

## Chapter 11: Cultural Heritage

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## 11 Cultural Heritage

### 11.1 Executive Summary

11.1.1 This Chapter addresses the potential for both direct and indirect impacts on archaeological sites and sites of historic or cultural heritage interest as a result of the Development. Where potential direct or indirect impacts are identified, mitigation measures are provided to minimise potential effects where possible.

11.1.2 The Development extends into a landscape of sparse features of settlement and cultivation, dating from the Iron Age to the early 19th century. The majority of these would be unaffected, with direct impacts on only a few minor features of low sensitivity/importance. The overall magnitude of direct impact on cultural heritage features is Low, and not significant.

11.1.3 The Development lies within a wider area, Strath Brora and the surrounding high ground, which contains a number of cultural sites of national importance and with statutory protection. Significant indirect impacts are predicted at two Scheduled Monuments (SMs) (Balnacoil Cairn and Duchary Rock Fort). In addition, Duchary Rock Fort and Kilbraur Hut Circle are predicted to receive a Moderate cumulative impact as a result of the Development in combination with other wind farm developments.

### 11.2 Introduction

11.2.1 All elements of the Development, as described in full in Chapter 4: Description of Development, have the potential to impact on archaeological sites, areas with potential for sub-surface archaeological remains and deposits, and areas of cultural or historic interest.

11.2.2 Potential impacts could be:

- Direct: where archaeological or historical features lie directly within the development area;
- Indirect: whereby the development has the potential to have a visual impact on the setting of nationally important archaeological or historical sites such as Scheduled Monuments, Listed Buildings, designed landscapes and battlefields; and
- Cumulative: whereby the development has the potential to add to the cumulative impacts of other wind farm developments in the vicinity, which are either operational, under construction, consented or at application stage.

11.2.3 All archaeological features and sites of historical or cultural interest are evaluated in terms of their sensitivity and magnitude. The significance of direct, indirect or cumulative impact is calculated dependent on these factors.

### 11.3 Relevant Legislation, Policy & Guidance

#### Legislation

11.3.1 The assessment has taken account of the following legislation:

##### Historic Environment (Amendment) (Scotland) Act 2011

11.3.2 The Act received Royal Assent in February 2011 and all provisions and associated Regulations attached to the Act were commenced in December 2011. The Act is a tightly focused, technical amending piece of legislation that improves the management and protection of Scotland's historic environment. The Act amends three pieces of primary legislation, which include:

- The Historic Buildings and Ancient Monuments Act 1953;
- The Ancient Monuments and Archaeological Areas Act 1979; and
- The Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997.

#### Guidance & Policy

11.3.3 The assessment has taken account of the following guidance:

##### Scottish Planning Policy (SPP)

11.3.4 The latest Scottish Planning Policy (SPP) was published in June 2014 and is the statement of the Scottish Government's policy on nationally important land use planning matters. It replaces the previous SPP (2010).

11.3.5 The relevant subject policy in the consolidated SPP for this assessment, includes: 'Valuing the Historic Environment' (p.135 – 151), which sets out how all types of historic environment assets are to be dealt with within this planning framework.

##### Our Place in Time: The Historic Environment Strategy for Scotland (March 2014)

11.3.6 Scotland's first ever Historic Environment Strategy is a high level framework which sets out a 10 year vision for the historic environment. The key outcome is to ensure that the cultural, social, environmental and economic value of Scotland's historic environment continues to make a strong contribution to the wellbeing of the nation and its people. It was developed collaboratively and identified the need for strategic priorities to help align and prioritise sector activity towards a common goal.

11.3.7 Section C of the strategy 'Protect: Care and Protect' states the following:

*"It is essential for future generations, as well as our own, that the historic environment is cared for in a sustainable way, and legally protected where appropriate". "Change is an inevitable part of the dynamic of the historic environment, and how this is managed is the critical factor. It is vital to strike the right balance between development and the protection of significant historic environment assets".*

Scottish Historic Environmental Policy (SHEP) (updated December 2011)

- 11.3.8 This sets out the Scottish Ministers policies for the historic environment, provides greater policy direction for Historic Scotland and provides a framework that informs the day-to-day work of a range of organisations that have a role and interest in managing the historic environment. It is a relevant document in the statutory planning, EIA and Strategic Environmental Assessment (SEA) process. This document is regarded as a “living” document, to be updated as required.

Planning Advice Note (PAN) 2/2011: Planning and Archaeology

- 11.3.9 PAN 2/2011 supersedes PAN 42 Archaeology - the Planning Process and Scheduled Monuments Procedures. It sits alongside Scottish Planning Policy (SPP), Scottish Historic Environment Policy (SHEP) and the Managing Change in the Historic Environment Guidance Notes, which together set out the Scottish Ministers' policies for planning and the historic environment. This PAN is intended to inform the day-to-day work of a range of local authority advisory services and other organisations that have a role in the handling of archaeological matters within the planning process.

- 11.3.10 In determining planning applications that may impact on archaeological features or their setting, planning authorities may on occasion have to balance the benefits of development against the importance of archaeological features. The weight that should be given to archaeological considerations will depend on a number of factors, including:

- the relative rarity of the archaeological feature concerned;
- the completeness of the feature/whether it is a particularly good example of its type;
- the historical or cultural associations of the feature;
- the value given to the feature by the local community;
- the potential value of the feature as an in situ educational or research resource; and
- the potential value of retaining the feature for tourism or place-making.

