscape, particularly to north and east across Ewe Water, and to west and south-west along River Esk.	High	High	Imperceptible: 4-7 turbine tips and hubs theoretically visible, in distant views over 9km away.	Negligible
MDG 10385	Newland Hill Settlement	Un-designated HER site	325750	586150	1.2	12-15	12-15	National	Remains of probable later prehistoric settlement located within rough pasture on south-east facing upper slopes of Newland Hill, overlooking Capel Burn and Cheese Burn valleys. Main views along Capel Burn to west and up Cheese Burn to north-east. Relatively localised setting. Other related sites in near vicinity (particularly 12667).	Moderate (localised)	Medium (localised)	Low: 12-15 turbine tips and hubs theoretically visible in near views to north, but not within main localised valley setting nor in views towards other related monuments.	Minor
MDG 10386	Newlandhill Cord Rig; Palisaded Settlement	Un-designated HER site	325240	586230	1.1	12-15	12-15	National	Remains of probable later prehistoric settlement located within rough pasture on south-west facing upper slopes of Newland Hill, overlooking Capel Burn and Water of Milk valleys. Main views along Capel Burn to Water of Milk to west and along valley to east. Relatively localised setting. Other related sites in near vicinity (particularly 12667).	Moderate (localised)	Medium (localised)	Low: 12-15 turbine tips and hubs theoretically visible in near views to north, but not within main localised valley setting or in views towards other related monuments.	Minor
MDG 11036	Black Burn / Minsca Ridge And Furrow; Scooped Settlement	Un-designated HER site	321960	581570	6.8	12-15	12-15	National	Remains of later prehistoric enclosed scooped settlement on edge of area of rig and furrow, located within rough pasture and on edge of Minsca Wind Farm on south-east facing slope. Main views to south. Relatively localised setting.	Low (localised)	Low (localised)	Imperceptible: 12-15 turbine tips and hubs theoretically visible in distant views almost 7km away. Not in main southwards views and these already compromised by	Negligible

Site ID	Asset Name	Status	Easting	Northing	Distance to Nearest Turbine (km)	No. Turbine Tips visible ¹	No. Turbine Hubs visible	Heritage Importance	Setting	Contribution of Setting	Sensitivity of Setting	Magnitude of Impact	Significance of Impact
												presence of Minsca Wind Farm.	
MDG 11096	Pyatshaws Rig Unenclosed Settlement	Un-designated HER site	321460	584630	4.8	12-15	12-15	National	Remains of later prehistoric settlement associated with Index No. 2289 located on a south-facing spur of Pyatshaw Rig within rough pasture on edge of Water of Milk river valley. Distant views to surrounding landscape, main views in wide east to south-west arc across and along Water of Milk valley. Other related sites in vicinity.	High	High	Low: 12-15 turbine tips and hubs theoretically visible, but on edge of main arc of view across and along river valley setting in medium-distant views.	Minor
MDG 11097	Pyatshaws Rig Unenclosed Settlement?	Un-designated HER site	321530	584540	4.8	12-15	12-15	National	Remains of later prehistoric settlement associated with Index No. 2289 located on a south-facing spur of Pyatshaw Rig within rough pasture on edge of Water of Milk river valley. Distant views to surrounding landscape, main views in wide east to south-west arc across and along Water of Milk valley. Other related sites in vicinity.	High	High	Low: 12-15 turbine tips and hubs theoretically visible, but on edge of main arc of view across and along river valley setting in medium-distant views.	Minor
MDG 11105	Crawthat Hill Unenclosed Settlement	Un-designated HER site	324530	583870	3.6	12-15	12-15	National	Remains of later prehistoric unenclosed settlement located on upper north-west facing slopes of Crawthat Hill in pasture farmland. Main views are in north-west to south-east arc along Water of Milk valley. Other related sites in close proximity (e.g. 3963).	High	High	Low: 12-15 turbine tips and hubs theoretically visible in views to north. Proposed development offset-from main arc of view from monument and would be visible on distant horizon, beyond related sites.	Minor
MDG 11208	Martin Hill Ring Ditch?; Settlement; Round House (Domestic)?	Un-designated HER site	326100	590410	1.4	12-15	12-15	National	Poorly preserved remains of possible later prehistoric settlement located on north-facing summit of Martin Hill, overlooking Esk valley rivers to north and west, and with some views southwards along Water of Milk, although restricted due to topography and commercial forestry plantation immediately to south. Other related sites in near vicinity (Tanlawhill ASA).	Moderate	Medium	Low: 12-15 turbine tips and hubs theoretically visible in near views in one of arcs of view from monument, but not in main north and west views.	Minor
MDG 11764	Shielstead Hill Linear Earthwork	Un-designated HER site	316337	588014	9.1	12-15	8-11	National	Earthwork remains located in pasture farmland on west-facing terrace of Firtree Hill. Main views along Dryfe Water valley. Associated with two scooped settlements nearby.	High	High	Imperceptible: 12-15 turbine tips and 8-11 hubs theoretically visible, in distant views over 9km away. Proposed Development not in main Dryfe Water valley setting.	Negligible
MDG 7161	Lunelly Tower / Lun Tower House	Un-designated HER site	319710	582360	7.6	4-7	0	National	Poorly preserved remains of probable 16th century tower house located at bend in river of Water of Milk on south-facing slopes	Moderate (localised)	Medium (localised)	Imperceptible: 4-7 turbine tips (no hubs) theoretically visible in	Negligible

