

9 ARCHAEOLOGY AND CULTURAL HERITAGE

9.1 INTRODUCTION

This Chapter of the Environmental Impact Assessment Report (EIA Report) evaluates the effects of the Ackron Wind Farm (the Development) on the archaeological and cultural heritage resource. The assessment was undertaken by Heather Kwiatkowski, Principal Heritage Consultant at Arcus Consultancy Services Limited (Arcus) who is a full member of the Chartered Institute for Archaeologists. The Chapter has been technically reviewed by Stuart Davidson, Registered EIA Practitioner and Operational Director at Arcus.

This chapter includes the following elements:

- Legislation, Policy and Guidance;
- Assessment Methodology and Significance Criteria;
- Baseline Conditions;
- Assessment of Potential Effects;
- Mitigation and Residual Effects;
- Cumulative Effect Assessment;
- Summary of Effects; and
- Statement of Significance.

The following terms are used within this Chapter to describe the Development and various associated study areas:

- The Development: the whole physical process involved in the development of Ackron Wind Farm, including wind farm construction, operation and decommissioning (i.e. not a piece of land or an area);
- The Core Study Area: area in which direct effects to archaeology may occur with the extent and location shown on Figure 9.1;
- The 1 km Study Area: an area covering the Core Study Area and land within a 1 km radius of the archaeological Core Study Area (Figure 9.1), was used to establish the type of known archaeology within proximity to the Core Study Area in order to inform the potential for unknown archaeology to survive within the Core Study Area; and
- The 10 km Study Area: the area within 10 km of the Core Study Area used to identify designated assets which have the potential to receive a change to their setting as a result of the Development and for which an assessment of indirect effects may be required (Figure 9.2). The 10 km Study Area was also used for the cumulative assessment (Figure 9.3).

This Chapter of the EIA Report is supported by the following figures provided in Volume 2a Figures excluding Landscape and Visual:

- Figure 9.1: Non-Designated Heritage Assets in 1 km study area;
- Figure 9.2: Designated Heritage Assets in 10 km study area; and
- Figure 9.3: Cumulative Wind Farms for Heritage.

This Chapter of the EIA Report is supported by the following visualisations provided in Volume 2c NatureScot¹ Visualisations:

- Figure 6.21: VP10 Hill of Shebster (representing scheduled monuments on Hill of Shebster including Hill of Shebster chambered cairn (SM476), Cnoc Freiceadain long cairns (SM90078), and Creag Bhreac Mhor stone rows (SM2386));
- Figure 9.4: Knock Stanger, cairn 730 m E of Sandside House (SM458);

¹ Scottish Natural Heritage (SNH) rebranded in August 2020 as NatureScot. Where relevant reference is still made to SNH within this chapter in respect of guidance which remains valid and is yet to be republished etc.

- Figure 9.5 Reay, burial ground, old church and cross slab 175 m E of Parish Church (SM615);
- Figure 9.6: Halladale Bridge, hut circles 670 m NE of, on banks of Giligill Burn (SM3304);
- Figure 9.7: Category A Listed Bighouse Garden House and Walled Garden (LB7160);
- Figure 9.8: Category A Listed Reay Parish Church (LB14992);
- Figure 9.9: Category A Listed Sandside House Kiln Barn, Implement Shed, Byre, Cottage and Dairy (LB14986); and
- Figure 9.10: Category A Listed Sandside Harbour, 1 Sandside, and Fishing Store (LB14988).

This Chapter of the EIA Report is supported by the following Technical Appendix documents provided in Volume 3 Technical Appendices:

- A9.1: Ackron Wind Farm Archaeological Desk-Based Assessment (DBA), dated November 2019; and
- A9.2: Historic Environment Scotland (HES) EIA Consultation.

9.2 LEGISLATION, POLICY AND GUIDANCE

A detailed review of the relevant heritage legislation and guidance is provided within the DBA in Technical Appendix A9.1. A summary of the relevant heritage legislation and guidance used within the EIA Report is provided below. Further details of energy and planning policy within the Planning Statement submitted as part of the application.

9.2.1 Legislation

The following is a summary of heritage legislation of relevance to this Chapter:

- Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 20172 (hereafter referred to as 'the EIA Regulations');
- The Historic Environment Scotland Act 20143;
- The Ancient Monuments and Archaeological Areas Act 19794; and
- The Planning (Listed Buildings and Conservation Areas) (Scotland) Act 19975.

9.2.2 Policy and Guidance

In addition to the above legislation, the following is a summary of the key policy and guidance of relevance to this Chapter:

- Scotland's Third National Planning Framework (NPF3)⁶;
- Scottish Planning Policy (2014)⁷: Valuing the Historic Environment, Paragraphs 135-151;
- EIA Handbook⁸;

2 Scottish Government (2017) Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 [Online] Available at: <http://www.legislation.gov.uk/ssi/2017/102/contents/made> (Accessed 15/10/2019)

3 Scottish Government (2014) The Historic Environment Scotland Act [Online] Available at http://www.legislation.gov.uk/asp/2014/19/pdfs/asp_20140019_en.pdf. (Accessed 04/08/2020)

4 UK Government (1979) The Ancient Monuments and Archaeological Areas Act [Online] Available at: <https://www.legislation.gov.uk/ukpga/1979/46> (Accessed 04/08/2020)

5 Scottish Government (1997) The Planning (Listed Buildings and Conservation Areas) (Scotland) Act [Online] Available at: <https://www.legislation.gov.uk/ukpga/1997/9/contents> (Accessed 04/08/2020)

6 Scottish Government (2014) National Planning Framework 3. Available at <https://www.gov.scot/publications/national-planning-framework-3/> (Accessed 04/08/2020)

7 Scottish Government (2014) Scottish Planning Policy [Online] Available at <https://www.gov.scot/publications/scottish-planning-policy/> (Accessed 04/08/2020)

8 SNH and HES (May 2018). EIA Handbook. Available at <https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=6ed33b65-9df1-4a2f-acbb-a8e800a592c0> (Accessed 04/08/2020)

- Historic Environment Policy for Scotland (HEPS)⁹;
- Our Place in Time: The Historic Environment Strategy for Scotland¹⁰;
- The Highland-Wide Local Development Plan 2012, Policy 57: Natural, Built and Cultural Heritage¹¹;
- Planning Advice Note (PAN) PAN 2/2011: Planning and Archaeology¹²;
- Chartered Institute for Archaeologists (CIfA) Standards and Guidance¹³; and
- HES (2016) Managing Change in the Historic Environment Series, specifically 'Managing Change in the Historic Environment: Setting'¹⁴.

9.3 ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

9.3.1 Scoping Responses and Consultations

Consultation for this EIA Report topic was undertaken with the organisations shown in Table 9.1.

Table 9.1: Consultation Responses

Consultee	Summary of Consultation Response	Response to Consultee
Historic Environment Scotland (HES) Scoping Response 6/5/2019	<p>HES are broadly content with the study areas details and welcome the opportunity to agree on the final selection of assets for assessment. HES noted that the details of the methodology that are provided appear appropriate with recommendations for cumulative assessment and wider than 5 km study area.</p> <p>They are content that impacts on assets outside of the ZTV, which do not have views towards them within the ZTV, can be scoped out of assessment if agreed during further consultation.</p> <p>The use of landscape visualisations to aid assessment is deemed appropriate; however, HES advise cultural heritage specific heritage visualisations are also used, especially for Halladale Bridge Hut Circles</p>	<p>The assessment methodology is detailed in full in Section 9.3.</p> <p>Cumulative assessment is provided in Section 9.7</p> <p>The assets selected for the final assessment are detailed in Section 9.4 with the assessment in Section 9.5.</p> <p>Reference is made in Section 9.5 to visualisations, where appropriate, as well as to heritage specific visualisations provided in Figures 9.4-9.10.</p>

⁹ HES (2019) Scottish Environment Policy for Scotland [Online] Available at: <https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=1bcfa7b1-28fb-4d4b-b1e6-aa2500f942e7> (Accessed 04/08/20)

¹⁰ Scottish Government (2014) Our Place in Time: The Historic Environment Strategy for Scotland

¹¹ The Highland Council (2012) Highland-Wide Local Development Plan [Online] Available at https://www.highland.gov.uk/info/178/local_and_statutory_development_plans/199/highland-wide_local_development_plan (Accessed 04/08/20)

¹² The Scottish Government (2011) Planning Advice Note 2/2011 [Online] Available at <https://www.gov.scot/publications/pan-2-2011-planning-archaeology/> (Accessed 04/08/20)

¹³ Chartered Institute for Archaeologists (2017) *Standard and Guidance for Historic Environment Desk-Based Assessment*, Published December 2014, Updated January 2017 [Online] Available at: http://www.archaeologists.net/sites/default/files/CifAS%26GDBA_3.pdf (Accessed 04/08/20)

¹⁴ HES (2016, updated February 2020) Managing Change in the Historic Environment: Setting [Online] Available at: <https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=80b7c0a0-584b-4625-b1fd-a60b009c2549> (Accessed 04/08/20)

Consultee	Summary of Consultation Response	Response to Consultee
The Highland Council Scoping Response 6/6/2019	The EIAR needs to identify all designated sites which may be affected including architectural heritage (conservation areas, listed buildings), archaeological heritage (scheduled monuments), landscape (national parks, national scenic areas, areas of great landscape value, gardens and designed landscaped and settings), and the inter-relationship between the above factors. The following heritage assets have the potential to be affected: <ul style="list-style-type: none"> • Halladale Bridge Hut Circles (SM3304) • Knock Stanger Cairn (SM458) • Reay Burial Ground (SM615) and • Other scheduled monuments along coastal fringes and straths • Category A listed buildings at Bighouse, Sandside House, Reay Parish Church and Sandside Harbour 	The assets selected for the final assessment are detailed in Section 9.4 with the assessment in Section 9.5 which includes all heritage assets listed. Consideration of landscapes is provided within Chapter 6: Landscape and Visual .
Historic Environment Scotland (HES) Updated Scoping Response 19/11/2019	HES are broadly content with the study areas details and welcome the opportunity to agree on the final selection of assets for assessment. HES noted that the details of the methodology that are provided appear appropriate with recommendations for cumulative assessment and wider than 5 km study area based on final ZTV. HES identified the following assets for consideration: <ul style="list-style-type: none"> • Halladale Bridge Hut Circles (SM3304) • Knock Stanger Cairn (SM458) • Reay Burial Ground (SM615) and • Other scheduled monuments along coastal fringes and straths • Category A listed buildings at Bighouse, Sandside House, Reay Parish Church and Sandside Harbour HES advise cultural heritage specific heritage visualisations are also used.	The assessment methodology is detailed in full in Section 9.3. Cumulative assessment is provided in Section 9.7 The assets selected for the final assessment include all of these assets, amongst others, and are detailed in Section 9.4 with the assessment in Section 9.5. Reference is made in Section 9.5 to visualisations, where appropriate, as well as to heritage specific visualisations provided in Figures 9.4-9.10.

Consultee	Summary of Consultation Response	Response to Consultee
<p>The Highland Council</p> <p>Updated Scoping Response 11/12/19</p>	<p>THC identified the following assets to be considered in the assessment:</p> <ul style="list-style-type: none"> • Halladale Bridge Hut Circles 670m NE of, on banks of Giligill Burn (SM 3304) • Knock Stanger, cairn 730m E of Sandside House (SM 458) • Reay, burial ground, old church and cross slab, 175m E of Parish Church (SM 615) • Other scheduled monuments are located either on coastal fringes or clustered within the straths that run north-south through the wider area. • Bighouse, garden pavilion and walled garden (LB 7160) • Sandside House, kiln barn and single storey range of former byres, cottage and dairy and implement shed (LB 14986) • Reay Parish Church and enclosure wall (LB 14992) • Sandside Harbour 1 and 2, Sandside and Fishing Store (LB 14988) <p>Visualisations of Halladale Bridge Hut Circle were specifically requested in regard to the setting assessment.</p>	<p>The assets selected for the final assessment are detailed in Section 9.4 with the assessment in Section 9.5.</p> <p>Visualisation of Halladale Bride Hut Circles provided in Figure 9.6.</p>

Arcus undertook further consultation with HES and THC Historic Environment Team (May 2020) during the preparation of the EIA to agree heritage assets for inclusion. HES responded on 10/6/2020 with no response received from THC. HES stated that they were content with heritage assets identified for detailed selection though recommend further visual consideration from Knock Stander (SM458) and to include Creag Bhreac Mhor stone rows (SM2386) in the assessment. HES also recommend separate visualisations from Reay Burial Ground and Church (SM615) and Category A listed Parish Church (LB14992). HES also noted that their preference is for NatureScot¹⁵ style visualisation but note that this may not be feasible in light of Covid-19 travel restrictions. Consultation correspondence for the EIA preparation is included as Appendix A9.2.

