

10 Cultural Heritage and Archaeology

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10. Cultural Heritage and Archaeology

Executive Summary

This chapter evaluates effects on cultural heritage associated with the construction, operation and decommissioning of the Proposed Development. The chapter describes the results of a desk-based assessment, undertaken by CFA Archaeology Ltd (CFA), and draws on comments provided by Historic Environment Scotland (HES), The Highland Council (THC), and The Highland Council's Historic Environment Team (HET).

The assessment considers the potential direct effects on assets within the Proposed Development site boundary and identifies assets within 1 km of the site boundary, sufficient to inform the character of the archaeological landscape (Inner Study Area). The assessment also considers the indirect effects of the Proposed Development on the settings of heritage assets in the wider landscape (Outer Study Area).

Eighteen heritage assets were identified within the Inner Study Area. Two of these are within the site boundary: an air shaft (1) associated with the tunnel linking Duchally and Cassley Power Stations, assessed as being of **low** sensitivity; and spoil tip (5), associated with the construction of the Cassley Power Station tunnel, assessed as being of **negligible** sensitivity. Sixteen assets were identified within 1 km of the site boundary. These are mainly located on the lower slopes around the shore of Loch Shin and mostly relate to post-medieval settlement. They include a farmstead (6) of mid-18th century or earlier date, two unroofed buildings (15 and 16), four shieling huts (10, 11, 13, and 18), and five sheepfolds (4, 9, 12, 14 and 17), all assessed as being of **low** sensitivity. A modern (20th century) power station, Cassley power station (3) is assessed as being of **low** sensitivity. Two survey posts (2 and 8), possibly connected to the construction of the power station, and an area of peat cutting (7), are assessed to be of **negligible** sensitivity. Full details of the assets are provided in Technical Appendix 10.1.

An assessment of the identified cultural heritage assets, and consideration of the current and past land-use within and in the immediate vicinity of the Inner Study Area, suggests that there is a **low** or **negligible** probability that hitherto undiscovered archaeological remains are present within the site.

The layout of the Proposed Development has been designed to avoid direct effects on the identified heritage assets within the site.

No mitigation is required in relation to the construction, operation or decommissioning of the Proposed Development. Written guidelines will be issued for all construction contractors outlining arrangements for calling upon retained professional support if buried archaeological remains are discovered during construction work.

One Scheduled Monument (of **high** sensitivity) lies within the Outer Study Area. However, there is no predicted visibility of the Proposed Development from the monument, or from its immediate surroundings, and its setting would consequently not be adversely affected.

The Proposed Development would not give rise to any cumulative effects on heritage assets.

10.1 Introduction

10.1.1 This chapter considers the likely significant effects on cultural heritage and archaeology (hereafter 'heritage assets') associated with the construction and operation of the Proposed Development. The chapter details the results of a desk-based assessment undertaken by CFA Archaeology Ltd (CFA), and

draws on comments provided by HES, THC, and THC's Historic Environment Team (HET) in their consultation responses.

- 10.1.2 The assessment was prepared by Juliette Mitchell MA (Hons) MSc PhD a Consultant with CFA, a Chartered Institute for Archaeologists (CIfA) Registered Organisation (RO) based in Musselburgh, East Lothian. Miss Mitchell has over 5 years post graduate experience as an archaeologist. The chapter was reviewed and approved by George Mudie MA (Hons) FSA Scot MCIfA. Mr Mudie is Principal Consultant with CFA and is a Member of the Chartered Institute for Archaeologists (MCIfA). He has 20 years experience of producing Environmental Impact Assessments (EIAs) for renewable energy developments, and for other industrial and commercial developments across the UK.
- 10.1.3 The assessment considers the potential direct effects on heritage assets within the site (Inner Study Area) and the indirect effects of the Proposed Development on the settings of heritage assets in the wider landscape (Outer Study Area).
- 10.1.4 The specific objectives of the chapter are to:
- Describe the cultural heritage baseline.
 - Describe the assessment methodology and significance criteria used in completing the impact assessment.
 - Describe the potential effects, including direct, indirect and cumulative effects.
 - Describe the mitigation and, where appropriate, monitoring measures proposed to address likely significant effects.
 - Assess the residual effects remaining following the implementation of mitigation.
- 10.1.5 This chapter is supported by the following figures and technical appendices:
- Figure 10.1: Cultural Heritage: Inner Study Area.
 - Figure 10.2: Cultural Heritage: Outer Study Area (including Cumulative Developments).
 - Technical Appendix 10.1: Heritage Assets within the Inner Study Area.