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									within improved pasture farmland. Main views are along river valley to east and west. Relatively localised setting.			distant views over 7km away and not in main east to west valley views.	
MDG 7287	Peat Hill Cultivation Terrace; Settlement	Un-designated HER site	317830	593990	9.7	12-15	12-15	National	Remains of later prehistoric / 1st millennium settlement located on upper south-east facing slopes of Peat Hill, on north-west side of Dryfe Water valley within rough pasture farmland. Main views are to north-east and south-west along Dryfe Water valley. Associated monuments in local vicinity and within Dryfe Water ASA.	High	High	Imperceptible: 12-15 turbine tips and hubs theoretically visible, in distant views over 9km away. Proposed development not in main Dryfe Water valley setting.	Negligible
MDG 7551	Whitstone Hill Settlement	Un-designated HER site	320889	582765	6.5	12-15	12-15	National	Remains of enclosed later prehistoric settlement located on summit of Whitstone Hill within pasture farmland overlooking Water of Milk. Distant views along and across river valley in wide arc from east to west. Associated with field system remains to south (MDG8627). Other related sites in vicinity.	Moderate	Medium	Low: 12-15 turbine tips and hubs theoretically in main arc of view from site, in middle distance views over 6km away and not in main river valley setting.	Minor
MDG 7643	Billholm / River Esk Fortification; Earthwork	Un-designated HER site	327950	592050	3.1	8-11	0	National	Poorly preserved remains of probable later prehistoric settlement located in an escarpment on a bend in the River Esk within rough pasture and partially overlain by mixed woodland. Localised setting to river valley. Other related sites in vicinity.	Moderate (localised)	Medium (localised)	Imperceptible: 8-11 turbine tips (no hubs) theoretically visible, but not within localised valley setting.	Negligible
MDG 7695	Castle O'er Estate Linear Earthwork	Un-designated HER site	325289	592900	4.0	12-15	8-11	National	Linear earthwork located within forestry plantation, within White Esk river valley. Other, related linear earthworks located in near vicinity on either side of White Esk valley. Localised setting to valley.	Negligible	Low (localised)	Imperceptible: 12-15 turbine tips and 8-11 hubs theoretically visible, in middle distance views 4km away. Proposed development not in main valley setting and relationships to other linear earthworks not readily visible on ground.	Negligible
MDG 7739	Castle O'er Estate Linear Earthwork	Un-designated HER site	324670	593753	5.0	12-15	12-15	National	Linear earthwork located within forestry plantation, within White Esk river valley. Other, related linear earthworks located in near vicinity on either side of White Esk valley. Localised setting to valley.	Negligible	Low (localised)	Imperceptible: 12-15 turbine tips and hubs theoretically visible, in middle distance views over 5km away. Proposed development not in main valley setting and relationships to other linear	Negligible