In light of this consultation, Knock Stanger (SM458) and Creag Bhreac Mhor stone rows (SM2386) are included for assessment in Section 9.5, and separate visualisations have been included for the scheduled church and burial ground (Figure 9.5) and the Category A Listed church (Figure 9.8). All heritage visualisations conform to NatureScot guidelines (Figures 9.4-9.10).

9.3.2 Scope of Assessment

The assessment of potential cultural heritage effects relating to the Development is focused upon direct and indirect effects (changes to setting), and the scope of the assessment was agreed during consultation, as summarised in Section 9.3.1 and provided in Appendix A9.2.

15 Scottish Natural Heritage (SNH) rebranded in August 2020 as NatureScot. Where relevant reference is still made to SNH within this chapter in respect of guidance which remains valid and is yet to be republished etc.

A direct effect is an effect upon features of cultural heritage interest, where sites or potential sites / buried archaeology are in danger of being disturbed or destroyed. Physical effects are likely to occur during the construction and are permanent and irreversible.

An indirect effect is any change to the setting of a heritage asset that affects its cultural significance so that it alters the understanding of that asset or its ability to be appreciated or experienced.

The potential effects from the Development to cultural heritage assets are:

- Temporary indirect effects arising from the construction phase, such as noise and higher vehicular and pedestrian activity, which may cause reduced access to and / or reduced appreciation of the historical environment;
- Permanent direct effects due to land take by the foundations and access tracks; and
- Indirect effects, including changes to the settings of cultural heritage assets, which may affect their cultural significance. Setting changes are largely visual effects and are likely to occur as a consequence of the height and breadth of the Development.

The potential for direct effects within the Core Study Area (as shown on Figure 9.1) is established within the Desk-Based Assessment (provided as Appendix A9.1).

The potential for indirect effects has been assessed using an initial study area of 10 km surrounding the turbines. The selection of assets includes all designated sites and landscapes within the 5 km Study Area and selected designated assets within the 5-10 km Study Area based upon their location within the Zone of Theoretical Visibility (ZTV) or additional heritage assets agreed during consultation. This study area was considered appropriate by HES, as detailed in its scoping response, with further consultation to agree the final selection of heritage assets and visualisations undertaken with HES during preparation of the EIA (detailed in Section 9.3.1 and Appendix A9.2).

The ZTV for the Development, as defined in **Chapter 6: Landscape and Visual** further informed this study.

9.3.3 Elements Scoped Out of Assessment

All non-designated heritage assets were scoped out of the indirect effects (changes to setting) assessment. All non-designated assets within 1 km of the Development (as shown on Figure 9.1) are generally concentrated to the west along the River Halladale with the Strath defining their setting. The Development is not within Strath Halladale but forms part of the marginal upland landscape context above the River Halladale. These non-designated features are generally of low/negligible to moderate sensitivity to change in the wider landscape context so that a significant effect as a result of change to upland landscape is unlikely.

Designated assets beyond 10 km from the Site or those within 5-10 km which do not lie within the ZTV have also been scoped out of assessment. This is due to the fact that at this distance, significant effects are unlikely to occur, especially if the Development is not visible from the asset. The final selection of heritage assets included within the assessment was agreed with HES via further consultation undertaken during preparation of the EIA, as detailed in Section 9.3.1 and Appendix A9.2.

9.3.4 Study Area / Survey Area

Study areas were defined based upon the likelihood of potential significant effects upon archaeology and cultural heritage, as detailed in the DBA in Appendix A9.1. A summary of the study areas is presented in Table 9.2.

The Core Study Area covers approximately 662 hectares (ha), with the extent and

location shown on Figure 9.1. This Core Study Area consists of largely of rough upland moorland and is the area in which direct effects to archaeology may occur.

A 1 km Study Area, which includes the Core Study Area and land within a 1 km radius of the archaeological Core Study Area (Figure 9.1), was used to establish the type of known archaeology within proximity to the Core Study Area in order to inform the potential for unknown archaeology to survive within the Core Study Area.

A 10 km Study Area was used to identify assets which have the potential to receive a change to their setting as a result of the Development and for which an assessment of indirect effects may be required (Figure 9.2). The 10 km Study Area was also used for the cumulative assessment (Figure 9.3).

Table 9.2: Study Areas

Effect	Name	Range	Description	Figure
Direct (Known Archaeology)	Archaeological core study area	The site boundary at Updated Scoping.	Area within which the Development may have direct effects upon known and unknown archaeological remains.	9.1
Direct (Unknown Archaeology)	1 km Study Area	1 km surrounding the Core Study Area	Area used to ensure a full understanding of the archaeological resource and so the potential for unknown archaeology to survive within the Core Study Area.	9.1
Indirect	10 km study area	10 km surrounding the Core Study Area	Area within which it is considered the Development has potential to cause likely significant indirect (visual) effects upon the settings of heritage assets and hence requiring detailed assessment. All heritage assets within 5 km were included for assessment. Selected heritage assets between 5-10 km were agreed to be included within the assessment during further consultation (Appendix A9.2).	9.2
Cumulative (See Section 9.7)	Cumulative study area	10 km surrounding the core study area	An area in which a potential significant cumulative effect is considered likely if cultural heritage assets within the area lie within the ZTVs of more than one wind farm development.	9.3

9.3.5 Design Parameters

The archaeological and cultural heritage assessment is based on the design parameters set out in **Chapter 4: Development Description** of this EIA Report which in summary includes:

- Up to 12 turbines with a maximum tip height of 149.9 m;
- Associated foundations, blade laydown areas and crane hardstandings at each wind turbine location;
- Access tracks linking the turbine locations;

- Substation compound incorporating electrical switchgear and wind farm control elements;
- Temporary construction compound;
- Network of underground cabling running adjacent to the access tracks where possible;
- A permanent anemometry mast (up to 92 m);
- Up to two borrow pits; and
- New site access off the A897.

In relation to direct physical effects the assessment is based on the most extensive construction footprint, as it is the extent of the footprint that will determine how much of an affected asset is directly affected.

No additional design parameters are required for the assessment presented in this Chapter.

As set out in **Chapter 4: Development Description**, the turbines and other infrastructure may be microsited up to 50 metres (m), where constraints allow. Such relocations have been considered when undertaking the assessment, and they would not affect the conclusions drawn for any considered effect.

9.3.6 Baseline Methodology

For direct effects, a DBA was undertaken using available documentary, cartographic and photographic evidence to inform the baseline of the Core Study Area. The DBA is provided in Technical Appendix A9.1. The DBA has been based on readily available and relevant documentary sources. The following archives were consulted:

- Databases maintained by HES;
- The Highland Council (the Council) Historic Environment Record;
- Aerial photography;
- Cartographic evidence; and
- National Archives of Scotland.

A site visit was undertaken in August 2019 to validate the historic environment record of the area and to identify and (where possible) record any previously unrecorded cultural heritage features within the Core Study Area. The walkover survey focused on infrastructure locations (i.e. turbine locations, tracks and substation) and did not cover the entirety of the Core Study Area.

To identify heritage assets that may receive an indirect effect upon their setting, an initial search area of 10 km was used (the 10 km Study Area). Due to the height and scale of the Development and its location in open moorland, the assessment of indirect effects includes all designated and regionally important heritage assets within 5 km. For heritage assets beyond the 5 km study area, the selection of assets was refined based upon their location within the ZTV, as shown in Figure 9.2, site visits undertaken in August 2019, and informed by professional judgement. Heritage assets included in the assessment were agreed via further consultation with HES during preparation of the EIA, as detailed in Section 9.3.1 and in Appendix A9.2. Full details of the heritage assets selected for assessments are detailed in Section 9.5.

9.3.7 Methodology for the Assessment of Effects

The assessment of effects is based on the final design of the Development as detailed in **Chapter 4: Development Description** of this EIA Report.

The assessment considers the cultural significance of a cultural heritage feature and the magnitude of any potential change to that significance (either directly or via change to

setting¹⁶, to conclude whether the effect is significant. The assessment conclusions are informed by professional judgement.

Sensitivity

The value of a heritage asset reflects the relative importance of an asset as reflected in the designation process¹⁷. As a starting point, the value of the cultural heritage assets/receptors has been initially equated with designation status, as shown in **Error! Reference source not found.**, to inform the sensitivity of heritage assets to direct physical effects.

Table 9.3: Framework for Determining the Value of Heritage Assets and Sensitivity for Direct Effects

Receptor Value / Sensitivity to Direct Effects	Definition
Very High	World Heritage Sites - these are internationally important.
High	Scheduled Monuments, Category A Listed Buildings, Registered Battlefields, Gardens and Designed Landscapes, nationally important archaeological features and areas (as defined in The Highland Council's Historic Environment Record (HER) – these are considered to be nationally important.
Medium	Category B and C Listed Buildings, regionally important archaeological features and areas, and Conservation Areas – these are considered to be regionally important.
Low	Locally important sites and archaeological features – these are considered to be locally important.
Negligible	Badly preserved and/or damaged or very common archaeological features and buildings of little or no value at local or any other scale.

Cultural significance means aesthetic, historic, scientific or social value for past, present or future generation which can be embodied in a place itself, its fabric, setting, use, associations, meanings, records, related places and related objects¹⁸. Cultural significance stems from an understanding of the place. This involves 'physical and material elements – how much of it has survived or how much of it has changed through time, as well as its wider context and setting'¹⁹.

16 Historic Environment Scotland, 2016 Updated 2020, Managing Change in the Historic Environment: Setting [Online] Available at: <https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=80b7c0a0-584b-4625-b1fd-a60b009c2549> (Accessed on 9/10/2020)

17 Historic Environment Scotland, 2019 Historic Environment Policy for Scotland (HEPS). Available at <https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=1bcfa7b1-28fb-4d4b-b1e6-aa2500f942e7>. (Accessed on 9/10/2020)

18 Australia ICOMOS Burra Charter 2013. Available at <http://australia.icomos.org/wp-content/uploads/The-Burra-Charter-2013-Adopted-31.10.2013.pdf> (Accessed on 9/10/2020)

19 Historic Environment Scotland, 2019 Historic Environment Policy for Scotland (HEPS). Available at <https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=1bcfa7b1-28fb-4d4b-b1e6-aa2500f942e7>. (Accessed on 9/10/2020)

The sensitivity of a heritage asset's setting to change is variable and must be determined on a case by case basis for each receptor in lines with setting guidance²⁰ as per the following methodology:

- Identification of heritage assets that might be affected by the Development to include a summary of their cultural significance;
- Definition of the setting of the heritage assets and how this contributes to its cultural significance to determine its sensitivity to change (Table 9.4); and
- Assessment of the way in which the Development may change the setting (magnitude of change in Table 9.5) and affect the cultural significance of the heritage asset (significance of effect in Table 9.6).

Generally, the sensitivity of heritage and archaeological assets to direct effects will correlate to its value as detailed in Table 9.3; however, the sensitivity of a heritage asset's setting is related to the ability of the defined setting to accommodate change. This requires careful consideration of surviving elements of contemporary past landscapes and how these interact within the modern landscape today to allow the cultural significance to be understood, appreciated and experienced. Table 9.4 provides an initial framework for determining the sensitivity of setting to change; however, the final determination of the sensitivity of setting to change is based on the individual setting and landscape context of each heritage asset.

Table 9.4: Initial Framework for Determining Sensitivity of Setting

Sensitivity of Setting	Definition
Very High	The setting of the asset is extremely sensitive to change as a result of its state of preservation, contextual associations and the importance of views from, towards, or including the asset.
High	The setting of the asset is very sensitive to change as a result of its state of preservation, contextual associations and the importance of views from, towards, or including the asset.
Medium	The setting of the asset is generally sensitive to change as a result of its state of preservation, contextual associations and the importance of views from, towards, or including the asset.
Low	The setting of the asset is marginally sensitive to change as a result of its state of preservation, contextual associations and the importance of views from, towards, or including the asset.
Negligible	Setting with little or no historical context or interest so that it is not sensitive to change.