Highland-wide local Development Plan, Policy 57: Natural, Built and Cultural Heritage

- 11.3.11 Policy 57 of the HwLDP sets out the test against which development proposals within the plan area must be judged against when those proposals may affect cultural heritage assets. The policy states:

- 11.3.12 ‘All development proposals will be assessed taking in to account the level of importance and type of heritage features, the form and scale of the development, and may impact on the feature and its setting, in the context of the policy framework of Appendix 2. The following criteria will apply:

- 1. For features of local/regional importance we will allow developments if it can be satisfactorily demonstrated that they will not have an unacceptable impact on the ...heritage resource.
- 2. For features of national importance we will allow developments that can be shown not to compromise the heritage resource. Where there may be any significance adverse effects these must be clearly outweighed by social or economic benefits of national importance.

- 3. For features of international importance developments likely to have a significance effect on a site, either alone or in combination with other plans or projects, and which are not directly commented with or necessary to the management of the site will be subject to an appropriate assessment. Where we are unable to ascertain that a proposal will not adversely affect the integrity of a site, we will only allow development if there is no alternative solution and there are imperative reasons of overriding public interest, including those of a social or economic nature.”

11.3.13 The policy also states that the Historic Environment Strategy (HES) described above (see section 11.3.6 to 11.3.7) will be adopted as supplementary planning guidance and therefore form part of local and regional policy.

#### **11.4 Scope of Assessment**

11.4.1 This evaluation identifies all archaeological and historical features or areas considered to be of archaeological or historical potential within the vicinity of the Development. Any ground disturbance associated with the construction of the Development has the potential to damage or destroy features of cultural heritage interest, both visible features and areas where there is considered to be the potential for sub-surface archaeological remains.

11.4.2 The presence of the Development may also have indirect effects on the setting of sites of cultural heritage interest within the surrounding landscape. In particular, there is potential for elements of the Development to be present in views of and from Scheduled Monuments, Listed Buildings and other cultural heritage features.

11.4.3 This Chapter addresses the potential for both direct and indirect impacts associated with the Development, as well as potential cumulative impacts with other wind farm sites.

Scoping and Consultation

11.4.4 Table 11.1 summarises scoping and consultation responses received.

**Table 11.1: Scoping Response**

Consultee	Summary of Response	Action
Historic Scotland	Historic Scotland requests the assessment of the potential impact on the following sites: <ul style="list-style-type: none"> <li>Ascoile, earthwork 890m SE of (Index no 3288)</li> <li>Kilbraur, hut circle and clearance cairns, 270m SW of (Index no. 1793)</li> <li>Balnacoil Hill, cairn 530m NE of Balnacoil Lodge, Strath Brora (Index no. 1769)</li> </ul>	Assessed in Section 11.7 and Table 11.5 (SMs), and Section 11.6.9 and Table 11.6 (Listed Buildings). Wirelines and photomontages are also produced, as shown in Figures 11.3.1.1 to 11.4.3.
	Particular consideration should be given to cumulative impacts on the settings of these sites in relation to the original Gordonbush Wind Farm and other proposals in the area.	Assessed in Section 11.11.
	Identified impacts should be illustrated with wireframes and photomontages.	See Figures 11.3.1.1 to 11.3 and 11.4.1.1 to 11.4.
	In terms of potential direct impact on the scheduled work at Ascoile from access arrangements in the construction phase, the assessment should recommend appropriate mitigation in line with that previously issued for Gordonbush Wind Farm.	Mitigation for the site at Ascoile was in relation to improvement and widening of the public road, and is therefore not considered relevant for the Development.
The Highland Council	The proposed extension area has already a level of archaeological survey in part as part of the work supporting the existing Gordonbush Wind Farm. However, this work was undertaken some time ago and will require updating.	An archaeological survey has been undertaken and is outlined in this Chapter.
	A thorough desk-based analysis to include a synthesis of all previous work undertaken and a fresh walkover survey of the areas (to include associated infrastructure) will need to be included in the ES. This must seek to identify all designated heritage/cultural sites which may be affected by the development either directly or indirectly.	A desk based and site survey were undertaken and outlined in this Chapter.
	The Cultural Heritage chapter of the ES will need to be undertaken by a professional and competent historic environment consultant.	The Cultural Heritage assessment has been undertaken by Catherine Dagg (ACIfA).
	The Cultural Heritage ES chapter will need to follow Highland Council (THC) Standards for Archaeological Work, specifically Sections 3 and 4.	Sections 3 and 4 of THC Standards for Archaeological Work have been used as a basis for this assessment work.

	The assessment should consider the potential direct and indirect impacts of the development to cultural heritage. The indirect assessment will need to include a study of cumulative impacts. Where indirect impacts are noted, these should be illustrated by photomontages.	This is outlined in Section 11.7 of this Chapter. Photomontages are included for Balnacoll Hill cairn (see Figure 11.3.1.1 to 11.3.3) and Kilbraur Hut Circle (see Figure 11.4.1.1 to 11.4.3).
	Mitigation to off-set any predicted impact, including re-design and where appropriate compensatory measures will need to be clearly set out as part of the assessment.	This is outlined in Section 11.8 of this Chapter.

## 11.5 Methodology

11.5.1 This assessment has been prepared using the following methodology:

### Direct Impacts

11.5.2 The significance of a direct impact depends upon the importance of a cultural heritage site, combined with the magnitude of the impact.