Site ID	Asset Name	Status	Easting	Northing	Distance to Nearest Turbine (km)	No. Turbine Tips visible ¹	No. Turbine Hubs visible	Heritage Importance	Setting	Contribution of Setting	Sensitivity of Setting	Magnitude of Impact	Significance of Impact
												earthworks not readily visible on ground.	
MDG 7740	Castle O'er Estate Linear Earthwork	Un-designated HER site	324600	593900	5.2	12-15	12-15	National	Linear earthwork located within forestry plantation, within White Esk river valley. Other, related linear earthworks located in near vicinity on either side of White Esk valley. Localised setting to valley.	Negligible	Low (localised)	Imperceptible: 12-15 turbine tips and hubs theoretically visible, in middle distance views over 5km away. Proposed development not in main valley setting and relationships to other linear earthworks not readily visible on ground.	Negligible
MDG 8118	Georgefield Settlement	Un-designated HER site	330010	591520	3.9	4-7	0	National	Remains of pre-improvement settlement located on western slopes of Esk Water valley within rough pasture and adjacent to modern forestry plantation. Main views are along valley to north-west and south-east. Localised valley setting. Other related sites in vicinity.	Moderate (localised)	Medium (localised)	Imperceptible: 4-7 turbine tips (no hubs) theoretically visible and not within localised valley setting.	Negligible
MDG 8575	Shielstead Hill / Firtree Hill Scooped Settlement	Un-designated HER site	316330	587920	9.1	12-15	4-7	National	Scooped settlement remains located in pasture farmland on west-facing terrace of Firtree Hill. Main views along Dryfe Water valley. Associated with other scooped settlement and earthwork nearby.	High	High	Imperceptible: 12-15 turbine tips and 4-7 hubs theoretically visible, in distant views over 9km away. Proposed Development not in main Dryfe Water valley setting.	Negligible
MDG 8627	Whitstone Hill Enclosure; Cultivation Terrace	Un-designated HER site	320900	582600	6.6	12-15	12-15	National	Cultivation remains associated with later prehistoric settlement (MD 7551) located within pasture farmland on lower slopes of Whinstone hill within Water of Milk river valley. Localised setting to settlement remains and river valley.	Moderate (localised)	Medium (localised)	Imperceptible: 12-15 turbine tips and hubs theoretically visible but in middle distance views at over 6km away. Localised setting.	Negligible
MDG 9754	Craighousteads Hill / Capelfoot Cord Rig; Round House (Domestic)	Un-designated HER site	323860	585630	2.3	12-15	12-15	National	Remains of later prehistoric round house and associated cord rig located on lower north-west facing slopes of Craighousteads Hill overlooking Water of Milk / Capel Burn confluence, within rough pasture. Main views to north-west and west. Relatively localised valley setting.	High (localised)	High (localised)	Low: 12-15 turbine tips and hubs theoretically visible in near views to north-east, not in main localised valley setting views.	Minor
MDG 9858	Shielstead Hill / Firtree Hill Scooped Settlement	Un-designated HER site	316290	587890	9.2	12-15	0	National	Scooped settlement remains located in pasture farmland on west-facing terrace of Firtree Hill. Main views along Dryfe Water valley. Associated with other scooped settlement and earthwork nearby.	High	High	Imperceptible: 12-15 turbine tips (no hubs) theoretically visible, in distant views over 9km away. Proposed Development not in	Negligible