Magnitude of Change

Magnitude is the measure of change as a result of the Development. In relation to cultural heritage these changes are generally negative and are classified, for both direct and indirect effects, as shown in Table 9.5.

20 Historic Environment Scotland, 2016 Updated 2020, Managing Change in the Historic Environment: Setting [Online] Available at: <https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=80b7c0a0-584b-4625-b1fd-a60b009c2549> (Accessed on 9/10/2020)

Table 9.5: Framework for Determining Magnitude of Change

Level of Magnitude	Description
Substantial	Major damage to or significant alteration to a site, building or other feature. Extensive change to the setting of a feature (e.g. severance of key visual or other relationship, loss of dominance, intrusion on key view or sightline).
Moderate	Damage or alteration to a site, building or other feature. Encroachment on an area considered to have a high archaeological potential for buried remains. Change in the setting of a feature (e.g. intrusion on sight-lines and vistas).
Slight	Minor damage or alteration to a site, building or other feature. Encroachment on an area where it is considered there is low potential for buried archaeological remains to exist. Minor change in the setting of a feature (e.g. above historic skylines or in designed vistas).
Negligible / None	Limited or no physical impacts to a site, building or other feature. Barely discernible or no change in setting and views.

For purposes of assessing indirect effects resulting in a change to setting, distance to the Development is considered the initial determinant in the degree of magnitude of any change that might be caused. Simple intervisibility with the Development or visibility in the same view is not necessarily considered to be harmful, unless this affects the cultural significance of the heritage asset so as to diminish its contribution to the understanding, appreciation or experience of the asset. Where considered appropriate, consideration has been given to the effect that the Development will have on the settings of historical assets in views towards and across the asset when moving through the landscape, as well as in views towards the Development from the asset. It is also important to consider that forestry and vegetation, as well as buildings, can provide visual screening to cultural heritage features. However, it is noted that in managed forests the level of screening alters as trees are felled and replanted, and views may be opened up over time, which previously did not exist.

Significance of Effect

The significance of the potential effect is broadly determined by correlating the sensitivity of the asset (as based on the type of effect predicted – direct or indirect – and as determined on a case by case basis for each receptor), against the magnitude of the expected change as detailed in Table 9.6, with the final conclusion of the significance of the effect informed by professional judgement.

For indirect effects as a result of changes to setting, an initial matrix-based approach is used as shown in Table 9.6. This includes a definition of its cultural significance and setting as it related to the understanding, appreciation or experience of the heritage asset of each feature, considering its designation status, essential attributes, etc. to arrive at its sensitivity.

An assessment is made using professional judgement of the extent to which the cultural significance is affected by the change in setting, and an assessment of (EIA) significance is given. Effects predicted to be of major or moderate significance are considered to be 'significant' in the context of the EIA Regulations. Potential effects that are minor or negligible are considered to be not significant for purposes of the EIA Regulations. Where more than one significance is given, professional judgement is used to determine the final selection of (EIA) significance.

Table 9.6: Framework for Assessment of the Significance of Indirect Effects

Magnitude of Effect	Sensitivity				
	Very High	High	Medium	Low	Negligible
Substantial	Major	Major	Major / Moderate	Moderate/ Minor	Negligible
Moderate	Major/ Moderate	Moderate	Moderate/ Minor	Minor	Negligible
Slight	Moderate/ Minor	Minor	Minor/ Negligible	Negligible	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible	Negligible

Mitigation and Residual Impacts

Following the identification of the significance of effect, mitigation to avoid, reduce or enhance heritage will be recommended, where possible. An assessment of the residual effects (i.e. that after application of any mitigation) is made utilising the same methodology but with a final consideration for the post-mitigation significance of effect.

Cumulative Effects

A cumulative effect is considered to be an additional effect upon cultural heritage resources arising from the Development in combination with other existing, consented or proposed developments likely to affect the cultural heritage environment.

For the purposes of the assessment of cumulative effects, wind farm developments (in planning, consented, or under construction) within the 10 km Study Area. This is the range where significant effects are most likely to occur due to the distance between the assets and wind farms. Existing operational wind farms have been considered as part of the baseline.

The potential for a significant cumulative effect is considered likely to occur only within the area where the ZTVs for each wind farm development would overlap, i.e. where each is theoretically simultaneously visible. The wind farms considered in the cumulative assessment are detailed in Table 9.7 and assessed in Section 9.7. Cumulative ZTVs are shown in Figures 6.9-6.11,

Further detail on cumulative effects on Landscape can be found in **Chapter 6: Landscape and Visual** of this EIA Report. Locations of sites considered as part of the landscape and visual cumulative assessment are shown in Figure 9.3, and those that are relevant to the Cultural Heritage assessment are listed in Table 9.7. As with the landscape and visual assessment, developments in Scoping have not been considered as there is limited information on the proposed layout of these wind farms at this stage. Additionally, single turbines below 100 m have also been excluded.

Table 9.7: Developments within 10 km of the Development

Wind Farm	Summary ²¹	Heritage Assets with the Potential to Receive Significant Cumulative Effects
Baillie Wind Farm (Figure 6.9)	Operational, 21 turbines, 110 m tip height, 10 km east	Considered as part of existing baseline
Strathy North (Figure 6.9)	Operational, 33 turbines, 110 m to tip, 8 km south-west	Considered as part of existing baseline
Drum Hollistan 2 (Figure 6.11)	7 turbines up to 125 m, in planning, adjacent to the east of the Core Study Area	Halladale Bridge Hut Circles (SM3304), Knock Stanger Cairn (SM458), Listed Buildings at Bighouse (7140, 7159-LB7162), Scheduled Monument and Listed Buildings in Reay (SM615, 14981, 14982, 14992, 17592, 18831), Listed Buildings at Sandside House and Harbour (14984-88)
Limekiln (Figure 6.10)	21 turbines up to 130 m, consented, located 5 km east	Scheduled Monument and Listed Buildings in Reay (SM615, 14981, 14982, 14992, 17592, 18831)
Limekiln Extension (Figure 6.11)	5 turbines up to 149.5 m, in planning, located 7.5 km east	
Strathy Wood (Figure 6.11)	18 turbines, 180 m to tip, in planning, located 9.8 km west	None, as Strathy Wood lies to the west of the Development and there are limited heritage assets in this area, and those that lie between Strathy Wood and the Development are not within the ZTV for the Development, as shown in the cumulative wirelines within Figure 9.6 Halladale Bridge Hut Circles (SM3304) and Figure 9.7 Listed Buildings at Bighouse (7140, 7159-7162). A significant cumulative effect is unlikely and Strathy Wood is not considered further.

9.3.8 Assessment Limitations

The walkover survey did not cover the entirety of the Site, but focused upon the higher elevations in which new infrastructure would be sited. It should be noted that the assessment undertaken is a desk-based assessment aided by site walkovers. No intrusive survey has been carried out.

9.3.9 Embedded Mitigation

The layout of the Development as shown in Figure 9.1 has taken into account the consultation responses received from HES and the Council and has sought to reduce the impact of any potential setting effects on cultural heritage receptors. This includes locating the access track away from A837 to the north of the Scheduled Halladale Bridge Hut Circles (SM3304) to maintain the setting. Access to the Site will be taken from the A897 further to the south of the monument where existing screening would be maintained to create a visual barrier between the access junction/track and the monument.

Additionally, turbines have not been placed in the northern section of the Site to increase the separation distances from the Listed Buildings at Bighouse and the scheduled hut

²¹ Status of wind farms is as of 15 September 2020.

circles (SM3304), with the closest turbine being approximately 2 km and 1 km, respectively, to the south-east as shown on Figure 9.1.

The design of the layout has also avoided key burns with the highest archaeological potential (Akran and Giligill Burns) as well as all known archaeological records recorded within the Site (Figure 9.1) in order to avoid direct impacts upon known archaeological features and securing preservation *in situ*.

9.4 BASELINE CONDITIONS

Full detail of the baseline conditions can be found with the DBA in Appendix A9.1, which includes a brief description of the Core Study Area's archaeological and historical sites within the context of the area's background history, presented by period. This baseline has been used to aid the assessment of the effects to heritage assets as a result of the Development. A summary of the baseline conditions is provided below.

9.4.1 Core Study Area

The Core Study Area is located within Sutherland, Highland Council, approximately 2 km south-east of Melvich, with the extents and location shown on Figure 9.1.

The Core Study Area predominantly comprises of upland moorland, with small areas of woodland and agricultural buildings associated with Ackron and Golval Farm concentrated on the lower slopes in the west of the Core Study Area.

There are a number of watercourses and waterbodies within the Core Study Area, including Akran Burn and Giligill Burn as well as an unnamed burn. These drain into Halladale River to the north-east of the Site, which in turn discharges into Melvich Bay on the north coast of Sutherland.

The topography of the Core Study Area is relatively complex with the elevation ranging from 163 m Above Ordnance Datum (AOD) on the summit to the west of Caol-Loch in the eastern portion of the Core Study Area, falling to around 30 m AOD where the western boundary runs adjacent to the A897. The Development will be located on the higher elevations of the site, typically above 100 m AOD. The bedrock geology is comprised of Migmatite rock with a superficial deposit of till to the west and peat to the east.

No public roads are located within the Core Study Area, although a number of existing farm tracks from Ackron Farm and Golval Farm are located within the Core Study Area.

There are 22 heritage features within the Core Study Area as detailed in Table 9.8 and shown on Figure 9.1. This included prehistoric hut circles and cairns as well as post medieval and modern agricultural buildings and sheepfolds. These were identified through analysis of the Historic Environment Record (HER), Canmore records, the cartographic record, and the photographic record.

Table 9.8: Archaeological Features within the Core Study Area

Record Type	Asset ID	Name	Type
HER Record	MHG9684	Akran Burn	Hut Circle; Clearance Cairn
HER Record	MHG9698	Cairn, Akran Burn	Cairn
HER Record	MHG10221	Burnt Mound, Akran Burn	Burnt Mound
HER Record	MHG10226	Akran Burn	Field System
HER Record	MHG10296	Akran Burn	Hut Circle
HER Record	MHG10297	Akran Burn	Hut Circle
HER Record	MHG13440	Akran Burn	Settlement
HER Record	MHG17815	Golval	Building
HER Record	MHG18613	Cnoc Chorkael	Building
HER Record	MHG19733	Cnoc Chorkael	Enclosure
Canmore Record	348154	Melvich	Quarry (period unassigned)
Canmore Record	348459	Golval Farm	Structure (period unassigned)
Canmore Record	348460	Golval Farm	Dyke (period unassigned)
Canmore Record	349450	Melvich	Sand and gravel workings (period unassigned)
1878 OS Map	HM-1		Post Medieval Sheepfold
1962-64 OS Map	HM-2		Modern Enclosure
1962-64 OS Map	HM-3		Modern Buildings
1962-64 OS Map	HM-4		Modern Sheepfold
Current OS	HM-5		Connagill Substation and Electricity Line
Sortie: 106G/Scot/UK/0075; Frame 3087 and Frame 4089	AP1		Possible Circular Structure
Sortie: 106G/Scot/UK/0075; Frame 3087, Frame 3090, Frame 4089	AP2		Possible Linear Feature
Sortie: 106A66:E82G/Scot/UK/0075; Frame 3090	AP3		Possible Circular Structure

9.4.2 Archaeological Potential

Within the Core Study Area, there are four prehistoric remains consisting of Hut Circles (MHG9684, MHG10296, MHG10297) and a Neolithic cairn (MHG9698). These are concentrated along the lower elevations of Akran Burn in the west of the Core Study Area with further prehistoric sites located to the north along the lower elevations of Giligill Burn (SM3304, MHG9682, MHG13412, MHG55391) and another on the lower elevations of the unnamed burn (MHG10222).

There are no early medieval or medieval heritage features within the Core Study Area. Early Medieval and Medieval settlements and finds are more likely to be located along the coast or in areas of low elevation along waterways, such as the Pictish fort (MHG9696) located 1 km south along the River Halladale. The high elevation and exposed nature of the Core Study Area lowers the potential for early medieval and medieval archaeological material.