### Sensitivity/Importance

11.5.3 Archaeological sites, the definition of which extends to include areas considered to be of archaeological potential, and sites of historical or otherwise cultural interest fall into three categories:

- **National:** this category contains all sites and monuments with statutory protection, i.e. Scheduled Monuments and Listed Buildings. Other monuments, although not scheduled, may be considered to be of national importance if they are particularly rare and well-preserved examples of a type;
- **Regional:** almost all prehistoric and mediaeval sites would be considered to be of regional importance. Post mediaeval sites would be placed in this category if they are particularly well-preserved or unusual, dependent on the distribution of similar sites in the vicinity and if they form an element within a complex archaeological or historical landscape. Post-mediaeval townships, shieling sites and the more substantial relict agricultural, sporting or military remains of the 19<sup>th</sup> and 20<sup>th</sup> centuries would fall into this category; and
- **Local:** This category applies to minor landscape features of the post-mediaeval period, particularly those which are common or poorly preserved. Boundaries and trackways, unless forming elements of a well-preserved relict, archaeological or historical landscape, or bearing historical or cultural associations, would fall into this category.

### Magnitude of Direct Impact

11.5.4 Criteria for assessing the magnitude of a direct impact include:

- **High Impact:** direct impact on sites of National importance is considered to be high, as these sites tend to be those with statutory protection. As such, any potential high impact would be unacceptable and would require a review of the development design in order to avoid or reduce direct impact;



- **Medium Impact:** direct impact on sites of Regional importance is considered to be medium, although each case will require separate consideration. In some cases this impact will be considered acceptable, most likely following a further programme of recording and investigation, while in other cases, the recommendation would be to modify the development design if possible to avoid or reduce direct impact; and
- **Low Impact:** sites of local importance would not generally require modification of the development design to avoid direct impact. Some recording may be advisable as mitigation.

#### Significance of Direct Impact

- 11.5.5 The predicted significance of impact is determined by consideration of a Sites importance in conjunction with the magnitude of impact predicted on it. Table 11.2 summarises the criteria for assessing the significance of a direct impact.

**Table 11.2: Significance of a Direct Impact**

Magnitude of Impact	Sensitivity / Importance		
	National	Regional	Local
High	Major	Major	Moderate
Medium	Major	Moderate	Minor
Low	Moderate	Minor	Negligible

#### **Indirect Impacts**

- 11.5.6 An indirect impact is related to the potential impact of a development on the setting of a cultural heritage site or asset. The significance of an indirect impact depends upon the importance of a cultural heritage site, combined with the magnitude of the impact.

#### Sensitivity/Importance

- 11.5.7 The sensitivity or importance of a site is set out in Table 11.3.

**Table 11.3: Guidelines for the evaluation of sensitivity of a cultural heritage feature to changes to its setting:**

Sensitivity	Guideline Criteria
High	The site has a clearly defined setting that is readily appreciable and is considered vital to its character and the appreciation of this. The site will generally be visible within the landscape.
Medium	The site's character and the appreciation of this relate to some extent to its setting. The site will generally be visible on the ground.
Low	The site's surroundings have little relevance to its character and the appreciation of this. The site is difficult to identify on the ground or its original setting features are difficult to appreciate.
Negligible	The site is imperceptible in the landscape and its character and appreciation do not relate to its surroundings.

Magnitude of Indirect Impact

11.5.8 Criteria to assess the magnitude of visual impact on the setting of a cultural heritage feature is provided below:

- **High Impact:** A fundamental material impact obviously changing the surroundings of an asset, such that its baseline is substantially altered;
- **Medium Impact:** An impact discernibly changing the surroundings of an asset, such that it's baseline setting is partly and materially altered;
- **Low Impact:** A slight, but detectable, impact that does not materially alter the baseline setting of the asset; and
- **Imperceptible:** a very slight and barely distinguishable change from baseline conditions.

Significance of Indirect Impact

11.5.9 Table 11.4 summarises the criteria for assessing the significance of an indirect impact upon the setting of each cultural heritage feature which was determined by considering its visual sensitivity in conjunction with the magnitude of visual impact predicted on it.

**Table 11.4: Guidelines for the evaluation of sensitivity of a cultural heritage feature to changes to its setting:**

Magnitude of Impact	Sensitivity / Importance			
	High	Medium	Low	Negligible
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Imperceptible	Negligible	Negligible	Negligible	Negligible

**Study Area**

Direct Impacts

11.5.10 The study area to locate and define archaeological features with the potential for direct impacts was formed by the site boundary, as shown on Figure 11.1.

Indirect Impacts

11.5.11 Sites with statutory protection were considered within a radius of 15km from the outermost turbines (see Figure 11.2), although intervening topography limited this in practice to sites within Strath Brora or on high ground.

### **Desk Study**

- 11.5.12 A desk based evaluation made use of available datasets and documentary sources, including all previous reported archaeological investigations in the area.

### **Field Survey**

- 11.5.13 A site visit was carried out in August 2014. This identified all previously unrecorded archaeological features within the study area and verified the nature and precise location and extent of features identified during previous fieldwork.