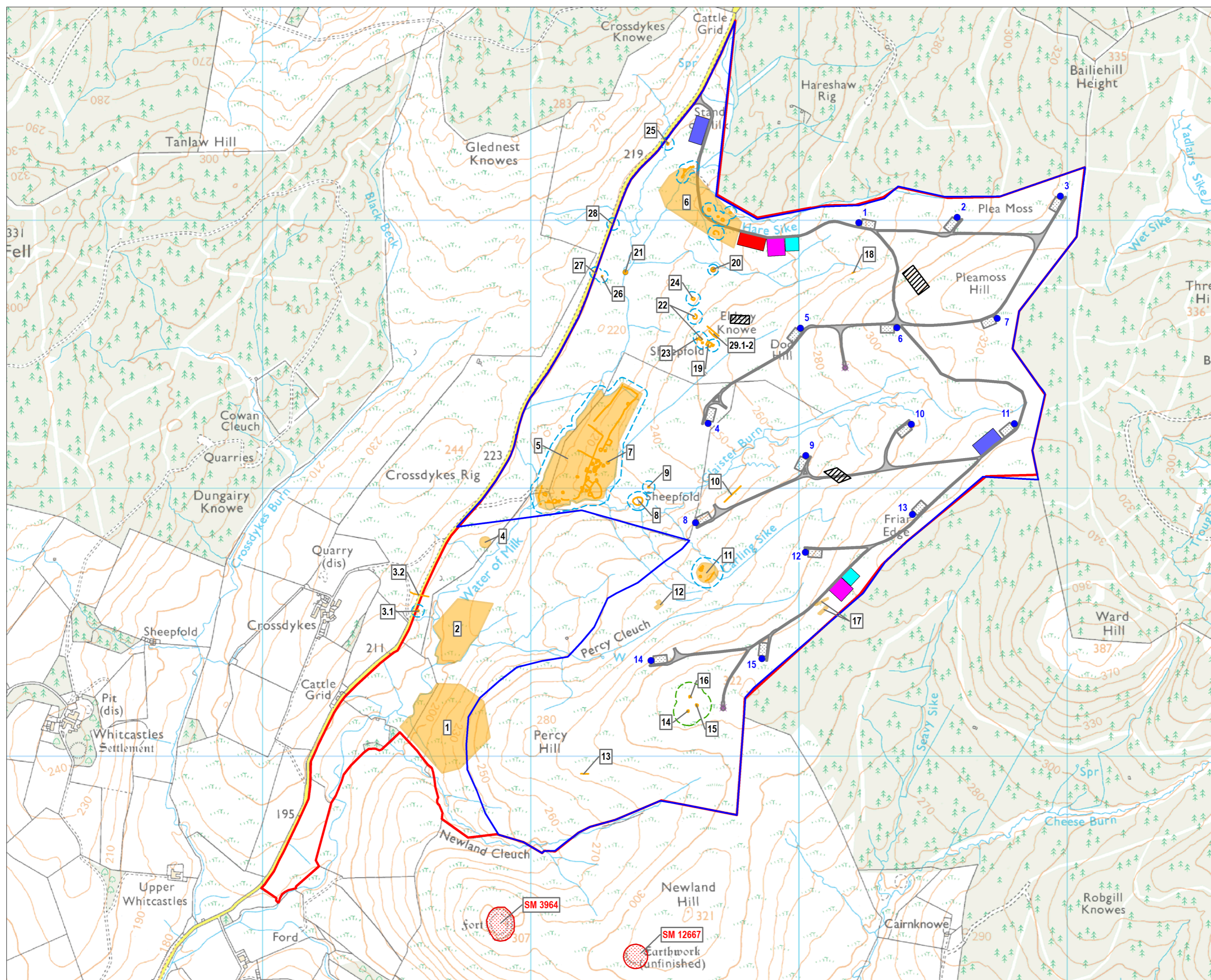
Site ID	Asset Name	Status	Easting	Northing	Distance to Nearest Turbine (km)	No. Turbine Tips visible ¹	No. Turbine Hubs visible	Heritage Importance	Setting	Contribution of Setting	Sensitivity of Setting	Magnitude of Impact	Significance of Impact
												main Dryfe Water valley setting.	
MDG 9908	Stobohill Scooped Settlement	Un-designated HER site	318817	587300	6.6	8-11	1-3	National	Scooped settlement located on lower east-facing slopes of Stobohill within pasture farmland on edge of forestry plantation, within Corrie Water valley. Localised valley setting.	Moderate	Medium	Imperceptible: 8-11 turbine tips and 1-3 hubs theoretically visible, in medium-distant views over 6km away. Proposed development not within localised valley setting.	Negligible
n/a	Boyken Burn	ASA	n/a	n/a	2.4	12-15	12-15	Regional	Boyken Burn ASA lies within the Boyken Burn river valley, within a largely upland rough pasture landscape. Bordered by commercial forestry to north, south and west. Provides setting for cluster of well preserved multi-period archaeological remains including extensive remains of Boyken Burn township (4385). Restricted views from within valley, mainly out to east towards River Esk. Relatively localised and secluded setting. Consented Ewe Hill Wind Farm visible to south-west	Moderate (localised)	Medium (localised)	Low: Figure 9.18 indicates that 8 turbine hubs and an additional 5 tips visible in some middle distance views from ASA, at head of Boyken Burn valley in westerly direction. Views in other directions unaffected. Much of ASA lies outwith ZTV. Can still appreciate localised valley setting.	Minor
n/a	Burnswark	ASA	n/a	n/a	9.6	12-15	12-15	Regional	Burnswark ASA lies around summit of Burnswark hill within largely rough pasture farmland. Provides setting for scheduled hill fort and Roman camps (Index No. 667), which lies beyond assessment radius. Distant views from schedule area and ASA in wide arc of view from north-west to south-east along and across lower lying valley and out towards Solway Firth.	High	Medium	Imperceptible: 12-15 turbine tips and hubs theoretically visible from ASA, but in distant views at 10km away. Much of ASA outwith ZTV and proposed development not in main arc of view.	
n/a	Dryfe Water	ASA	n/a	n/a	7.8	12-15	12-15	Regional	ASA, largely comprising a mix of rough and semi-improved farmland with some commercial forestry plantation. Located in Dryfe Water valley and across tributaries. Provides setting for several monuments, largely of later prehistoric date. Individual monuments have broader setting, but ASA itself localised to valley.	High (localised)	Medium (localised)	Imperceptible: 12-15 turbine tips and hubs theoretically visible, in distant views over 8km away. Proposed Development not in main Dryfe Water valley setting. Most of ASA outwith ZTV.	Negligible
n/a	Tanlawhill	ASA	n/a	n/a	1.1	12-15	12-15	Regional	Tanlawhill ASA located on southern side of the Black Esk and Esk river valleys, largely within upland rough pasture, bordered by the Black Esk and Esk rivers to the north and east, and largely surrounded by commercial	Moderate (localised)	Medium (localised)	Low: 12-15 turbine hubs and tips visible from some limited locations within ASA. Figure 9.10 and Figure 9.15 indicate	Minor