10.2 Legislation, Policy and Guidelines

Legislation

- 10.2.1 Legislation relevant to archaeology and cultural heritage that has been considered as part of this assessment includes:
- The Ancient Monuments and Archaeological Areas Act 1979 (as amended by the Historic Environment (Amendment) (Scotland) Act (2011)).
 - Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 (as amended by the Historic Environment (Amendment) (Scotland) Act (2011)).
 - Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017.

Planning Policy

- 10.2.2 Planning policy relevant to archaeology and cultural heritage that has been considered as part of this assessment includes:
- National Planning Framework for Scotland 3 (NPF3) (2014a).
 - Scottish Planning Policy (SPP) (2014b) (paragraphs 135-151).

- Historic Environment Policy for Scotland (HEPS) (2019a).
- Planning Advice Note 2/2011 (PAN2) (2011).
- Highland-wide Local Development Plan (2012a).
- Caithness and Sutherland Local Development Plan (2018).
- Onshore Wind Energy Supplementary Guidance (2016).

Guidance

10.2.3 Guidance relevant to archaeology and cultural heritage that has been considered as part of this assessment includes:

- Scottish Natural Heritage¹ (SNH) & HES (2018) ‘Environmental Impact Assessment Handbook’.
- HES (2019b) ‘Designation Policy and Selection Guidance’.
- THC (2012b) ‘Highland Council, Standards for Archaeological Work’.
- THC (2013) ‘Highland Historic Environment Strategy: Supplementary Planning Guidance’.
- THC (2006) ‘Highland Renewables Energy Strategy and Planning Guidelines’.
- CfA (2014) ‘Standards and Guidance for Historic Environment Desk-Base Assessment’ (updated 2017).
- CfA (2014) ‘Code of Conduct’ (revised 2019).

10.3 Consultation

10.3.1 Consultation was carried out with HES and HET by CFA in February 2020 to agree the approach to the assessment for the Proposed Development. Table 10.1 summarises the responses received.

Table 10.1 – Consultation Responses

Consultee	Consultation Response	Applicant Action
HES CFA Consultation (response dated 27/02/2020)	Confirmed that they were content in principle with the proposed methodology.	Noted. The assessment of impacts on the settings of heritage assets employs a 10 km Outer Study Area (as agreed with HES and HET).
	Confirmed that they do not require a visualisation from Dail Langwell Broch (SM 1852) and that there are no additional cultural heritage assets from which visualisations would be required.	Noted.
HET CFA Consultation (response dated 12/03/2020)	Confirmed that they were content with the proposed methodology and agreed that the proposed study areas were appropriate for the assessment.	Noted. The assessment of impacts on the settings of heritage assets employs a 10 km Outer Study Area (as agreed with HES and HET).

¹ now NatureScot

Consultee	Consultation Response	Applicant Action
	<p>Confirmed that there were no heritage assets that they wish to have particularly included in the assessment for effects on their settings.</p> <p>Agreed that no visualisations from heritage assets were required to be included in the EIA.</p>	Noted.

10.4 Assessment Methods and Significance Criteria

Proposed Study Area

10.4.1 Two study areas were used for the assessment:

- The Inner Study Area (refer to Figure 10.1): the Proposed Development application site boundary (the 'site') and an area extending to 1 km from the site boundary, have been used to identify the potential for direct impacts upon heritage assets (including buried archaeology) within the site arising from the construction of the Proposed Development, and to inform the archaeological character of the landscape immediately surrounding the site. Figure 10.1 shows the site boundary, the Proposed Development layout and the location of heritage assets within 1 km of the site, identified and described in Technical Appendix 10.1.
- The Outer Study Area (refer to Figure 10.2): a 10 km study area, extending from the outermost proposed turbine locations, has been used for the identification of designated cultural heritage assets whose settings may be affected by the Proposed Development (including cumulative effects). The study area extent was agreed by HES and HET as being appropriate and no assets beyond 10 km were identified, either by the consultees, or through preliminary assessment of the wider Zone of Theoretical Visibility (ZTV), as requiring inclusion in the assessment. Figure 10.2 shows the Proposed Development turbines and the designated cultural heritage assets within the Outer Study Area.

10.4.2 The 10 km study area is also used for the assessment of cumulative effects on the settings of heritage assets (refer to Figure 10.2).