## **11.6 Baseline Conditions**

### **Previous Archaeological Work**

- 11.6.1 Three archaeological evaluations were previously carried out in the study area, as follows:
- EHG3105, EHG1089, EHG808: Gordonbush Wind Farm Environmental Statement (August 2002, April 2004);
  - EHG998: Gordonbush Wind Farm Access Routes (November 2002 – February 2003); and
  - EHG3360: Desk-based assessment and walkover, Beauly – Dounreay 275kV Overhead Transmission Line (2006 – 2008).
- 11.6.2 Areas within the study area that were covered in detail by these previous investigations include:
- the corridor for the access road crossing from the Allt a’Mhuilinn to Breac-achadh and passing through the former settlements of Ristocky and Badan; and
  - the known settlement area up the Ristocky Burn at Balnacraig.
- 11.6.3 The study area was only partially covered by these three investigations, with no survey work carried out west of Balnacraig and north of the access road corridor.

### **Archaeological Background**

#### Sites with Statutory Protection

- 11.6.4 The following section lists Scheduled Monuments, Listed Buildings and Gardens and Designed Landscapes present within a 15km radius of the site boundary (see Figure 11.2).

#### *Scheduled Monuments (SM)*

- 11.6.5 Table 11.5 summarises the SMs that are located within the 15km study area (see Figure 11.2).

**Table 11.5: Scheduled Monuments within 15km**

Site No.	Site Name	Site Type	SM Reference	Grid Reference	Distance to nearest visible Turbine (km)
73	Caisteal na Coille	broch	1843	NC 7957 1337	Not visible
74	Balnacoil Hill	cairn	1769	NC 8104 1157	3.1km
75	Kilbraur	Hut circle and field system	1793	NC 8218 0982	3.5km
76	Ascoile	Earthwork, possible henge	3288	NC 8309 1058	Not visible
77	Carrol	broch	1846	NC 8462 0646	7.0km
78	Duchary Rock	fort	1854	NC 8500 0480	7.6km
79	Killin	Chambered cairn	1794	NC 8566 0784	5.4km
80	Dremergid	Settlement	1853	NC 7382 0653	Not visible
81	Uppat	Homestead	1887	NC 8721 0182	10.9km
82	Achnagarron, hut circles	Hut circle	1827	NC 73428 05147	14.9km
83	Achnagarron, two standing stones	Standing stone	1762	NC 73291 04984	15.1km
84	Learable Hill	Cairns	1803	NC 88884 24208	10.2km

11.6.6 A description of those SM's included within the ZTV, and therefore taken forward for further assessment, is provided below.

- **Balnacoil Hill, Cairn:** Near the top of Balnacoil Hill is a cairn of bare stones 1.5m high, 12.0m in diameter with a tendency to spread downhill on the south side. While no cist is exposed, the size and location indicate that this could be a burial mound or chambered cairn of Neolithic or Bronze Age date. This, as a ritual monument whose setting in the landscape and visual relationship to natural and built features is key to its location, is considered to be of High sensitivity to visual impact. Historic Scotland have previously commented in relation to another development<sup>1</sup> that the key element of the cairn's setting appeared to be to the south west (i.e. away from the Development).
- **Kilbraur Hut Circle and Field System:** A small clearly-defined hut circle, 5.1m in internal diameter, occupying a prominent position approximately 100m south west of Kilbraur broch. The mounds in the area are field clearance heaps of a minor contemporary field system. This as a small domestic structure whose setting in the landscape is not key to its location, is considered to be of Low sensitivity.
- **Carrol Broch:** Classic monumental later Iron Age defensive structure with double skin walling, intramural chambers and galleries. Additional exterior defensive banks and ditches are now obscured by debris from 19th century excavations. This site has been placed in the landscape with consideration of intervisibility with other contemporary

<sup>1</sup> Historic Scotland Consultation Response on the (refused) Balnacoil Wind Farm Planning Application, dated 17<sup>th</sup> October 2013.

defensive sites and with approaches along the strath. It is considered to be of Medium sensitivity to visual impacts.

- Duchary Rock: Iron Age fort on Duchary Rock, defended at its north and south-east ends by a stone wall and elsewhere by steep natural cliffs. There is an outer wall 4m thick on the north-west side protecting an entrance; a second entrance occurs in south-east wall. The interior of the fort is overgrown with peat and no domestic structures can be seen. This site has been placed in the landscape with consideration of intervisibility with other contemporary defensive sites and with approaches along the strath. It is considered to be of Medium sensitivity to visual impacts.
- Killin Chambered Cairn: Alternative name Allt nam Ban, this is a chambered cairn dating to the Neolithic period. Originally oval and measuring 24m east to west by 20m north to south with an entrance passage and tripartite chambers aligned east-west. This, as a ritual monument whose setting in the landscape and visual relationship to natural and built features is key to its location, would be considered to be of High sensitivity to visual impact. It is, however, low-lying in comparison to other such sites, and would have had limited intervisibility. It is now screened by natural woodland and is therefore considered to be of Low sensitivity.
- Uppat Homestead: A wag-type homestead. The walls of the oblong structure are massive, 1m high and faced internally with unusually large stones coursed and on edge, in contrast to the circular annexe whose walls are low and denuded; the latter resembles a hut circle of simple form. The interior of the oblong contains a quantity of large tumbled stone (similar in size to the facing slabs) of which three, if in situ, resemble the stalls of a wag-like structure. This as a small domestic structure whose setting in the landscape is not key to its location, is considered to be of Low sensitivity.
- Achnagarron Hut Circles: Three hut circles and an accompanying field system. The huts are heather-covered and have simple entrances in southeast. The field system is denoted by numerous stone clearance heaps, spaced on average from 7m to 15m apart, interspersed with occasional traces of lynchets and banks; no measureable plots are discernible. This, as a group of domestic structure whose setting in the landscape is not key to their location, is considered to be of Medium sensitivity.
- Achnagarron Standing Stones: Two standing stones, situated about 30m apart, and a spread of small cairns are situated on a heather-covered rise to north of Achnagarron. The standing stones occur at different heights and it is highly unlikely that they represent the remains of a stone circle. The small cairns extend along the spine of the hill on which standing stones are set. This, as a ritual monument whose setting in the landscape and visual relationship to natural and built features is key to its location, is considered to be of High sensitivity to visual impact.
- Learable Hill: The monument consists of 4 groups of stones arranged upright in rows, 2 stone circles, a cross-marked stone, 4 hut circles and the deserted township of Learable. This, as a complex site including more than one type of ritual monument whose setting in the landscape and visual relationship to natural and built features is key to their location, is considered to be of High sensitivity to visual impact.