Site ID	Asset Name	Status	Easting	Northing	Distance to Nearest Turbine (km)	No. Turbine Tips visible ¹	No. Turbine Hubs visible	Heritage Importance	Setting	Contribution of Setting	Sensitivity of Setting	Magnitude of Impact	Significance of Impact
									forestry plantation. Provides setting for number of scheduled monuments of later prehistoric to post-medieval date. Relatively secluded and localised setting.			that a maximum of 12 hubs and an additional 2 tips would be visible from some assets within ASA. Much of ASA lies outwith ZTV and proposed development not within main localised Esk valley setting.	
n/a	Castle O'er	NIDL	n/a	n/a	3.3	12-15	12-15	Regional	NIDL located at southern end of White Esk valley adjacent to road. Largely covered with mature mixed woodland and surrounded by commercial forestry plantation. Secluded and localised setting.	Low	Low	Imperceptible: 12-15 turbine tips and hubs theoretically visible over 3km away, but proposed development screened by woodland and forestry and not within localised White Esk Water valley setting.	Negligible
n/a	Gillesbie	NIDL	n/a	n/a	9.2	8-11	1-3	Regional	NIDL providing setting for Gillesbie House, located within improved rural landscape on north-west slopes of Dryfe Water valley. Some views out from northern part of NIDL, along river valley, but views around house and southern part of NIDL screened by mature mixed woodland planting within NIDL.	High	Moderate	Imperceptible: 8-11 turbine tips and 1-3 hubs theoretically visible, but in distant views at over 9km away.	Negligible
n/a	Grange (of Tundergarth)	NIDL	n/a	n/a	4.6	12-15	4-7	Regional	NIDL of former policies of Grange of Tundergarth, located in secluded low-lying position within valley setting, within improved farmland. NIDL comprises mix of improved farmland and plantation.	Moderate (localised)	Medium (localised)	Imperceptible: 12-15 turbine tips and 4-7 hubs theoretically visible in middle distance views over 4km away. Localised setting.	Negligible
n/a	Westerhall	NIDL	n/a	n/a	4.5	12-15	4-7	Regional	NIDL providing setting for 17th to 18th century Westerhall House, located on gently rising south-west facing slopes of River Esk valley. NIDL comprises a mix of woodland planting, improved farmland and commercial forestry. Woodland planting borders NIDL to west and south and views out towards surrounding landscape, or into NIDL, screened by planting and forestry within NIDL. Localised valley setting.	Moderate	Medium	Imperceptible: 12-15 turbine tips and 4-7 hubs theoretically visible, but in middle distance views with screening provided by NIDL planting. No visibility from house and much of NIDL outwith ZTV. Proposed development not within localised valley setting.	Negligible