Methodology

10.4.3 The principal study methods comprised desk-based (archival and documentary) research, and consultation with HES and HET. The assessment also draws on the results of a walkover reconnaissance field survey of the site carried out in 2011 in connection with the previously proposed 22 turbine development covering a larger study area (GUARD, 2011) and which included the Proposed Development site.

Desk-based Assessment

10.4.4 The following information sources were consulted as part of the desk-based assessment:

- HES Spatial Data Warehouse (HES, 2020a): provided up-to-date data on the locations and extents of Scheduled Monuments, Listed Buildings, Conservation Areas, Inventory status Garden and Designed Landscapes and Inventory status Historic Battlefields;

- THC Historic Environment Record (HER): provided a digital database extract in GIS for all assets within the site and within 1 km of the site boundary;
- The National Record of the Historic Environment (NRHE) database (Canmore) (HES, 2020b): for any information additional to that contained in the HER;
- The cultural heritage chapter (GUARD, 2011) of the 2011 Sallachy Wind Farm Environmental Statement for the previously proposed 22 turbine development (WKN AG, 2011);
- Map Library of the National Library of Scotland: for historic Ordnance Survey maps and other historical map resources;
- Historic Land-Use Assessment Data for Scotland (HLAMap) (HES, 2020c): for information on the historic land use character of the site and the surrounding area; and
- ZTV mapping to identify those designated assets within the Outer Study Area that may have theoretical visibility of the Proposed Development.

Field Survey

10.4.5 No field survey has been carried out to inform the assessment for the Proposed Development. A walk-over field survey was carried out in July 2011 by GUARD Ltd, which covered the extent of the site, for the previously proposed 22 turbine development (WKN AG, 2011). During the 2011 survey, it was noted that the terrain was mainly peat bog with heather, peat hags and marshy areas (WKN AG, 2011). The 2011 survey did not lead to the discovery of any cultural heritage assets within the survey area.

Criteria for the Assessment of Effects

10.4.6 The effects of the Proposed Development on heritage assets have been assessed on the basis of their type (direct effects, impacts on setting and cumulative impacts) and nature (adverse or beneficial). The assessment takes into account the relative value/sensitivity of the heritage asset, and its setting, and the magnitude of the predicted impact.

- Adverse effects are those that detract from or reduce cultural significance or special interest of heritage assets.
- Beneficial effects are those that preserve, enhance or better reveal the cultural significance or special interest of heritage assets.

Assigning Sensitivity to Heritage Assets

10.4.7 Cultural heritage assets are given weight through the designation process. Designation ensures that sites and places are recognised by law through the planning system and other regulatory processes. The level of protection and how a site or place is managed varies depending on the type of designation and its laws and policies (HES, 2020c).

10.4.8 Table 10.2 summarises the relative sensitivity of cultural heritage assets relevant to the Proposed Development (excluding, in this instance, World Heritage Sites and Marine Resources).

Table 10.2: Sensitivity of Heritage Assets

Sensitivity of Asset	Definition / Criteria
High	Assets valued at an international or national level, including: Scheduled Monuments; Category A Listed Buildings; and Non-designated assets that meet the relevant criteria for designation.

Sensitivity of Asset	Definition / Criteria
Medium	Assets valued at a regional level, including: Archaeological sites and areas that have regional value (contributing to the aims of regional research frameworks); and Category B Listed Buildings.
Low	Assets valued at a local level, including: Archaeological sites that have local heritage value; Category C Listed Buildings; and Unlisted historic buildings and townscapes with local (vernacular) characteristics.
Negligible	Assets of little or no intrinsic heritage value, including: Artefact find-spots (where the artefacts are no longer in situ and where their provenance is uncertain); and Poorly preserved examples of particular types of features (e.g. quarries and gravel pits, dilapidated sheepfolds, etc).

Criteria for Assessing the Magnitude of Impact

10.4.9 The magnitude of impact (adverse or beneficial) has been assessed in the categories, high, medium, low, and negligible and described in Table 10.3.