*Listed Buildings*

11.6.7 Table 11.6 summarises the Listed Buildings that are located within 15km of the outermost turbines of the Development (see Figure 11.2):

**Table 11.6: Listed Buildings within 15km**

Site No.	Site name	Listed Reference	Grid Reference	Distance to nearest visible Turbine (km)
85	Balnacoil Lodge	591 (B)	NC 80594 11335	Not visible
86	Gordonbush Lodge	584 (B)	NC 8457 0975	3.4km
87	Ben Bhragaidh monument	7063 (B)	NC 8144 0091	Not visible
88	Uppat House	7024 (B)	NC 8703 0259	10.1km
89	Uppat, Monument	7026 (B)	NC 8731 0178	10.9km

11.6.8 A description of those Listed Buildings included within the ZTV, and therefore taken forward for further assessment, is provided below.

- Gordonbush Lodge: Dated 1871, a large rambling 2-storey gabled shooting lodge. This building, placed in the landscape with a consideration for attractive scenic vistas south and west across the loch, is considered to be of Medium sensitivity to visual impact.
- Uppat House: Formerly the home of James Loch, Commissioner to Sutherland and Stafford Estates, 1816-1855, a mid-18th century rambling mansion, with additions and alterations throughout the 19th century. The placing of this building in the landscape was for practical rather than visual considerations. In addition, the site is now ruinous and it is therefore considered to be of Low sensitivity to visual impact.
- Uppat Monument: Dated 1858, a memorial in classical style with polished granite Doric columns supported on a rusticated plinth and approached by a short flight of steps to the north. The memorial plaque states that James Loch "in the serene evening of his life, loved this place". The Site is now much overgrown with trees, but before planting had panoramic view of Dunrobin and the Moray Firth. Its placing in the landscape did originally consider its visual prominence and open vistas, predominantly to the south and east. It is now, however, obscured by trees and is therefore considered to be of Low sensitivity to visual impact.

*Designed Landscapes*

11.6.9 There are two Gardens and Designed Landscapes (GDL's) within the vicinity of the Development (see Figure 11.2). These include:

- Dunrobin Castle; and
- Kildonan Lodge.

11.6.10 There is no visibility of the Development from Kildonan Lodge. There is some limited visibility from the eastern extremity of Dunrobin Castle, a minimum of approximately 10km away, but the affected areas are covered by woodland and are unlikely to undergo any notable effect as a result of the Development. The landform of these areas is also orientated away from the Development.

11.6.11 The two GDLs that lie within the study area are therefore discounted from the assessment and are not assessed in any further detail.

#### Archaeological Sites

11.6.12 A total of 72 individual archaeological features were noted within the study area. Of these, 56 were recorded during previous survey work, and 16 were identified during the field survey for the Development.

11.6.13 A gazetteer of all identified Sites is included in Appendix 11.1 and illustrated on Figure 11.1 and Figure 11.2.

### **11.7 Potential Impacts**

#### **Direct Impacts**

11.7.1 Of the 72 archaeological features identified during the desk-based and field surveys, 23 of these features are considered to be of Regional importance. These sites are typically reasonably well-preserved structures such as hut circles, dwelling houses, kiln barns, etc.

11.7.2 The remaining 49 archaeological features are considered to be of Local importance. These sites include boundary ditches and dykes, areas of cultivation and cultivation remains such as field clearance mounds.

11.7.3 However, most of these individual Sites form groups, within defined settlement areas, although belonging to several time periods, namely Bad Leodhais, Balnacraig, Ristocky and Badan. These groups form complex relict historical landscapes which have a greater significance and sensitivity than individual features, and direct impact on individual elements of these would be of higher significance.

11.7.4 Of the 72 individual archaeological features, only four (Sites 53, 55 63 and 71) would be directly impacted by construction of the Development. Table 11.7 outlines the potential direct impacts on these four Sites.

**Table 11.7 Direct Impacts on Archaeological Sites**

Site Number	Site Name	Description	Potential Impact
53	Allt Smeorail	Cairn: Small but prominent cairn comprising angular pink-white quartzite blocks. The cairn has a 2m diameter, grass-grown base of rock and a central rock pile, around 1m in diameter and 0.5m high.	Proximity to borrow pit and probably within area of ground clearance.
55	Allt Smeorail	Drainage grips	Proximity to batching plant and probably within area of ground clearance.
63	Bad Leodhais	One of three small field clearance mounds of probably prehistoric date.	Proximity to Turbine 8 and probably within area of ground clearance.