Crossdykes Wind Farm

Legend:

- Site Boundary
- Survey Area
- Turbine Locations
- ✱ Permanent Anemometer
- Access Tracks
- Crane Pad & Foundation
- Concrete Batching Plant
- Sub-station
- Network Operator Compound
- Construction Compound
- Borrow Pit
- 50m Buffer
- 20m Buffer
- Scheduled Monument
- Cultural Heritage Site (point)
- Cultural Heritage Site (line)
- Cultural Heritage Site (area)



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Scale @ A3 1:12,500

Fig 9.6 - Heritage Assets within Site Boundary and Survey Area

Date: 30/03/2015

Ref:

Drawn: SW



Crossdykes Wind Farm

Legend:

- Turbine Location
- 5km and 10km Buffer
- Scheduled Monument
- + Listed Building Category B
- + Listed Building Category C
- HER Site (National Significance Grade)
- ASA
- NIDL

ZTV Visibility

- 1 - 3 turbines may be theoretically visible
- 4 - 7 turbines may be theoretically visible
- 8 - 11 turbines may be theoretically visible
- 12 - 15 turbines may be theoretically visible

647 Heritage Assets assessed in chapter / Visualisation viewpoints (Table 9.9)

Notes:

Zone of Theoretical Visibility calculated using WindPROF 2.8. Theoretical turbine visibility (Tip height) assumes bare earth scenario, vegetation screening not accounted for.