There are post-medieval structures and sheepfolds around Golval Farm within the Core Study Area (HM-1, Canmore 348459 and 348460). The 1 km study area is characterised by croft settlements and enclosed agricultural fields concentrated along the coastline and in lower elevations along the waterways. Land utilisation within the upland moorland would likely have been limited to seasonal pastoral activities.

The Core Study Area consists of modern features such as agricultural enclosures, post and wire fences and metal gates which are common features with little to no archaeological value. The Connagill Substation and Electricity Line crosses the south-east corner of the Core Study Area. There is one recorded modern archaeological feature within the 1 km Study Area as identified through the HER: a bench mark (MHG55394) 260 m south-west of the Core Study Area. The modern period saw the continued growth of coastal towns and villages such as Melvich and Reay. There are limited extant modern archaeological features in the Core Study Area, and those which exist are located in low elevation on the western border surrounding Ackron Farm and Golval Farm. Due to the exposed upland nature of the Core Study Area which is undeveloped, any modern features would likely still be visible within the landscape.

Overall, the baseline indicates that settlement from the prehistoric through to the modern periods has been largely concentrated at lower elevations along waterways. As such, the archaeological potential of the Core Study Area is high along the burns and at lower elevations adjacent to the River Halladale, but low at upper more exposed elevations in which much of the Development infrastructure is sited.

9.4.3 Designated Heritage Assets – 10 km Study Area

Within the 10 km Study Area, there are no internationally designated World Heritage Sites, nationally designated Inventoried Battlefields or Garden and Designed Landscape (GDL), or regionally designated Conservation Areas. There are 46 designated heritage assets consisting of 20 Scheduled Monuments and 26 Listed Buildings. These assets are shown in Figures 9.2 and have been initially considered for potential significant effects in Tables 9.9 and 9.10.

Scheduled Monuments

There are 20 Scheduled Monuments within the 10 km Study Area as detailed in Table 9.9 and shown in Figure 9.2. Seven have been selected for further assessment in agreement with HES22, as detailed in Table 9.9 and as agreed with HES during consultation (Appendix A9.2).

Table 9.9: Scheduled Monuments within 10 km Study Area

Scheduled Monument Reference	Name	Distance and Direction	Within ZTV	Included in Assessment (as agreed with HES)
421	Achvarasdal House, two stones N of	6.5 km NNE	Yes	No
441	Clach Clais an Tuire, standing stone 1000m SE of Loanscorribest	9 km E	No	No
444	Cnoc-na-h'Uiseig, chambered cairn	9 km NE	Yes	No
458	Knock Stanger, cairn 730m E of Sandside House	4.6 km NE	Yes	Included
476	Hill of Shebster, chambered cairn	9.2 km ENE	Yes	Included
513	Achunabust, broch NNW of	7.5 km NNE	Yes	No
514	Achvarasdal House, broch 65m NE of	6.5 km NNE	Yes	No
564	Knock Urray, broch 400m NNE of Gunnscroft	7.2 km NE	Yes	No
615	Reay, burial ground, old church and cross slab 175m E of Parish Church	5.2 km NE	Yes	Included
616	Sandside House, Reay, two carved stones	3.9 km NE	Yes	Included
1839	The Borg, broch, Strath Halladale	11 km SSW	Yes	No
1876	Leathad Carnaich, hut circles, clearance cairns, N of Dalhalvaig School	6.5 km SSW	No	No
2386	Creag Bhreac Mhor, stone rows 200m ESE of	9.5 km NNE	Yes	Included at the request of HES
3304	Halladale Bridge Hut Circles 670m NE of, on banks of Giligill Burn	1 km NW	Yes	Included
4265	Baligill, mill	5.9km NW	No	No
4290	Baligill Burn, limekilns	6 km NW	No	No
6401	Dounreay Castle	7.5 km NE	No	No
13622	Millburn, Strath Halladale, barrows 340m NNE of	6.4 km SSW	No	No
13678	Armadaile Burn, broch 1420m SE of Armadaile House.	11 km W	No	No
90078	Cnoc Freiceadain, long cairns	9.5 km NNE	Yes	Included

Listed Buildings

There are 26 Listed Buildings within the 10 km Study Area as detailed in Table 9.10 and shown in Figure 9.2. 18 have been selected for further assessment, as detailed in Table 9.10 and as agreed with HES during consultation.

Table 9.10 Listed Buildings within 10 km Study Area

Grouping for Assessment	Listed Building Reference	Category	Name	Distance and Direction	Within ZTV	Included in Assessment (as agreed with HES)
Bighouse	7140	C	Bighouse Farm Steading	2.5 km NW	Yes	Included
Smigel	7141	B	Smigel Mill	4.5 km SSW	Yes	Included
Smigel	7142	C	Strath Halladale Mission Church	4.5 km SSW	Yes	Included
Strathy – not assessed	7143	C	Strathy, Ben Griam	7.3 km NW	No	No
Strathy – not assessed	7144	C	Strathy, Free Church of Scotland	7.3 km NW	No	No
Strathy – not assessed	7145	C	Strathy Free Church Manse	7.3 km NW	No	No
Strathy – not assessed	7146	C	Strathy East, Free Church of Scotland, School	7.3 km NW	No	No
Bighouse	7159	B	Bighouse, Stables, Gatepiers And Garden Wall	2.5 km NW	Yes	Included
Bighouse	7160	A	Bighouse, Garden House and Walled Garden	2.5 km NW	Yes	Included
Bighouse	7161	B	Bighouse, Barracks	2.5 km NW	Yes	Included
Bighouse	7162	B	Bighouse, Ice House	2.5 km NW	No	Included
Smigel	12915	B	Smigel Bridge	4.5 km SSW	Yes	Included
Not Included	12922	B	Leathad Carnaich, Church of Scotland Mission House	6.3 km SW	No	No

Grouping for Assessment	Listed Building Reference	Category	Name	Distance and Direction	Within ZTV	Included in Assessment (as agreed with HES)
Reay West	14981	C	Reay Bridge	4 km NE	Yes	Included
Reay West	14982	C	Reay, D Miller's Cottage, Cheese Press, And Steading	4 km NE	Yes	Included
Shebster – not assessed	14983	B	Achimenach, Reay Free Church and Walled Memorial	9 km E	Yes	No
Sandside House	14984	B	Sandside House	4 km NE	Yes	Included
Sandside House	14985	B	Sandside House, NW And SE Walled Gardens, Dovecot, And Privy	4 km NE	Yes	Included
Sandside House	14986	A	Sandside House, Kiln Barn, Implement Shed, Byre, Cottage and Dairy	4 km NE	Yes	Included
Sandside House	14987	B	Sandside House, Lodge	3.5 km NE	Yes	Included
Sandside Harbour	14988	A	Sandside Harbour, 1 Sandside. The Bothy	5 km NE	Yes	Included
Not Included	14989	B	Upper Dounreay Farm Steading	8.3 km NE	Yes	No
Reay East	14992	A	Reay Parish Church	8.8 km NE	Yes	Included
Reay East	17592	B	Reay, Reayburn House	8.8 km NE	Yes	Included
Shebster – not assessed	17593	C	Shebster Barn	9 km E	Yes	No
Reay West	18831	B	Reay Village, Market Cross	4 km NE	Yes	Included

9.5 ASSESSMENT OF POTENTIAL EFFECTS

9.5.1 *Potential Construction Effects*

Direct Effects

Direct effects are only likely to occur as a result of construction of the Development within the Core Study Area. Within the Core Study Area, there are 22 non-designated assets as shown on Figure 9.1. All of these have been avoided in the design of the Development so that there is no direct effect and **no significant effect**.

Overall, the baseline data indicates that settlement from the prehistoric through to the modern periods has been largely concentrated at lower elevations along waterways. As such, the archaeological potential of the Core Study Area is high along the burns and at lower elevations adjacent to the River Halladale and along the Strath, but low at upper more exposed elevations in which much of the Development infrastructure is sited. Should any unknown archaeological remains be located within the Development footprint, any effect would be substantial and significant in the absence of mitigation; however, the potential to encounter such remains is low. If necessary, mitigation could be implemented to reduce the residual effect to not significant.

Indirect Effects

Any indirect effects on heritage assets during the construction phase will generally be limited to construction infrastructure (e.g. visual impact from cranes). Any effects would be short term and less than during the operational phase. As such, the operational phase of the development is considered worst case and assessed in Section 9.5.2.

9.5.2 *Potential Operational Effects*

Direct Effects

There are no anticipated direct effects during the operational area outside the infrastructure zone affected by construction. As such, no direct effects are anticipated during operation.

Indirect Effects

The assessment of indirect effects has considered designated and regionally significant sites and landscapes within the 5 km Study Area, and selected designated assets within the 5-10 km Study Area, as agreed during consultation with HES (Appendix A9.2). Where appropriate, these have been assessed in groups based upon proximity as detailed in the relevant sections below.

Scheduled Monuments

There are 20 Scheduled Monuments within the 10 km Study Area as detailed in Section 9.8; however, only seven of these have the potential to receive a change in setting as a result of the Development, as detailed in Table 9.9 in Section 9.4.3. The selection of heritage assets was agreed in consultation with HES (Appendix A9.2).

The following tables present the assessment of the seven scheduled monuments in the following order:

- SM 458 Knock Stanger, cairn 730m E of Sandside House;
- Hill of Shebster Group (SM 476 Hill of Shebster, chambered cairn; SM 2386 Creag Bhreac Mhor, stone rows 200m ESE of; and SM 90078 Cnoc Freiceadain, long cairns);
- SM 615 Reay, burial ground, old church and cross slab 175m E of Parish Church;
- SM 616 Sandside House, Reay, two carved stones; and
- SM 3304 Halladale Bridge Hut Circles 670m NE of, on banks of Giligill Burn.

Knock Stanger, cairn 730m E of Sandside House (SM458)			
Designation	Scheduled Monument	Distance and Direction	4.6 km north-east of T10
Figure	Location shown on 9.2 Visualisation in 9.4	Plate(s)	1 - 2
Identification and Cultural Significance	The cairn is prehistoric consisting of “three longhouses, one to ten courses in height...with internal divisions”. The cultural significance of the monument relates to what it can tell us about settlement and coastal land use during the prehistoric period.		
Setting, Contribution to Cultural Significance, and Setting Sensitivity	Knock Stanger Cairn is located amongst sand dunes near the outlet of Sandside Burn at Sandside Bay (Plate 1). The setting of the cairn is defined by its coastal location at the mouth of Sandside Burn and Sandside Bay. Whilst marginally within the ZTV (Plate 2), the cairn lies at lower elevations within the bay, amidst the sand dunes, with limited long-distance views inland, to the south. It is the coastal landscape that contributes to its cultural significance and relevant to understanding and appreciating prehistoric settlement and land use along the coast and waterways. This localised setting context is of high sensitivity to change; however, beyond the coastline and dunes lies a more post-medieval agricultural and settlement landscape with the upland hills further inland beyond this. As such, the more distant inland upland context outside the coast and adjacent inland waterway does not contribute to its cultural significance other than as part of a very distant upland landscape context sited beyond post-medieval agricultural and settled landscape of Reay so that it has more capacity to accommodate change and is of medium sensitivity.		
Assessment (Magnitude) of Change	The Development lies on the margin of the ZTV though views would be available towards the Development when in close proximity to the cairn. The nearest turbine (T10) of the Development is located 4.6 km south-west of the Scheduled Monument beyond the ridgeline to the south-west of Reay. Due to this distance, the Development would appear as a distant landscape context, sited behind the immediate hills surrounding Reay and beyond the woodland at Sandside House so that the more insular enclosed coastal setting is maintained. Due to the more limited contribution of the distant landscape to its cultural significance, this is a negligible magnitude of change relative to its understanding and appreciation.		
Significance of Effect	As a Scheduled Monument with a landscape context of medium sensitivity with a negligible change to setting, there is negligible effect on the cultural significance as a result of the Development. This is assessed as not significant in terms of the EIA Regulations.		