71	Allt a' Mhuilinn	Scattered group of small conical field clearance mounds of probably prehistoric date.	Proximity to Turbine 14 and probably within area of ground clearance.
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11.7.5 Site 63 and Site 71 are both field clearance mounds and as such are a common feature in association with prehistoric settlement on both sides of the Allt a' Mhuilinn, as well as in the wider Strath Brora area. These sites lie outside the defined settlement areas of Bad Leodhais and Balnacraig, so are not considered to be a component part of these historic landscapes of greater sensitivity. Sites 53 and 55 are associated with sporting activity in the 19<sup>th</sup> and early 20<sup>th</sup> centuries; the drainage grip is land improvement while the small cairn of quartzite blocks is most likely a shooting stance.

11.7.6 Table 11.8 provides an assessment of the potential impact of the Development on these archaeological features, based on criteria given above in Table 11.2.

**Table 11.8: Potential Impacts on Archaeological Features**

Site Number	Site Name	Importance	Magnitude of Impact	Significance
53	Allt Smeorail	Local	Low	Negligible
55	Allt Smeorail	Local	Low	Negligible
63	Bad Leodhais	Local	Low	Negligible
71	Allt a' Mhuilinn	Local	Low	Negligible

11.7.7 If direct impacts on these sites were unavoidable, destruction of these archaeological features of local importance would be permanent and irreversible.

#### **Indirect Impacts**

11.7.8 Indirect, visual impact is considered on the sites and buildings with statutory protection that fall within the Zone of Theoretical Visibility (ZTV) of the Development (see Figure 11.2).

11.7.9 All Scheduled Monuments and Listed Buildings are of National significance and are considered to be Highly sensitive to alterations to their setting.

11.7.10 Wireline and ZTV analysis demonstrates that screening effects from topography would limit the impact to some Sites, particularly those that are located within Strath Brora, or in particularly prominent locations.

11.7.11 Table 11.9 shows the potential indirect visual impact on the setting of Scheduled Monument sites and Listed Buildings as a result of the proposed Development



**Table 11.9: Potential Indirect Visual Impact**

Site. No	Site Name	Status	Indirect, Visual Impact
74	Balnacoil Hill Cairn	SM	All turbines would be viewed from this prehistoric feature within the context of the visible Gordonbush Wind Farm, but at a closer distance. The spread and density of the turbines would be extended (see Figure 11.3.1.1 – 11.3.3).
75	Kilbraur Hut Circle	SM	Located directly across the valley to the north east, the proposed Development would be seen in front of the existing Gordonbush wind turbines. This would extend the spread and density of turbines, and bring turbines closer to the SM (see Figure 11.4.1.1 – 11.4.3). A prominent landscape feature, the Beauly to Doune overhead line, occupies the same narrow arc of view, dominating the foreground.
77	Carrol Broch	SM	Wireline and ZTV analysis confirm that 1 turbine (hub and tip) would be theoretically visible from this prehistoric feature.
78	Duchary Rock Fort	SM	This fort occupies a prominent position to the south west of Loch Brora. The existing Gordonbush Wind Farm is visible from this fort. Wireline and ZTV analysis confirm that all 16 turbines are theoretically visible from some parts of this prehistoric feature.
79	Killin Chambered Cairn	SM	Wireline analysis confirms that one blade tip (very top of tip) would be visible from this feature.
81	Uppat Homestead	SM	Wireframe and ZTV analysis confirm that 13 turbines would be theoretically visible (7 blade tips and 6 hub) from this prehistoric feature. However, the homestead is within mature coniferous planting with restricted views to the north.
82	Achnagarron Hut Circle	SM	Wireframe analysis confirms that only one turbine would be visible from this location, seen within the context of turbines from the original Gordonbush Wind Farm.
83	Achnagarron Standing Stones	SM	Wireframe analysis confirms that only one turbine would be visible from this location, seen within the context of turbines from the original Gordonbush Wind Farm.
84	Learable Hill	SM	Wireframe analysis confirms that only one turbine would be visible from this location, seen within the context of turbines from the original Gordonbush Wind Farm.
86	Gordonbush Lodge	Listed Building (B)	Wireframe analysis confirms that 3 turbines are theoretically visible from this building. This visibility would be reduced by the presence of a belt of mature coniferous planting north of the lodge.
88	Uppat House	Listed Building (B)	Wireframe analysis confirms that 6 turbines are theoretically visible from this 18 <sup>th</sup> century house, largely burned down by a fire in 2007.
89	Uppat, Memorial	Listed Building (B)	Wireframe analysis confirms that 10 turbines are theoretically visible from this 19 <sup>th</sup> century monument. However, the structure is within mature coniferous planting with restricted views to the north.

11.7.12 The severity of impact on the setting of a Scheduled Monument or Listed Building depends not only on proximity and extent of the Development, but also on the perceived original function of the monument and its relationship to its landscape setting. For example, the brochs and forts of the Iron Age (Caistel na Coille (Site 73), Carrol (Site 77) and Duchary Rock (Site 78)) were placed in the landscape both to be prominent and imposing structures and to be in a visual relationship with the settlements they protected, other defensive structures in the vicinity and land routes. Neolithic monuments such as chambered cairns (Killin, Site 79) were placed to have a visual relationship with other monuments and with natural landscape features.