Table 10.3: Magnitude of Impact

Level of Magnitude	Definition	
	Adverse	Beneficial
High	Changes to the fabric or setting of a heritage asset resulting in the complete or near complete loss of the asset's cultural significance. Changes that substantially detract from how a heritage asset is understood, appreciated, and experienced.	Preservation of a heritage asset in situ where it would otherwise be completely or almost completely lost. Changes that appreciably enhance the cultural significance of a heritage asset and how it is understood, appreciated, and experienced.
Medium	Changes to those elements of the fabric or setting of a heritage asset that contribute to its cultural significance such that this quality is appreciably altered. Changes that appreciably detract from how a heritage asset is understood, appreciated, and experienced.	Changes to important elements of a heritage asset's fabric or setting, resulting in its cultural significance being preserved (where this would otherwise be lost) or restored. Changes that improve the way in which the heritage asset is understood, appreciated, and experienced.
Low	Changes to those elements of the fabric or setting of a heritage asset that contribute to its cultural significance such that this quality is slightly altered. Changes that slightly detract from how a heritage asset is understood, appreciated, and experienced.	Changes that result in elements of a heritage asset's fabric or setting detracting from its cultural significance being removed. Changes that result in a slight improvement in the way a heritage asset is understood, appreciated, and experienced.

Level of Magnitude	Definition	
	Adverse	Beneficial
Negligible	Changes to fabric or setting of a heritage asset that leave its cultural significance unchanged and do not affect how it is understood, appreciated, and experienced.	

Assessment of Effects on Setting

10.4.10 HES's guidance document, 'Managing Change in the Historic Environment: Setting' (HES, 2016), notes that:

"Setting can be important to the way in which historic structures or places are understood, appreciated and experienced. It can often be integral to a historic asset's cultural significance."

"Setting often extends beyond the property boundary or 'curtilage' of an individual historic asset into a broader landscape context".

10.4.11 The guidance also advises that:

"If proposed development is likely to affect the setting of a key historic asset, an objective written assessment should be prepared by the applicant to inform the decision-making process. The conclusions should take into account the significance of the asset and its setting and attempt to quantify the extent of any impact. The methodology and level of information should be tailored to the circumstances of each case".

10.4.12 The guidance recommends that there are three stages in assessing the impact of a development on the setting of a historic asset or place:

- Stage 1: identify the historic assets that might be affected by the Proposed Development.
- Stage 2: define and analyse the setting by establishing how the surroundings contribute to the ways in which the historic asset or place is understood, appreciated and experienced.
- Stage 3: evaluate the potential impact of the proposed changes on the setting, and the extent to which any negative impacts can be mitigated.

10.4.13 The turbine blade tip and hub height ZTVs for the Proposed Development have been used to identify those designated heritage assets from which there would be theoretical visibility of one or more of the proposed wind turbines.

Criteria for Assessing the Significance of Effects

10.4.14 The sensitivity of the asset (refer to Table 10.2) and the magnitude of the predicted impact (refer to Table 10.3) have been used to assess the potential significance of the resultant effect. Table 10.4 summarises the criteria for assigning significance of effect.

10.4.15 Where two outcomes are possible through application of the matrix, professional judgement supported by reasoned justification, has been employed to determine the level of significance. Major and moderate effects are considered to be 'significant' in the context of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 ('the EIA Regulations'). Minor and negligible effects are considered to be 'not significant'.

Table 10.4: Significance of Effects Matrix

Magnitude of Impact	Sensitivity of Asset			
	High	Medium	Low	Negligible
High	major	major / moderate	moderate / minor	minor
Medium	major / moderate	moderate	minor	minor / negligible
Low	moderate / minor	minor	minor / negligible	minor / negligible
Negligible	minor	minor / negligible	minor / negligible	negligible

Requirements for Mitigation

- 10.4.16 Planning Advice Note 1/2013: Environmental Impact Assessment (PAN1/2013) describes mitigation as a hierarchy of measures: prevention, reduction, compensatory (offset) measures. Prevention and reduction measures can be achieved through design, whilst compensatory measures can offset impacts that have not been prevented or reduced through design.
- 10.4.17 HEPs 2019 also contains policies (notably HEP2 and HEP4) that are relevant for conservation and preservation of the historic environment.
- HEP2 requires that *“decisions affecting the historic environment should ensure that its understanding and enjoyment as well as its benefits are secured for present and future generations”*.
 - HEP4 requires that *“changes to specific assets and their context should be managed in a way that protects the historic environment. Opportunities for enhancement should be identified where appropriate. If detrimental impact on the historic environment is unavoidable, it should be minimised. Steps should be taken to demonstrate that alternatives have been explored, and mitigation measures should be put in place”*.
- 10.4.18 The emphasis in Planning Advice Note (PAN) 2/2011: Planning and Archaeology (PAN2) (2011) is for the preservation of important remains in situ where practicable and by record where preservation is not possible. The mitigation measures presented below (Section 10.7) therefore consider this planning guidance and provide guidance to be followed where archaeological remains are discovered.