Plate 1 (left): Aerial photography image showing landscape location of SM458; Plate 2 (right): Extract of SM458 on OS Map with ZTV in purple from Figure 9.2

Hill of Shebster, chambered cairn (SM476); Cnoc Freiceadain, long cairns (SM90078); and Creag Bhreac Mhor, stone rows 200m ESE of (SM2386)			
Designation	Scheduled Monuments	Distance and Direction	9.2 km east-northeast of T12
Figure	Location shown on 9.2 Visualisation in 6.21	Plate(s)	3-4
Identification and Cultural Significance	<p>The Hill of Shebster cairn (SM476) is located on the southern summit of the Hill of Shebster (Figure 9.2, Plates 3 and 4). Cnoc Freiceadain cairn (SM90078) is located on the northern summit of Hill of Shebster with the Creag Bhreac Mhor stone rows (SM2386) on its north facing slope (Figure 9.2, Plates 3 and 4). The Hill of Shebster cairn is a Neolithic round cairn that has been heavily robbed. Cnoc Freiceadain comprises the remains of two long cairn orientated at right angles. The Creag Bhreac Mhor stone rows comprise at least 18 small standing stones aligned in rows through to date to the Bronze Age. These heritage assets offer an opportunity to contribute to the understanding of prehistorical funerary and ritual activity in Caithness.</p>		
Setting, Contribution to Cultural Significance, and Setting Sensitivity	<p>The setting of the heritage assets is the Hill of Shebster, extending to cover the other prehistoric assets along the nearby waterways. The elevated location means that views are available in all directions so that the wider coastal and moorland landscape contribute to its cultural significance, as shown in landscape VP 10 in Figure 6.21. The wider landscape context is largely modernised with an adjacent wind farm to the east, a settled coastal landscape that includes the Dounreay Nuclear Facility and Forss Wind Farm, and commercial forestry to the south-east, south, and south-west limits so that the original historic upland context is best appreciated in close proximity. Key are north across the Pentland Firth, east across the agricultural lands of Caithness, and west across the agricultural land with the hills of Sutherland in the background. Due to the visibility of modern infrastructure in and around the monuments, the sensitivity of the setting and landscape context of the monuments is medium.</p>		
Assessment (Magnitude) of Change	<p>The Development is located beyond the commercial forestry to the south-west and, at a distance of approximately 9 km, would not be readily visible but rather a very distant element sited beyond commercial forestry. As such, the change can be accommodated readily within the wider landscape so that the effect is negligible.</p>		
Significance of Effect	<p>As Scheduled Monuments with a landscape context of medium sensitivity with a negligible change to setting, there is negligible effect on the cultural significance of the scheduled monuments as a result of the Development. This is assessed as not significant in terms of the EIA Regulations.</p>		

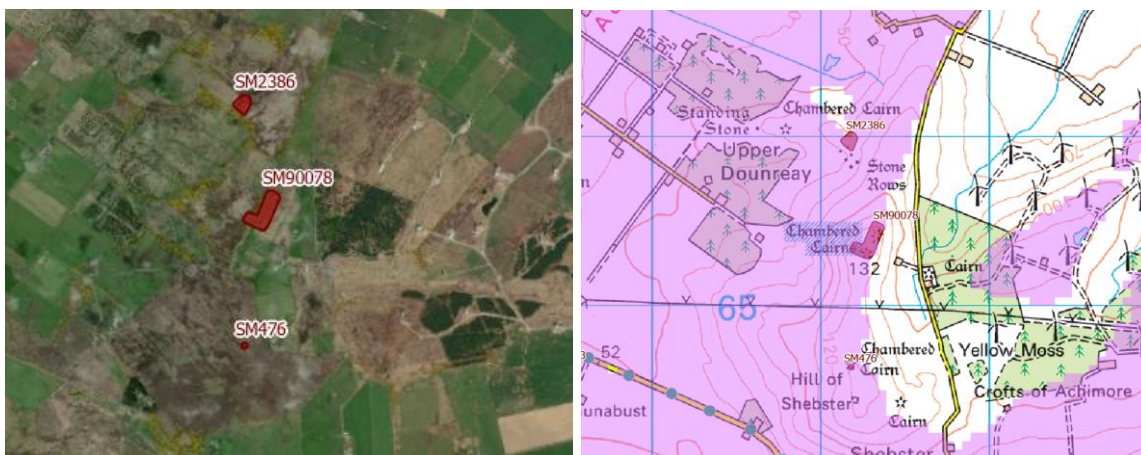


Plate 3 (left): Aerial photography image showing landscape location of Hill of Shebster Scheduled Monuments (SM476, SM2386, SM90078); Plate 4 (right): Extract showing Hill of Shebster Scheduled Monuments (SM476, SM2386, SM90078) on OS Map with ZTV in purple from Figure 9.2

Reay, burial ground, old church and cross slab 175m E of Parish Church (SM615)			
Designation	Scheduled Monument	Distance and Direction	5.2 km north-east of T10
Figure	Location shown on 9.2 Visualisation in 9.5	Plate(s)	5-6
Identification and Cultural Significance	The Reay burial ground is located 5.2 km north-east of T10 as shown on Figure 9.2. The monument consists of a disused burial ground containing 18th, 19th and 20th century tombs and the remains of a medieval church which has a cross-slab within a wall dating to the late 9th or 10th century. Its cultural significance relates to its continued use as a funerary and ecclesiastical site from the medieval period through to the post-medieval period.		
Setting, Contribution to Cultural Significance, and Setting Sensitivity	The setting of the church and burial ground is the settlement of Reay, the immediate community served by the church (Plates 5 and 6). The burial ground is walled which creates an insular, enclosed setting that is an integral part of appreciating its cultural significance. Due to this, there is limited association with the wider landscape (Figure 9.5) beyond the village so that its sensitivity to landscape change is low.		
Assessment (Magnitude) of Change	The nearest turbine of the proposed wind farm is located 5.2 km south-west of the Scheduled Monument beyond the ridgeline to the south-west of Reay. The Development would not be visible from within the church yard as shown on Figure 9.5. As the burial ground walls create an insular enclosed setting with limited association with the wider landscape, this is a negligible magnitude of change.		
Significance of Effect	As a Scheduled Monument with a landscape context of low sensitivity with a negligible change to setting, there is negligible effect on the cultural significance of the burial ground as a result of the Development. This is assessed as not significant in terms of the EIA Regulations.		

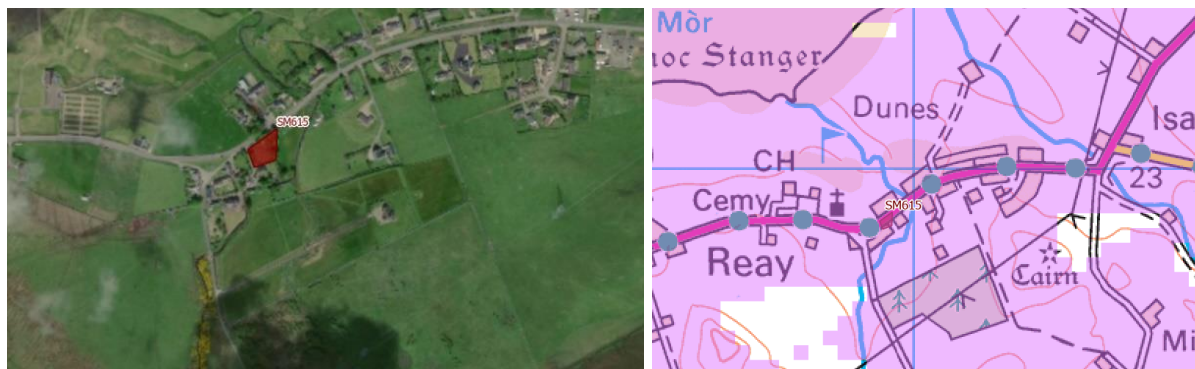


Plate 5 (left): Aerial photography image showing landscape location of old church and burial ground (SM615);
Plate 6 (right): Extract showing church and burial ground (SM615) on OS Map with ZTV in purple from Figure 9.2

Sandside House, Reay, two carved stones (SM616)			
Designation	Scheduled Monument	Distance and Direction	3.9 km north-east of T10
Figure	Location shown on 9.2	Plate(s)	7
Identification and Cultural Significance	The two carved stones at Sandside House are located 3.9 km north-east of T10 as shown on Figure 9.2. The monument consists of two, early historic, rectangular stones. One has Class I Pictish symbols with three rare vertically-aligned flattened ovals jointed together by pairs of small circles. This stone was discovered in 1853 near the remains of an early settlement located on shores of Sandside. It was relocated into the garden retaining wall at Sandside House and is currently set upside down. The other stone is sculpted on one face only and incised with a small circle and cross with a 1911 carved date in it. This stone was found in a stone dyke near the site of an early chapel at Tigh a'Bheannaich at Shurrery and relocated into the garden wall to the east of Sandside House. The cultural significance of the stones relates to their early historic carving which can provide evidence for social and ecclesiastical organisation, the spread of Christianity and settlement patterns in Early Historic Scotland. In addition, study of the stone bearing Pictish symbols has the potential to add to our knowledge of the meaning of such Pictish carvings.		
Setting, Contribution to Cultural Significance, and Setting Sensitivity	The setting of the stones is limited by their relocation into the enclosed garden walls at Sandside House (Plate 7) so that any association with the wider landscape no longer exists. The importance of the stones lies in their carvings rather than their location or setting so that the sensitivity of the setting is low.		
Assessment (Magnitude) of Change	The Development, whilst theoretically visible, in actuality would not be visible due to the enclosed insular nature of Sandside House and the woodland to the south which limits any contextual relationship with the wider landscape in this direction. As the stones have a localised setting and the Development is part of the distant landscape, this results in no change to the setting of the stones.		
Significance of Effect	As a Scheduled Monument with a landscape context of low sensitivity with a no change to setting, there is no effect upon the cultural significance of the stones. This is assessed as not significant in terms of the EIA Regulations.		



Plate 7: Aerial photography image showing landscape location of carved stones (SM616)

Halladale Bridge Hut Circles 670m NE of, on banks of Giligill Burn (SM3304)			
Designation	Scheduled Monument	Distance and Direction	1 km north-east of T8
Figure	Location shown on 9.2 Visualisation in 9.6	Plate(s)	8-9
Identification and Cultural Significance	<p>The Halladale Bridge Hut Circles are a prehistoric settlement of hut circles, cairns and enclosures, along the lower banks of Giligill Burn. The scheduled area is in two parts; either side of the A836 road situated in moorland though improved pasture lies immediately to the north-east, south and west with woodland to the east (Plate 8). Its cultural significance relates to its potential to provide information about prehistoric settlement, and its economic and social content.</p>		
Setting, Contribution to Cultural Significance, and Setting Sensitivity	<p>The setting of the Scheduled Monument is the lower elevations of Giligill Burn. It lies in fairly flat topography in an area around the burn in an elevated position above the River Halladale. The wider landscape topography rises to the east with the burn currently following the A836 through the northern half of the monument before diverging westwards towards the lower elevations at the River Halladale and Strat Halladale (Plate 9). The views to the north include rough moorland at similar elevations though to the south and at the lower elevations to the west is improved pasture with woodland east. Melvich is visible to the west across the River Halladale. As such, the setting of the Scheduled Monument which contributes greatest to its cultural significance and is of high sensitivity is the adjacent moorland context to the north and the strath to the west with key views looking down the burns towards the River Halladale and towards the coast as it is this portion of the landscape which retains the greatest elements of its historic context and coherence.</p> <p>The inland context to the south and east is of medium sensitivity, forming the margins of the strath and the more distant upland moorland landscape. The introduction of modern woodland (grant scheme 3) to the east of the monument provides a measure of separation from the rising ridgeline to the south-east where the Development would be located as shown in Figure 9.6. The woodland provides a measure of enclosure and visual barrier in views to the south-east. As such, the setting of the hut circles is not as reliant on the more distant upland landscape to appreciate or understand the hut circles. The setting has been further affected by the A836 which bisects the scheduled areas (Plate 8) and a single small-scale, existing operational turbine visible at the same elevation to the south (Figure 9.6) so that the post-medieval and modern agricultural landscape makes a slightly lesser contribution to the significance and can more readily accommodate change and is of medium sensitivity.</p>		
Assessment (Magnitude) of Change	<p>The Development would be part of the medium sensitivity landscape visible along the ridgeline in vistas to the south-east of the A836 beyond the existing woodland grant (Figure 9.6). This vegetation helps to delineate and separate the development from the immediate setting of the hut circles at the lower elevations of the burn around the A836. The introduction of the turbines above the ridgeline to the south-east introduces more modern infrastructure into the upland landscape of the hut circles; however, with the A836 already bisecting the designation and a single turbine to the south, it only marginally affects the ability to understand, appreciate or experience the asset's cultural significance due to more intrusive modern infrastructure in closer proximity. As such, the magnitude of change is moderate with the landscape altered to include turbines above the skyline in vistas to the south-east. The landowner has indicated that there are no plans to remove the woodland between the Scheduled Monument and turbines, so that the retention of this would alleviate some of the effect by providing visual separation from the Development and the monument.</p>		
Significance of Effect	<p>As a Scheduled Monument with a landscape context of medium sensitivity with a moderate change in landscape context, there is a moderate change in the asset's cultural significance due to the proximity and height of the turbines though the key settlement pattern and context of the coast and strath is still readily understood and appreciated. This is assessed as significant in terms of the EIA Regulations.</p>		