11.7.13 The hut circle at Kilbraur (Site 75), Uppat homestead (Site 81), and Achnagarron hut circles (Site 82) are small domestic structures, more likely to be placed for practical purposes such as proximity to arable land, drainage etc. so while they have a high sensitivity as a Scheduled Monument, this sensitivity is mitigated by the vernacular nature of the site.

11.7.14 Table 11.10 summarises the indirect, visual impacts as a result of the proposed Development.

**Table 11.10: Summary of Indirect, Visual Impact**

Site No.	Site Name	Sensitivity	Magnitude of Impact	Significance
74	Balnacoil Hill Cairn	High	Medium	Major
75	Kilbraur Hut Circle	Low	Medium	Minor
77	Carrol Broch	Medium	Low	Minor
78	Duchary Rock Fort	Medium	Medium	Moderate
79	Killin Chambered Cairn	Low	Imperceptible	Negligible
81	Uppat Homestead	Low	Imperceptible	Negligible
82	Achnagarron Hut Circles	Medium	Imperceptible	Negligible
83	Achnagarron Standing Stones	High	Imperceptible	Negligible
84	Learable Hill	High	Imperceptible	Negligible
86	Gordonbush Lodge	Medium	Imperceptible	Negligible
88	Uppat House	Negligible	Low	Negligible
89	Uppat, Memorial	Low	Imperceptible	Negligible

### Summary of Indirect, visual impacts

11.7.9 Indirect visual impact as a result of the Development has been assessed as follows:

- The impact would be Major for Balnacoil Hill Cairn and Moderate for Duchary Rock Fort, both SMs. The impact is considered to be to acceptable levels in both cases as, although there will be a visual impact, this only takes the form of increasing the density and marginally increasing the visible extent of the existing group of turbines. None of the SMs are associated with significant visual relationships with other sites or natural features which would be interrupted by the Development.
- The impact would be Minor or Negligible for all other SMs.
- The impact would be Negligible for all Listed Buildings.

## 11.8 Mitigation

11.8.1 Further investigation of the two mounds (Site 63 and Site 71) would be advisable, in order to verify their identification as field clearance mounds, and to recover any environmental and datable evidence, prior to construction works. No mitigation is recommended for Site 53 (cairn) or Site 55 (drainage grips) given their importance.

11.8.2 No mitigation is recommended to reduce indirect visual impacts from sites with statutory protection with 15km.

## **11.9 Monitoring**

11.9.1 The potential for sub-surface archaeological features in the vicinity of wind turbines 8 and 14, and their access tracks, is such that a degree of monitoring during ground breaking work is advisable. Any such work should be done to a brief for archaeological work provided by The Highland Council Historic Environment Team (HCHET). No monitoring is recommended for work at the batching plant and borrow pit.

## **11.10 Residual Effects**

11.10.1 Residual direct impacts consist of probable direct damage of two minor features of local importance, mitigated by whatever degree of recording and monitoring is considered appropriate. The significance of this impact is Negligible.

11.10.2 Residual indirect impacts consist of significant impacts at two SMs of national importance. This impact is mitigated by design and function of the site, its setting in the landscape and relation to other landscape features and by the visual impact only adding marginally to the existing visual impact of the operational Gordonbush Wind Farm.

## **11.11 Cumulative Effects**

11.11.1 Cumulative impacts on Scheduled Monument sites and Listed Buildings is considered in relation to the addition of the Development to the following wind farms, that are either operational, under construction or currently at the planning / appeal stage process:

### Operational:

- Gordonbush – 35 turbines x 110m to blade tip
- Kilbraur – 19 turbines x 115m to blade tip
- Kilbraur Extension – 8 turbines x 125m to blade tip
- Rosehall - 19 turbines x 90m to blade tip
- Achany - 19 turbines x 100m to blade tip
- Lairg - 3 turbines x 99.5m to blade tip

### Under Construction:

- Strathy North – 33 turbines x 110m to blade tip

### At Planning Stage:

- Creag Riabhach - 22 turbines, 125m to blade tip
- Sallachy – up to 22 turbines
- Glencassley – 23 turbines
- Caplich – 20 turbines x 132m to blade tip
- Braemore – 18 turbines
- West Garty - 8 turbines x 120m to blade tip

At Appeal

- Strathy South - 39 turbines x 135m to blade tip

**Evaluation of Cumulative Impacts**

11.11.2 The following is an evaluation of the potential visual impacts on the Scheduled Monument Sites and Listed Buildings within the 15km search area of the Development and other cumulative wind farm sites. Only Sites included within the ZTV for the Development are considered (see Tables 11.5 and 11.6). Where available, wireframes for other projects have been used to check visual relationships.

11.11.3 The criteria adopted in respect of indirect impacts (see Table 11.4) is employed to determine the significance of cumulative impacts.