Assessment of Residual Effects

- 10.4.19 The assessment of the significance of residual effects takes into account the mitigation proposed and the effectiveness of that mitigation to avoid, reduce or offset the predicted effects. Where a predicted impact is avoided, for example through micro-siting the Proposed Development to avoid the impact, this would result in no residual effect. Where an asset cannot be avoided but where the proposed mitigation would ensure that the affected asset is subject to an appropriate level of archaeological investigation and recording, resulting in its preservation by record, the significance of residual effect is accordingly reduced. Where an asset (usually one of little or no heritage importance and negligible sensitivity) is lost without any mitigation, the residual effect remains the same as the predicted effect; in all such cases the residual effect of a high magnitude change (Table 10.3) on an asset of negligible sensitivity (Table 10.4) would be no more than minor adverse (i.e. not significant in EIA terms).

Cumulative Assessment

- 10.4.20 The assessment of cumulative effects on heritage assets is based upon consideration of the effects of the Proposed Development on the settings of assets with statutory designations and non-statutory designations within 10 km of the outermost turbines, in addition to the likely effects of other developments that are operational, under construction, those that are consented but not yet built and those that are currently at the application stage (and for which sufficient detail is available upon which to develop and carry out an assessment). Operational and under construction developments are considered to be part of the baseline and are taken as such in the assessment of potential effects on the settings of designated heritage assets (Section 10.6).
- 10.4.21 The schemes included in the cumulative impact assessment are those identified through the LVIA consultations with THC and NatureScot and the reasoning behind their inclusion or exclusion as cumulative scheme are set out in the LVIA chapter (Chapter 6).

Limitations to Assessment

- 10.4.22 The desk-based assessment draws on the records in THC HER. The data was acquired in February 2020 and it is assumed that those records were up to date at the time of acquisition.
- 10.4.23 In 2011, a walkover survey was carried out of the previously proposed 22 wind farm site which included the Proposed Development site. The Proposed Development site boundary has been reduced since the walkover survey took place in 2011 (refer to Figure 10.1). No archaeological sites or features were identified during the course of the 2011 field survey. Taking into consideration the current land use, the high altitude and the steep terrain across much of the site, it was the professional judgement of the EIA team that additional survey was not necessary to inform the baseline assessment for the Proposed Development.

10.5 Baseline Conditions

- 10.5.1 Numbers in brackets in the following text refer to heritage asset numbers depicted on Figure 10.1 and listed in Technical Appendix 10.1.

Heritage Assets within the Site

- 10.5.2 Two features of cultural heritage interest have been identified within the site (refer to Figure 10.1).
- 10.5.3 An air shaft (1) associated with the tunnel linking Duchally and Cassley Power Stations, and still in use, is located just within the western end of the site. The tunnel was constructed in the 1950s as part of the Shin Hydro Scheme. The air shaft is depicted on the 1963 Ordnance Survey map and is visible on modern aerial photographs. The air shaft is associated with the construction and operation of Cassley Power Station (3) and is considered to be of local heritage value and **low** significance.
- 10.5.4 Field survey (Dagg, 2005) recorded the presence of a spoil tip (5) associated with the construction of the Cassley Power Station tunnel. The spoil tip is presumably associated with the construction of a surge shaft (see air shaft record (1) above) on the main tunnel linking Duchally and Cassley Powers Stations. The spoil tip is a minor feature associated with the Cassley Power Station (3) and is considered to be of little or no heritage value and to be of **negligible** significance.
- 10.5.5 No other cultural heritage assets have been recorded within the site or along the proposed access route corridor from the A838.

Heritage Assets within 1 km of the site boundary

- 10.5.6 Sixteen features of cultural heritage interest have been identified within 1 km of the Proposed Development site boundary (refer to Figure 10.1). The majority of these are features that relate to post medieval settlement and land-use concentrated along the lower slopes alongside Loch Shin.