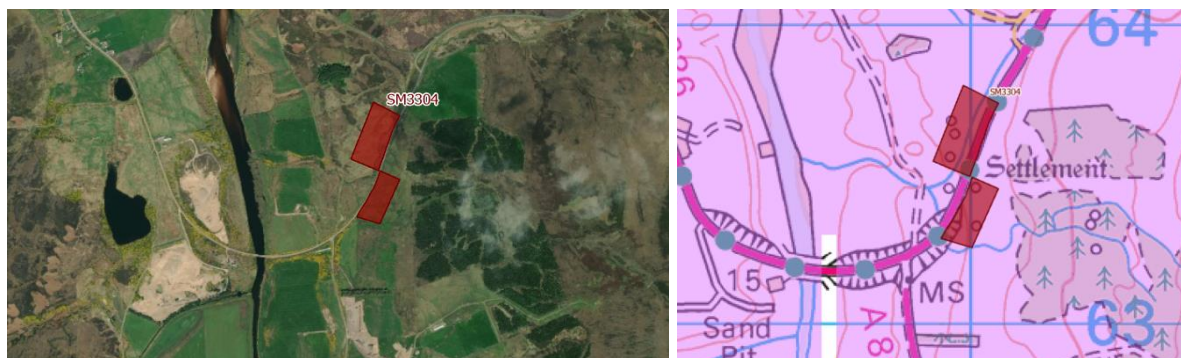


Plate 8 (left): Aerial photography image showing landscape location of Halladale Hut Circles (SM3304); Plate 9 (right): Extract showing Halladale hut circles (SM3304) on OS Map with ZTV in purple from Figure 9.2

Summary of Scheduled Monument Effects

Table 9.11 summarises the assessment of significant effects for scheduled monuments presented in the proceeding section.

Table 9.11: Summary of Scheduled Monument Effects

Scheduled Monument Reference	Name	Setting and Landscape Sensitivity	Magnitude of Change	Significance of Effect
458	Knock Stanger, cairn 730m E of Sandside House	Medium	Negligible	Negligible and Not Significant
476	Hill of Shebster, chambered cairn	Medium	Negligible	Negligible and Not Significant
615	Reay, burial ground, old church and cross slab 175m E of Parish Church	Low	Negligible	Negligible and Not Significant
616	Sandside House, Reay, two carved stones	Low	No Change	Negligible and Not Significant
2386	Creag Bhreac Mhor, stone rows 200m ESE of	Medium	Negligible	Negligible and Not Significant
3304	Halladale Bridge Hut Circles 670m NE of, on banks of Gilgill Burn	Medium	Moderate	Moderate and Significant
90078	Cnoc Freiceadain, long cairns	Medium	Negligible	Negligible and Not Significant

Listed Buildings

There are 26 Listed Buildings within the 10 km Study Area: four Category A, 13 Category B and nine Category C. Of these, 18 have been selected for further assessment in consultation with HES (Appendix A9.2). The final selection of heritage assets is detailed in Table 9.10 in Section 9.4.3. Where appropriate, these have been assessed in groups, as detailed in Table 9.10.

The following tables present the assessment of the 18 listed buildings in the following order:

- Bighouse Group including
 - Category C Listed Bighouse Farm Steading (LB7140);

- Category B Listed Bighouse, Stables, Gatepiers and Garden Wall (LB7159);
- Category A Listed Bighouse Garden House and Walled Garden (LB7160);
- Category B Listed Bighouse Barracks (LB7161);
- Category B Listed Bighouse Ice House (LB7162);
- Smigel Group including
 - Category B Listed Smigel Mill (LB7141);
 - Category C Listed Strath Halladale Mission Church (LB7142);
 - Category B Listed Smigel Bridge (LB12915);
- Reay West Group including
 - Category C Listed Reay Bridge (LB14981);
 - Category C Listed D Miller's Cottage, Cheese Press, and Steading (LB14982);
 - Category B Listed Reay Village Market Cross (LB18831);
- Reay East Group including
 - Category A Listed Reay Parish Church (LB14992);
 - Category B Listed Reayburn House (LB17592);
- Sandside House Group including
 - Category B Listed Sandside House (LB14984);
 - Category B Listed Walled Gardens, Dovecot, and Privy (LB14985);
 - Category A Listed Sandside House Kiln Barn, Implement Shed, Byre, Cottage and Dairy (LB14986);
 - Category B Listed Sandside House Lodge (LB14987); and
- Category A Listed Sandside Harbour, 1 Sandside, and Fishing Store (LB14988).

Bighouse Group			
<ul style="list-style-type: none"> • Category C Listed Bighouse Farm Steading (LB7140); • Category B Listed Bighouse, Stables, Gatepiers and Garden Wall (LB7159); • Category A Listed Bighouse Garden House and Walled Garden (LB7160); • Category B Listed Bighouse Barracks (LB7161); and • Category B Listed Bighouse Ice House (LB7162). 			
Designation	Listed Buildings	Distance and Direction	2.5 km north-west of T8
Figure	Location shown on 9.2 Visualisation in 9.7	Plate(s)	10-11
Identification and Cultural Significance	<p>Bighouse and its associated listed buildings are located at the mouth of the Halladale River (Figure 9.2). Bighouse, in its present form, was built for Louisa Mackay in 1765 and is a former home of the chieftains of the Bighouse and Sandwood Chieftains of Clan Mackay. Originally dating to the 18th century with later architectural additions, Bighouse is comprised of two storeys over a raised basement, featuring a canted bay window rising the full height on the south elevation. From Bighouse, the Pavilion/Garden House and Walled Garden are located to the south-east, the Ice House and Bighouse Farm Steadings to the north-east, the Barracks to the south, and the stables to the north. Both Bighouse and the Pavilion are harled, with polished ashlar dressings and many of the other buildings comprising of random rubble construction and slate roof. The barracks features a lintel inscribed with "I L Mackay Bighouse 1738" thought to have been re-used for the current building and is the earliest date associated with this group. Whilst the gardens and Bighouse belong to the eighteenth century, both the Steading and the Ice House are later additions to the estate having been constructed in the nineteenth century to accommodate changing needs of the time. Bighouse and its associated buildings are culturally significant due to their historical relationship with the MacKay family and their rarity, surviving as an example of an 18th century Highland estate.</p>		

Bighouse Group <ul style="list-style-type: none"> • Category C Listed Bighouse Farm Steading (LB7140); • Category B Listed Bighouse, Stables, Gatepiers and Garden Wall (LB7159); • Category A Listed Bighouse Garden House and Walled Garden (LB7160); • Category B Listed Bighouse Barracks (LB7161); and • Category B Listed Bighouse Ice House (LB7162). 	
Setting, Contribution to Cultural Significance, and Setting Sensitivity	The house lies at the mouth of the River Halladale, orientated north to south with the Bay of Melvich to the rear (north) which defines the coastal highland estate and is the highest sensitivity setting with open aspects from the house north across Melvich Bay and west across the River Halladale towards Melvich with more limited views south down the River Halladale (Plates 10 and 11). The Category A Listed Garden House and Walled Garden has a much more enclosed, insular setting defined by the walls and the rising topography immediately beyond them to the south and east. This is further emphasised by the woodland that lies immediately to the south (Plate 10). This layout with the house to the west and enclosed garden to the east creates a sense of separation from the formal layout of the house and designed garden from the wider agricultural portion of the estate to the south and east. The agricultural setting consists of agricultural fields running to the south along the River Halladale with the more distant moorland landscape context to the east and south. The separation of the formal setting from the more agricultural and upland context means that this portion of the setting and landscape context is more capable of accommodating change and is of medium sensitivity to change.
Assessment (Magnitude) of Change	The Development lies 2.5 km south-east of the Listed Buildings in the more distant moorland context that lies beyond the lower elevations agricultural landscape in and around the river, strath and bay. The Development would not be visible from the Category A Listed Gardens, as shown on Figure 9.7, so that the change to the Category A listed gardens cultural significance and its appreciation is negligible. For the remaining Listed Buildings, the Development would largely be hidden by the rising topography to the south-east and woodland just outwith the walled garden. Visibility of the turbines is expected where the small peninsula pushes west at the mouth of the River Halladale which offers open views looking down the river and Strath Halladale and from the Steading to the east. The limited visibility of the turbines from the group of Category B and C Listing Buildings only marginally affects the ability to understand, appreciate or experience the asset's cultural significance as its lies in the upland context outwith the highland estate boundaries. As such, the magnitude of change is slight as the relationship and context between the listed buildings is unchanged with the turbines intermittently visible in in the landscape above the distant skyline and not within any key views.
Significance of Effect	As Listed Buildings with a landscape context of medium sensitivity and a negligible to slight change in landscape context, there is a negligible change in the ability to understand appreciate or experience the cultural significance of the asset. This is assessed as not significant in terms of the EIA Regulations.



Plate 10 (left): Aerial photography image showing landscape location of Bighouse Listed Buildings; Plate 11 (right): Extract showing Halldale Bighouse Listed Buildings on OS Map with ZTV in purple from Figure 9.2

Smigel Group			
<ul style="list-style-type: none"> • Category B Listed Smigel Mill (LB7141); • Category C Listed Strath Halladale Mission Church (LB7142); and • Category B Listed Smigel Bridge (LB12915). 			
Designation	Listed Buildings	Distance and Direction	4.5 km south-southwest of T7
Figure	Location shown on 9.2	Plate(s)	12-13
Identification and Cultural Significance	<p>Smigel Bridge is a single span rubble bridge, built circa 1850 which carries road traffic. To the west of the Bridge is Smigel Mill, a rectangular mill building constructed of slate and rubble with a waterwheel situated on the southern gable end. The cultural significance of both the mill and bridge lies in their history of having been built as a co-operative venture in the area.</p> <p>Strath Halladale Mission Church is located slightly to the north of both the Smigel Mill and Bridge. Its western elevation faces the roadside with the land sloping upwards to the east which features a telecommunications mast in the distance. Built for ecclesiastical use in 1852, it was constructed from random coarse stone work and slate, with a small minister's room and entrance at the north gable end. Previously it featured a corrugated iron porch on the south gable but as part of an application for a change of use in 2010, the porch was removed. The Strath Halladale Mission Church's cultural significance relates to its history as use as an ecclesiastical building and the overall historical association with the protestant mission church movement.</p>		
Setting, Contribution to Cultural Significance, and Setting Sensitivity	<p>The setting of the mill and bridge is Smigel Burn as the mill needed a water source so this localised setting is key to understanding and appreciating the cultural significance. Smigel Burn runs from the steeper elevations to east, downstream to the west to run the mill whilst the bridge served as a means to cross this (Plates 12 and 13). The topography is flatter to the west along the River Halladale and more agricultural, and this is the setting of the church (Plates 12 and 13) as it represents the rural agricultural settlement served by the church. With the steep topography to the east, the key views are westwards across the River Halladale. Beyond this immediate section of the strath, the listed buildings have limited connection to the more distant landscape other than as the background for appreciating the isolated rural context so that its landscape sensitivity is medium.</p>		
Assessment (Magnitude) of Change	<p>The Development is not located within the setting of these Listed Buildings, but part of a much more distant landscape context to the north with tips intermittently visible. The Development has no intrinsic relationship to Smigel Burn or this portion of Strath Halladale so that the ability to understand and appreciate the rural isolation at this location remains largely unchanged with a negligible change to the distant landscape context.</p>		
Significance of Effect	<p>As Listed Buildings with a medium landscape sensitivity with no change in setting and a negligible change in landscape, the effect upon the cultural significance of the assets is negligible as a result of the Development. This is assessed as not significant in terms of the EIA Regulations.</p>		