- Site 74 - Balnacoil Hill Cairn: The Development would be visible to the north-west in the foreground of the existing Gordonbush Wind Farm, although mostly screened by Balnacoil Hill. The existing Kilbraur Wind Farm is visible to the south across the valley. While the proposed Development would bring development closer to this Site, it would only extend the horizontal extent slightly to the south. The addition of the Development would result in a Minor cumulative impact.
- Site 75 - Kilbraur Hut Circle: Located directly across the valley from the existing Gordonbush Wind Farm, with the existing Kilbraur Wind Farm visible in the opposite direction. The Development would be seen immediately in front of the existing Gordonbush Wind Farm and would extend the spread and density of the turbines, and bring it closer. The addition of the Development would result in a Moderate cumulative impact.
- Site 77 - Carrol Broch: This Site is screened from the existing Kilbraur Wind Farm by intervening high ground, but the existing Gordonbush Wind Farm is partially visible. Only one turbine of the proposed Development would add to this group before being screened by Carrol Rock. No other wind farm developments would be visible from this Site, so the cumulative impact would be Minor.
- Site 78 - Duchary Rock Fort: This fort, which occupies a prominent position to the south-west of Loch Brora, is screened from the existing Kilbraur Wind Farm by intervening high ground and the prominent Carrol Rock at 680m high. The Development would be visible in front of and to the west of the existing Gordonbush Wind Farm. The proposed West Garty Wind Farm may be visible to the north-east, but as the proposed Development only contributes slightly to the visual impact of the existing Gordonbush Wind Farm, its contribution to the cumulative impact would be Moderate.
- Site 79 - Killin Chambered Cairn: This Site is located on the east side of Loch Brora and has no visual relationship with the existing Gordonbush Wind Farm. Only one blade tip of the Development would be visible, therefore no cumulative impact is predicted.
- Site 81 - Uppat Homestead: This Site is in mature coniferous plantings with limited views and while the existing Gordonbush Wind Farm, the proposed West Garty Wind Farm and the proposed Development are theoretically visible, in effect the visual impact and therefore the cumulative impact of all three would be Negligible.
- Site 82 - Achnagarron Hut Circles: As only one turbine would be partially visible, the addition of the Development would result in a Negligible cumulative impact on this site.

- Site 83 - Achnagarron Standing Stones: As only one turbine blade tip would be visible, the addition of the Development would result in a Negligible cumulative impact on this site.
- Site 84 - Learable Hill: As only one turbine blade tip would be visible, the addition of the Development would result in a Negligible cumulative impact on this site.
- Site 86 - Gordonbush Lodge: This site is located in a low-lying and south-facing position. There are no views to the existing Gordonbush Wind Farm. Some part of the existing Kilbraur wind turbines would be visible to the west and the Development to the north, but are screened by a belt of mature trees. The addition of the Development would therefore result in a Minor cumulative impact on this Listed Building.
- Site 88 - Uppat House: This now ruinous house is of low sensitivity despite its protected status. The existing Gordonbush Wind Farm, the proposed West Garty Wind Farm and the Development may all be visible to some extent, however, the visible part of the Development would be immediately in front of the existing Gordonbush wind turbines, forming a tight group. The addition of the Development would result in a Minor cumulative impact on this Listed Building.
- Site 89 - Uppat Monument: This Listed Building is in mature coniferous plantings with limited views. While the existing Gordonbush Wind Farm, the proposed West Garty Wind Farm and the Development are theoretically visible, in effect the visual impact and therefore the cumulative impact of all three would be Negligible.

11.11.4 Table 11.11 summarises the cumulative impacts on Sites within 15km radius of the Development with other wind farm developments currently in the planning system (as of end of February 2015) and other operational and under construction developments.

**Table 11.11: Cumulative Impacts on sites with statutory protection**

Site No.	Site Name	Cumulative Impact
74	Balnacoil Hill cairn	Minor
75	Kilbraur	Moderate
77	Carrol	Minor
78	Duchary Rock	Moderate
79	Killin	None
81	Uppat homestead	Negligible
82	Achnagarron Hut Circles	Negligible
83	Achnagarron Standing Stones	Negligible
84	Learable Hill	Negligible
86	Gordonbush Lodge	Minor
88	Uppat House	Minor
89	Uppat memorial	Negligible

### Summary of Cumulative Impacts

11.11.5 The Development would add to the cumulative visual impact of all wind farms in the vicinity, on two SMs, Kilbraur Hut Circle and Duchary Rock. As with the indirect visual impact of the Development alone from these sites, this would take the form of an increased spread and density of wind turbines with the operational Gordonbush Wind Farm.

11.11.6 For all other Sites considered in this evaluation, the Development would not result in a cumulative impact.

### **11.12 Conclusions**

- 11.12.1 The Development would have a direct impact on four archaeological features of Local importance and Low sensitivity; the significance of this impact is considered Negligible.
- 11.12.2 There would be an indirect impact at two SMs (Balnacoil Cairn and Duchary Rock Fort). The indirect impact on all other Sites would be Minor or Negligible due principally to screening effects from topography.
- 11.12.3 The Development would add to the cumulative visual impact at two SMs (Kilbraur Hut Circle and Duchary Rock Fort) as a result of the Development in combination with other wind farm developments.

### **11.13 Statement of Significance**

- 11.13.1 This evaluation concludes that there would be no significant direct impacts on the archaeological record or other cultural heritage resources as a result of the Development. A significant indirect impact is predicted at two SM's.

### **11.14 References**

- CFA Archaeology Ltd 2006-2008: Desk-based assessment and walkover survey, Beaully-Dounreay 275kV Overhead Transmission Line: Second Circuit. HER ref.EHG3360
- Farrell, S. August 2002: Report of Archaeological Desktop and Walkover Survey for the proposed Gordonbush Windfarm HER ref.EHG808
- Hooper, J. April 2004: Gordonbush Windfarm, Environmental Statement HER Ref. EHG1089:
- Lindsay, N. Nov 2002-Feb 2003: Walkover Survey, proposed windfarm access route, Gordonbush. HER Ref. EHG998