Medieval or Later Settlement and Agrarian Features

- 10.5.7 A farmstead (6), annotated 'Crionachmohor' on the Ordnance Survey 1st edition map (1879), was found by field survey in 2005 (Dagg, 2005) to comprise two cottages, the footings of a third building, a sheep dip, three enclosures and a section of head dyke. An unnamed township is depicted at this location on Roy's 'Military Survey of Scotland' map (1747-55) suggesting that the farmstead is likely to be of at least the mid-18th century date. As the generally well-preserved remains of a former farmstead of 18th century date, it is assessed as being of value at the local level and of **low** sensitivity.
- 10.5.8 Two individual, isolated buildings (15 and 16), depicted on the Ordnance Survey 1st edition map (1879), are minor settlement remains of the historic landscape but may contain archaeological evidence relating to their use and date and are assessed as being of value at the local level and of **low** sensitivity.
- 10.5.9 Three groups of shieling huts (10, 11 and 13) in moorland overlooking Loch Shin. These include two groups of shieling huts (11 and 13) and a single shieling hut (10). The shielings are associated with pre-clearance summer grazing and are a feature of the local historical landscape, as such they are assessed as being of value at the local level and of **low** sensitivity.
- 10.5.10 Five circular sheepfolds (4, 9, 12, 14 and 17) lie along the southern side of Loch Shin. These are depicted on the 1st edition Ordnance Survey map (1879) and are probably associated with post-clearance sheep farming. The sheepfolds are assessed as being of value at the local level and of **low** sensitivity.
- 10.5.11 An area of peat cuttings (7) is likely to be associated with Creanich Mor farmstead (6), with the peat being utilised as a source of fuel during the farm's occupation. The peat cuttings have little or no intrinsic archaeological value and are assessed as being of little or no heritage value and to be of **negligible** sensitivity.

Modern Features

- 10.5.12 Cassley Power Station (3) was constructed in the 1950s and is connected by a 4 km long tunnel to Duchally Power Station in Glen Cassley to the southwest of the site. As part of the Shin Hydro Scheme, the power station is assessed as being of heritage value at the local level and to be of **low** sensitivity.
- 10.5.13 Two possible survey posts (2 and 8), which likely mark permanent survey points used during the construction of the power station, are assessed as being of little intrinsic heritage value and to be of **negligible** sensitivity.

Archaeological Potential of the Proposed Development Site

- 10.5.14 The Proposed Development lies within an area of upland moorland on the southern side of Loch Shin ranging in altitude from 180 m AOD (Above Ordnance Datum) to 367 m AOD at the summit of Cnoc a' Bhaid Bhain, at the east end of the site, and from 95 m AOD to 440 m AOD on the slopes of Maovally, at the west end. The Caithness and Sutherland Landscape Character Assessment (Stanton, 1998) records the area as 'Moorland Slopes and Hills' – a landscape that comprises sloping open moorland with settlement concentrated along the straths and coastlines.
- 10.5.15 Whilst no sites or features of prehistoric to post-medieval date have been recorded within the site, settlement dating from at least the mid-18th century is recorded within 1 km of the site boundary.

Remains of a farmstead and two groups of shieling huts survive on the lower hill slopes overlooking Loch Shin. The distribution of the remains identified suggests that settlement was concentrated along and restricted to the more accessible, better quality farmland, along river valleys and on lower-lying ground close to the loch.

- 10.5.16 Considering the current land use, the relatively high altitude of the site, the steep terrain across the site, and the low number of known archaeological features within the Inner Study Area, the evidence suggests that there is a **low** or **negligible** potential for new archaeological discoveries within the site.

Outer Study Area

- 10.5.17 Within the Outer Study Area there is one Scheduled Monument: Dail Langwell, broch 1675 m north-west of Croich (SM 1852), an asset of high sensitivity, that lies within Glen Cassley and around 8 km to the south of the Proposed Development (refer to Figure 10.2). There are no other designated heritage assets (Scheduled Monuments, Listed Buildings, Conservation Areas, Inventory Gardens and Designed Landscapes or Historic Battlefields) within the Outer Study Area.
- 10.5.18 Beyond the 10 km Outer Study Area, there are no other designated heritage assets that have settings that would be sensitive to adverse effects from the Proposed Development.