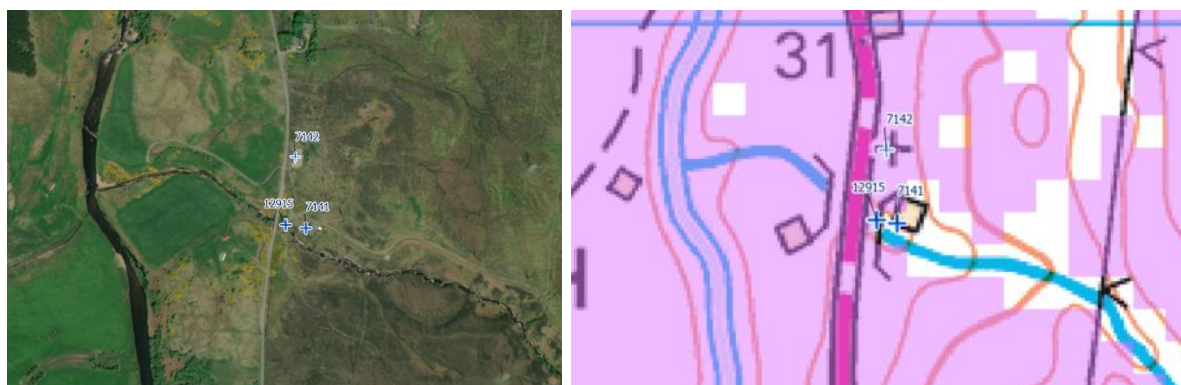


Plate 12 (left): Aerial photography image showing landscape location of Smigel Listed Building; Plate 13 (right): Extract showing Smigel Listed Buildings on OS Map with ZTV in purple from Figure 9.2

Reay West Group <ul style="list-style-type: none"> • Category C Listed Reay Bridge (LB14981); • Category C Listed D Miller's Cottage, Cheese Press, and Steading (LB14982); and • Category B Listed Reay Village Market Cross (LB18831). 			
Designation	Listed Buildings	Distance and Direction	4 km north-east of T11
Figure	Location shown on 9.2	Plate(s)	14-15
Identification and Cultural Significance	The Listed Buildings in the western portion of the village of Reay are located along Sandside Burn (Figure 9.2). Reay Bridge, constructed in the early nineteenth century from rubble masonry, is a double arched road bridge which spans Brackside/Sandside burns in the west of Reay. D Miller's Cottage, Cheese Press, and Steading is an early-mid nineteenth century vernacular single storey range of cottages parallel to the A836. One of the cottages contains a cheese press embedded in an exterior wall, previously for communal village use. The Reay Village Market Cross is a stone cross located on a grass verge at a driveway entrance in The Terrace, Reay, and stands approximately four feet high although to top arm of the cross is missing. It previously was situated at Reay Parish Church before being moved to its current location and therefore lost its original setting. It is thought that the cross dates to as early as the 16th or 17th centuries. This group of Listed Buildings are culturally significant due to being examples of industrial archaeology, mainly of local historic importance and were functionally significant to the community of Reay which they served.		
Setting, Contribution to Cultural Significance, and Setting Sensitivity	The setting of the western portion of Reay is focused along the A836 and on either side of Sandside Burn (Plates 14 and 15). The market cross was originally located further east at the parish church, so it no longer retains much cultural significance as a result of its location. The setting of the bridge is the burn whilst the setting of the Miller's Cottage is the west side of the burn and the settled agricultural landscape. The key aspects of the setting are its village location and it is this area that is of high sensitivity to change. The landscape context is settled and agricultural in close proximity with sensitivity diminishing with distance so that the upland moorland to the south and west is of medium sensitivity.		
Assessment (Magnitude) of Change	The Development is located approximately 4 km to the south-west behind the ridgeline of Beinn Ruadh within the upland moorland landscape context. The turbines would be visible behind this ridgeline. As such, the immediate setting of the Listed Buildings remains unchanged with a negligible change in setting for the cross and a slight change in the distant moorland landscape contexts.		
Significance of Effect	As Listed Buildings with medium sensitivity to landscape change with no change in setting and a negligible to slight change in landscape, the effect upon the cultural significance on the listed buildings is negligible as a result of the Development. This is assessed as not significant in accordance with the EIA Regulations.		



Plate 14 (left): Aerial photography image showing landscape location of Reay West Listed Building;
 Plate 15 (right): Extract showing of Reay West Listed Buildings on OS Map with ZTV in purple from Figure 9.2

Reay East Group			
<ul style="list-style-type: none"> • Category A Listed Reay Parish Church (LB14992); and • Category B Listed Reayburn House (LB17592). 			
Designation	Listed Buildings	Distance and Direction	8.8 km north-east of T11
Figure	Location shown on 9.2 Visualisation in Figure 9.8	Plate(s)	16-17
Identification and Cultural Significance	<p>The Listed Buildings are located in the eastern portions of the village of Reay (Figure 9.2). The Reay Parish Church is located along the road edge of the A836 and adjacent to the Reay Golf Club. Constructed in a T-shape with a slate roof and a harled exterior, the church's bell tower is located on its eastern elevation and has a large Y-tracery window on its western elevation. The church is also bounded by a drystone wall on all four elevations. Still in ecclesiastical use, the church dates to 1738-9.</p> <p>Reayburn House is located to the east of Reay Parish Church still along the A836 with Reay Burn running by the house's western elevation (Plates 16 and 17). Originally three separate dwellings, they have been combined into one house and set back from the roadside by a grass verge. Both the western and middle buildings were constructed as two storeys and the eastern as a single storey. All are of a vernacular style utilising local material dating to the nineteenth century. The collection of buildings is culturally significant as a surviving example of regional agricultural vernacular architecture.</p>		
Setting, Contribution to Cultural Significance, and Setting Sensitivity	<p>The setting of the Listed Buildings is the village of Reay with the eastern side of Reay extending from Reay burn in the west to the Burn of Isauld in the east (Plates 16 and 17). The focus of the village is along these burns and the A836 with agricultural fields extending southwards towards a commercial forestry plantation and northwards towards Sandside Bay and the coast. The landscape context is settled and agricultural in close proximity with sensitivity diminishing with distance so that the upland moorland to the south and west is of medium sensitivity.</p>		
Assessment (Magnitude) of Change	<p>The Development is located approximately 8.8 km to the south-west behind the ridgeline of Benn Ruadh within this sweeping upland moorland. The turbines would be visible behind this ridgeline as shown in Figure 9.8. Given the distance and landform between the Development and the Listed Buildings, and the focus of the village, the immediate setting of the Listed Buildings remains unchanged with a slight change in the distant moorland landscape contexts.</p>		
Significance of Effect	<p>As Listed Buildings with medium sensitivity to landscape change with no change in setting and a slight change in landscape, the effect upon the cultural significance of the listed buildings is negligible as a result of the Development. This is assessed as not significant in accordance with the EIA Regulations.</p>		



Plate 16 (left): Aerial photography image showing landscape location of Reay East Listed Buildings;
Plate 17 (right): Extract showing Reay East Listed Buildings on OS Map with ZTV in purple from Figure 9.2

Sandside House Group <ul style="list-style-type: none"> • Category B Listed Sandside House (LB14984); • Category B Listed Walled Gardens, Dovecot, and Privy (LB14985); • Category A Listed Sandside House Kiln Barn, Implement Shed, Byre, Cottage and Dairy (LB14986); and • Category B Listed Sandside House Lodge (LB14987). 			
Designation	Listed Buildings	Distance and Direction	3.5 km north-east of T10
Figure	Location shown on 9.2 Visualisation in Figure 9.9	Plate(s)	18-19
Identification and Cultural Significance	<p>The main group of Listed Buildings is located in and around Sandside House approximately 4 km north-east of T10 (Figure 9.2). The lodge is located at the entrance to the woodland and drive, approximately 3.5 km north-east of T10.</p> <p>A house at Sandside was commissioned by the first Lord Reay in the 1600s though the current Sandside House is dated 1751 with several later additions of different architectural styles. The house is three storeys with the main entrance of the house featuring three crow-stepped gabled ends with one finial, facing south towards Beinn Ratha looking over the associated woodland which extends to the A836. There is a drive from Sandside House in a south-westerly direction through the woodlands where Sandside House Lodge is located. This would have been the principle entrance to all foot and vehicular traffic to and from Sandside House although Sandside House now has a substantial access road from the eastern approach. The walled gardens which are to the south-east and north-west of Sandside House and would have likely served a practical function of supplying the kitchen belonging to Sandside House but now look to be for ornamental purposes.</p> <p>The category A Sandside House Kiln Barn and Single Storey Range of Former Byres, Cottage and Dairy, and Implement Shed (LB14986) are located to the north of Sandside House (Plate 18 and 19). The Kiln Barn dates to the mid-eighteenth century and is constructed from rubble with its long elevations facing the east and west. Internally divided into thirds, the southern third would have housed the kiln. The Byre, Cottage and Dairy comprise a single storey building which runs north/east from the kiln barn's southern gable end. Probably dating to the late 18th century, a cheese press was constructed into the east elevation wall. The Implement Shed dates to the nineteenth century and is a four bay structure opposite the dairy. This group of buildings is culturally significant due to its historical agricultural use, especially with the kiln barn survival being rare.</p>		
Setting, Contribution to Cultural Significance, and Setting Sensitivity	<p>The relationship between Sandside House and the associated Listed Buildings is the functioning of Sandside House as a stately home which contributes to its cultural significance. The setting with the high sensitivity is localised to Sandside House and its associated buildings, grounds and agricultural land which extends north to the coast, west to the edge of the moorland, east to Sandside Bay and south to the A836. Due to the woodland to the south of the house (Plate 18) which defines the main approach and limits visibility at ground level southwards, key views are to the north and east across the coast and Sandside Bay. Beyond the setting, the landscape context is settled and agricultural in close proximity with sensitivity diminishing with distance so that the upland moorland to the south and west is of medium sensitivity.</p>		
Assessment (Magnitude) of Change	<p>The Development is not within the setting the Sandside House listed buildings but rather is part of the distant upland moorland landscape context found to the south-west. As the southern edge of the estate comprises historic woodland, visibility of the Development would be largely obscured for the Listed Buildings including the A listed Kiln Barn (Figure 9.9). As such, there is no change to the setting of the Listed Buildings and a slight change in the distant landscape context.</p>		
Significance of Effect	<p>As Listed Buildings with medium sensitivity to landscape change with no change in setting and a slight change in landscape, the effect upon the cultural significance is negligible as a result of the Development. This is assessed as not significant in accordance with the EIA Regulations.</p>		

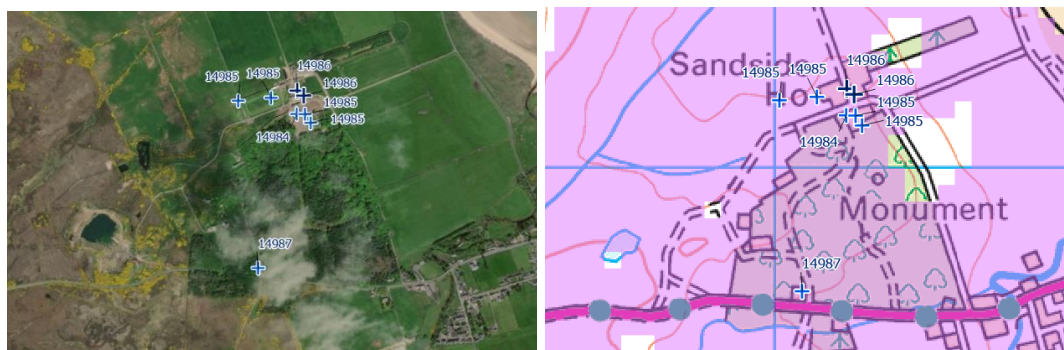


Plate 18 (left): Aerial photograph image showing landscape location of Sandside House Listed Buildings; Plate 19 (right): Extract of Sandside House Listed Buildings on OS Map with ZTV in purple from Figure 9.2

Category A Listed Sandside Harbour, 1 Sandside, and Fishing Store (LB14988)			
Designation	Listed Building	Distance and Direction	5 km north-east of T12
Figure	Location shown on 9.2 Visualisation in Figure 9.10	Plate(s)	20-21
Identification and Cultural Significance	Sandside Harbour is located 5 km north-east of T12 (Figure 9.2). The harbour is a rectangular basin with two L-shaped arms with higher sea-walls on the east side of rubble construction. 1 and 2 Sandside sit on the western side of the harbour and are a pair of two storey, 6 bay rubble buildings with Caithness slate rooves. The fishing store is similar to that of 1 and 2 also comprising of two storeys with six bays. All buildings have their main elevation towards the harbour with views out towards the sea and are a contemporaneous dating to 1830. The harbour and buildings were commissioned by Major Innes of Sandside House for trade and fishing in the area at the cost of £3,000 in the nineteenth century. The historical relationship between the harbour, associated buildings and the Scottish maritime trade is what contributes to its cultural significance.		
Setting, Contribution to Cultural Significance, and Setting Sensitivity	The setting of the Listed Buildings is Sandside Harbour with key views westward across the bay. Only the elevated edges to the west of the harbour are within the theoretical ZTV with the majority of the harbour and listed buildings not within the ZTV (Plate 21). As a coastal settlement, the setting of the listed buildings with high sensitivity is localised so that its cultural significance is not to the wider landscape which includes the agricultural fields that extend to the south-west and the more distant upland context beyond that. As such, the landscape sensitivity reduces with distance from medium to low.		
Assessment (Magnitude) of Change	The Development is not within the setting the Sandside Harbour Listed Buildings and would only be visible from the upper elevations above the harbour to the west and not in key views eastwards towards of the listed buildings (Figure 9.10). The Development is part of the distant upland moorland context found to the south-west which does not contribute to their cultural significance. As such, there is no change to the setting of the Listed Buildings and a negligible change in the distant landscape.		
Significance of Effect	As Listed Buildings with medium sensitivity to landscape change with no change in setting and a negligible change in landscape, the effect upon cultural significance is negligible as a result of the Development. This is assessed as not significant in accordance with the EIA Regulations.		