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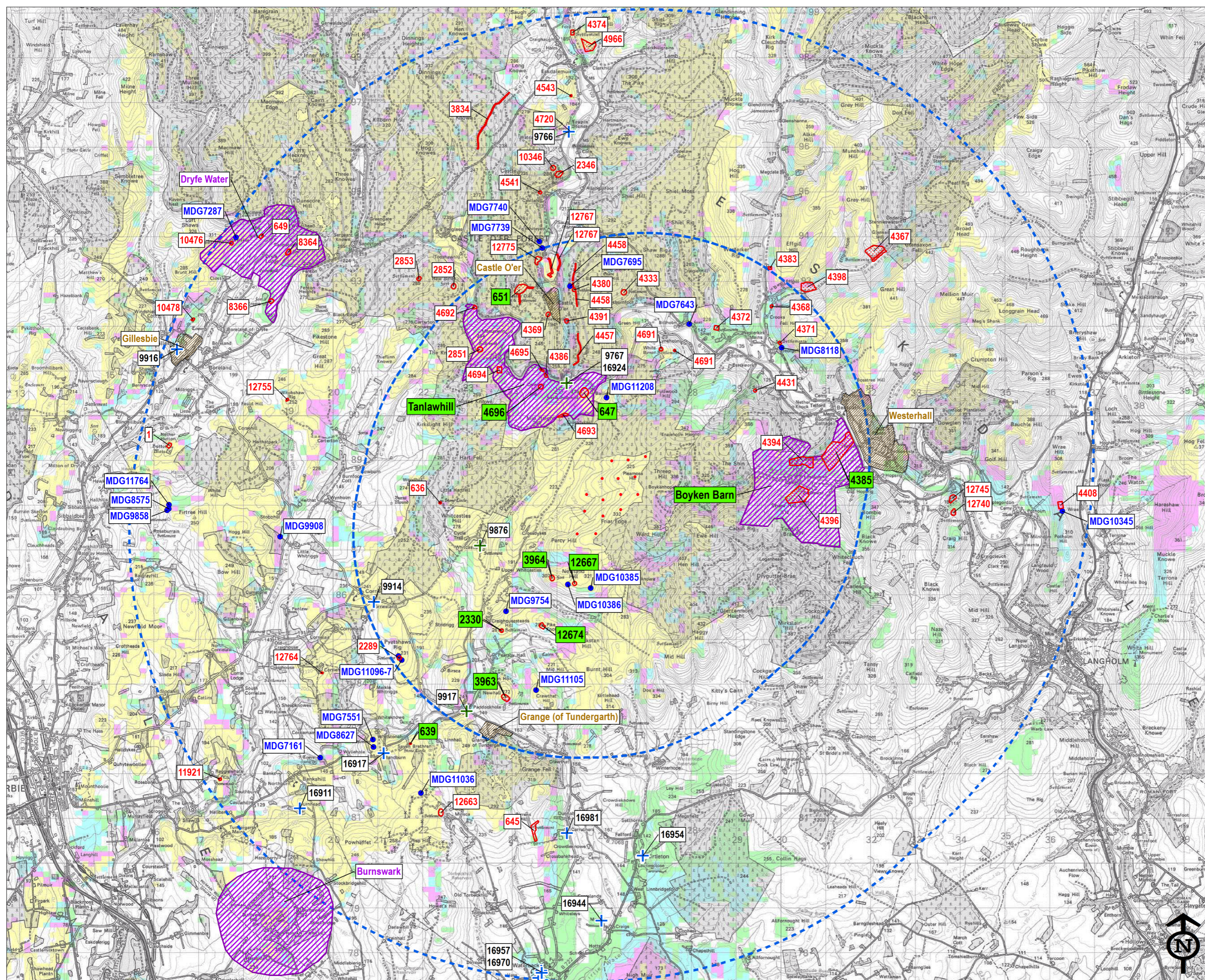
Scale @ A3 1:75,000

Fig 9.7 - ZTV and Heritage Assets within 10km

Date: 30/03/2015

Ref:

Drawn: SW



Crossdykes Wind Farm

Legend:

- Turbine Location
- 5km and 10km Buffer
- Scheduled Monument
- + Listed Building Category B
- + Listed Building Category C
- HER Site (National Significance Grade)
- ASA
- NIDL

ZTV Visibility

- 1 - 3 turbines may be theoretically visible
- 4 - 7 turbines may be theoretically visible
- 8 - 11 turbines may be theoretically visible
- 12 - 15 turbines may be theoretically visible

- Existing wind farms
- Wind farms under construction and or consented
- Wind farms with submitted scoping report

 647 Heritage Assets assessed in chapter / Visualisation viewpoints (Table 9.9)

Notes:
Zone of Theoretical Visibility calculated using WindPROF 2.8.
Theoretical turbine visibility (Tip height) assumes bare earth scenario, vegetation screening not accounted for.



Scale @ A3 1:75,000

Fig 9.8 - Cumulative Developments, ZTV and Heritage Assets within 10km

Date: 30/03/2015

Ref:

Drawn: SW