Plate 20 (left): Aerial photography image showing landscape location of Sandside Harbour Listed Building; Plate 21 (right): Extract of Sandside Harbour on OS Map with ZTV in purple from Figure 9.2

Summary of Listed Building Effects

Table 9.12 summarises the assessment of significant effects for listed buildings presented in the proceeding section.

Table 9.12: Summary of Significance of Effect for Listed Buildings

Listed Building Reference	Category	Name	Setting and Landscape Sensitivity	Magnitude of Change	Significance of Effect
7140	C	Bighouse Farm Steading	Medium	Slight	Negligible and Not Significant
7141	B	Smigel Mill	Medium	Negligible	Negligible and Not Significant
7142	C	Strath Halladale Mission Church	Medium	Negligible	Negligible and Not Significant
7159	B	Bighouse, Stables, Gatepiers And Garden Wall	Medium	Slight	Negligible and Not Significant
7160	A	Bighouse, Garden House and Walled Garden	Medium	Negligible	Negligible and Not Significant
7161	B	Bighouse, Barracks	Medium	Slight	Negligible and Not Significant
7162	B	Bighouse, Ice House	Medium	Slight	Negligible and Not Significant
12915	B	Smigel Bridge	Medium	Negligible	Negligible and Not Significant
14981	C	Reay Bridge	Medium	Slight	Negligible and Not Significant
14982	C	Reay, D Miller's Cottage, Cheese Press, And Steading	Medium	Slight	Negligible and Not Significant
14984	B	Sandside House	Medium	Slight	Negligible and Not Significant

Listed Building Reference	Category	Name	Setting and Landscape Sensitivity	Magnitude of Change	Significance of Effect
14985	B	Sandside House, NW And SE Walled Gardens, Dovecot, And Privy	Medium	Slight	Negligible and Not Significant
14986	A	Sandside House, Kiln Barn, Implement Shed, Byre, Cottage and Dairy	Medium	Slight	Negligible and Not Significant
14987	B	Sandside House, Lodge	Medium	Slight	Negligible and Not Significant
14988	A	Sandside Harbour, 1 Sandside. The Bothy	Medium	Negligible	Negligible and Not Significant
14992	A	Reay Parish Church	Medium	Slight	Negligible and Not Significant
17592	B	Reay, Reayburn House	Medium	Slight	Negligible and Not Significant
18831	B	Reay Village, Market Cross	Medium	Negligible	Negligible and Not Significant

9.5.3 Potential Decommissioning Effects

Decommissioning of the Development will involve similar processes to the construction effects but involve the dismantling and removal of the majority of the above ground infrastructure of the Development. As no direct effects upon any known features of cultural heritage interest are anticipated during construction, with the implementation of mitigation (as discussed in Section 9.6), no direct effects are likely from the decommissioning phase of the Development, assuming similar mitigation is implemented. Any effects arising from this phase are therefore considered to be **not significant** in terms of the EIA Regulations.

9.6 MITIGATION AND RESIDUAL EFFECTS

Known archaeological features have been avoided and no significant effects have been identified, therefore no mitigation is recommended.

The Core Study Area is characterised by open moorland at upper elevations with a more settled landscape at lower elevations by the River Halladale. Overall, the baseline data indicates that settlement from the prehistoric through to the modern periods has been largely concentrated at lower elevations along waterways. As such, the archaeological potential of the Core Study Area is high along the burns and at lower elevations adjacent to the River Halladale, but low at upper more exposed elevations in which much of the Development infrastructure is sited. Should any unknown archaeological remains be located within the Development footprint, any effect would be substantial and significant in the absence of mitigation; however, the potential to encounter such remains is low.

If necessary, the limited impact of the Development can be further mitigated by the implementation of a programme of archaeological evaluation. The requirement for and scope and extent of any mitigation would be agreed with the Council Archaeologist. The implementation of any agreed mitigation can be secured through an appropriately worded planning condition.

No significant effect was identified in respect of potential effects upon the settings of features beyond the core study area, except at Halladale Bridge Hut Circles (SM3304). Whilst there is no mitigation that could reduce the effect, the retention of the woodland by the landowner provides a visual barrier that separates the monument from the turbines. Indirect visual effects upon cultural heritage features will continue throughout the operational phase of the Development; however, this effect is considered temporary, and reversible upon decommissioning.

9.7 CUMULATIVE EFFECT ASSESSMENT

This assessment considers the potential for significant cumulative effects upon designated heritage assets as a result of the Development. This potential may arise from the addition of the Development to the landscape in which similar developments are also visible. The potential for a significant cumulative effect is considered likely to occur only within the zone where the ZTVs for each wind farm development would overlap within this range i.e. where each is theoretically simultaneously visible.

Although there are numerous wind farms in the wider area, only the wind farms that are currently within planning or consented²³ and within 10 km of the Site were considered to have the potential for a significant cumulative effect as detailed in Table 9.7 in Section 9.3.7 and shown in Figure 9.3. Operational wind farms were considered as part of the existing baseline scenario so that any cumulative effect would be included in Section 9.5.2.

9.7.1 *Drum Hollistan 2*

Drum Hollistan 2 is a submitted wind farm application²⁴ for seven turbines located adjacent to the east of the Development (Figure 9.3). The addition of the Development to a baseline that includes Drum Hollistan would create a wind farm cluster at this location.

The potential for significant cumulative effects is most likely to occur between the Development and this consented wind farm, when assets become enclosed or dominated by views of turbines in multiple directions. There are no designated assets which lie between Drum Hollistan 2 and the Development.

To the north-west of the Development and Drum Hollistan 2 is the Halladale Bridge Hut Circles (SM3304) and the Listed Buildings at Bighouse (7140, 7159-7162). As Drum Hollistan 2 is located behind the ridgeline to the east of the Development, there is limited visibility of those turbines from these heritage assets, as shown in the cumulative wirelines in Figure 9.6 and Figure 9.7. As such, the Development with a baseline that includes Drum Hollistan 2 creates a slightly denser cluster of turbines with the Drum Hollistan 2 turbines behind the Development turbines. This effect would not increase the significance of the effect beyond that identified in Section 9.5.2 so that the effect is negligible and **not significant** at Bighouse and moderate and **significant** at Halladale Bridge Hut Circles.

To the north-east of the Development and Drum Hollistan 2 is the Knock Stanger Cairn Scheduled Monument (SM458) and Listed Buildings at in Reay (SM615, 14981, 14982, 14992, 17592, 18831) and at Sandside House and Harbour (14984-88). In views from

²³ Status of wind farms is as of 15 September 2020.

²⁴ Status of wind farms is as of 15 September 2020.

these heritage assets to the south-west towards the Development and Drum Hollistan 2, the Development is situated behind the distant ridgeline with the Drum Hollistan 2 turbines in the foreground, spilling down the hill towards Reay, as shown on the cumulative wirelines in Figures 9.4, 9.5, 9.8, 9.9 and 9.10). As such, the addition of the Development to a baseline that includes Drum Hollistan 2 would create a denser cluster of turbines in the wider landscape to the south-west of Reay with the greatest effect from the closer turbines at Drum Hollistan 2.

In HES's response to the Drum Hollistan 2 application (HES ID 300022201), HES offered no objection as they agreed no significant impacts were likely for their interests. The assessment did not identify any significant effects for these heritage assets in isolation, and with both the Development and Drum Hollistan 2 in views from Reay, the effect is considered negligible and **not significant**.

9.7.2 Limekiln and Limekiln Extension

Limekiln is a consented wind farm application for 21 turbines with an application for a seven turbine extension to its east²⁵. Limekiln and Limekiln Extension area located approximately 5 km and 7.5 km, respectively, to the east of the Development (Figure 9.3). The addition of the Development to a baseline that includes Limekiln and Limekiln Extension creates two wind farm clusters on either side of Reay so that a cumulative effect is most likely to occur at the Scheduled Monument and Listed Buildings in Reay (SM615, 14981, 14982, 14992, 17592, 18831).

Since Limekiln is consented, any effects to the setting of the heritage assets within Reay was considered within acceptable limits, and with the extension to the east, would create a marginally denser cluster of turbines to the south-east of Reay. The addition of the Development (and/or Drum Hollistan 2) would create another cluster of turbines to the south-west of Reay. Both of these clusters are part of a more distant upland landscape context and are distant enough from the closest heritage assets that they would not dominate or intrude upon any key sightlines, so that any landscape change is slight or negligible and **not significant**.

²⁵ Status of wind farms is as of 15 September 2020.

9.8 SUMMARY OF EFFECTS

Table 9.13 provides a summary of the effects detailed within this chapter.

Table 9.13 Summary of Effects

Receptor	Potential Effect	Significance of Effect	Mitigation Proposed	Residual Effect
Construction Phase				
Known archaeological remains	No direct effects as all known archaeological remains have been avoided	Not Significant	None	Not Significant
Unknown (buried) archaeological remains	Archaeological potential for unknown remains to survive is low in Development footprint.	Not Significant	None	Not Significant
Operational Phase				
Non-Designated Heritage Assets	No direct effects during operation.	Not Significant	None	Not Significant
Designated Heritage Assets	No direct effects during operation.	Not Significant	None	Not Significant
Designated Heritage Assets	One moderate and significant effect at Halladale Bridge Hut Circles (SM304) with all other effects minor or negligible.	One Significant effect at Halladale Bridge Hut Circles (SM3304), all remaining effects are Not Significant.	No mitigation is required or considered practicable though retention of woodland provides a visual separation between SM3304 and the turbines.	One Significant effect at Halladale Bridge Hut Circles (SM3304), all remaining effects are Not Significant.
Decommissioning Phase				
Restoration of existing site conditions (visual)	None	No effect	None	None – Existing setting will be restored
Cumulative				
Drum Hollistan 2	No significant effects to heritage assets with indirect effects of minor and negligible significance.	Not Significant	None	Not Significant
Limekiln and Limekiln Extension	No significant effects to heritage assets with indirect effects negligible significance.	Not Significant	None	Not Significant

9.9 STATEMENT OF SIGNIFICANCE

Effects are considered to be significant for the purposes of the EIA Regulations where the effect is classified as being of 'major' or 'moderate' significance.

There are considered to be no significant direct effects likely upon known archaeological features within the core study area and there is low potential for damage to or destruction of unknown buried archaeological remains.

There is considered to be one significant indirect (settings) effects upon the Halladale Hut Circles (SM3304) with no other significant effects likely upon Cultural Heritage receptors in the surrounding historic environment.

No significant cumulative indirect (setting effects) from the Development and other wind farm developments is likely. All cumulative effects are considered to be not significant.

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