10.6 Potential Effects

Construction

- 10.6.1 Ground-breaking activities associated with the construction of the Proposed Development, (such as those required for turbine bases and crane hard standings, access tracks, cable routes, compounds, borrow pits, etc.) have the potential to disturb or destroy features of cultural heritage interest. Other construction activities, such as vehicle movements, materials storage, soil, and overburden storage and landscaping also have the potential to cause permanent and irreversible effects on the cultural heritage.
- 10.6.2 There are no heritage assets within the site (including along the proposed access route) that would be directly affected by construction of the Proposed Development.
- 10.6.3 It has been assessed (paragraphs 10.5.14 to 10.5.16) that there is a **low** or **negligible** potential for hitherto unknown buried archaeological remains to be present within the site. Consequently, it is assessed that there is a **low** or **negligible** likelihood that there would be any adverse direct effects on any hitherto unrecorded archaeological remains within the site arising from construction of the Proposed Development.

Operation

Direct Effects

- 10.6.4 There are no identified assets likely to receive a direct effect arising during operation of the Proposed Development. This is in part due to the approach adopted in formulating the design and layout of the Proposed Development, i.e. avoidance, and because the as-built infrastructure would be used to facilitate maintenance, repair and replacement activities.

Setting Effects

- 10.6.5 The Proposed Development has the potential to result in adverse effects on the settings of designated heritage assets within the Outer Study Area. Potential effects on the settings of heritage assets would however diminish with increasing distance from the site and it is considered that, beyond 10 km, the Proposed Development would not appreciably alter features of the settings of designated heritage assets that contribute to their cultural significance.

- 10.6.6 There is only one designated heritage assets within the Outer Study Area (Dail Langwell, broch 1675 m north-west of Croich (SM 1852)). However, analysis of the blade tip and hub height ZTVs shows that there would be no predicted visibility from the broch (refer to Figure 10.2). Dail Langwell broch is located within Glen Cassley and is 8.4 km from the nearest proposed turbine. It stands on a steep-sided hillock within Glen Cassley, and the surrounding hills constrain views towards the Proposed Development. The ZTV shows that there is no visibility from the broch or the surrounding area so that the broch would not be seen backdropped by the Proposed Development. As such it is assessed that there would be no adverse effect on the setting of the broch.
- 10.6.7 As demonstrated by the assessment of the ZTV, there would be no adverse effect on the settings of any designated heritage assets within the Outer Study Area. Consultation with HES and HET (Section 10.3) identified no other assets within or beyond the Outer Study Area as requiring consideration for potential effects on their setting.

10.7 Mitigation

Construction Phase

- 10.7.1 No mitigation is required in relation to any heritage assets during construction of the Proposed Development beyond the good practice measures outlined below.
- 10.7.2 Written guidelines will be issued for use by all construction contractors. The guidelines, to be contained within the Construction Environmental Management Plan (CEMP), would contain arrangements for calling upon retained professional support in the event that buried archaeological remains of potential archaeological interest (such as building remains, human remains, artefacts, etc.) should be discovered in areas not subject to archaeological monitoring.
- 10.7.3 If archaeologically significant discoveries are made during construction work, and it is not possible to preserve the discovered remains in situ, provision would be made for appropriate mitigation to scope and standards to be agreed with HET on behalf of THC. The provision would include the consequent production of written reports, on the findings, with post-excavation analysis and publication of the results of the works, where appropriate.

Operation Phase

- 10.7.4 No mitigation is required in relation to any heritage assets during the operational phase of the Proposed Development.

Decommissioning Phase

- 10.7.5 No mitigation is required in relation to decommissioning of the Proposed Development.

10.8 Residual Effects

Construction

- 10.8.1 There would be no adverse direct effects on any known heritage assets arising from the construction of the Proposed Development.

Operation

- 10.8.2 There would be no adverse effects (direct effects or effects on setting) on any heritage assets during operation of the Proposed Development.

Decommissioning

- 10.8.3 There would be no adverse effects on any heritage assets arising from decommissioning the Proposed Development.

10.9 Cumulative Effects

- 10.9.1 The Proposed Development could, in combination with other wind farm developments in the area that are operational, under construction, consented but not yet built, or are the subject of valid planning applications, result in adverse cumulative effects on the setting of cultural heritage assets.
- 10.9.2 Operational and under construction developments are taken to be part of the baseline and are considered in the assessment of the setting effects discussed above. Consented but not yet built and proposed developments that are current planning applications are part of the emerging pattern of wind farm development and are considered to be potential cumulative developments.
- 10.9.3 Figure 10.2 shows the Proposed Development, along with the locations of other operational and consented wind farms, and those that are currently proposed (application/appeal stage), together with those cultural heritage assets within 10 km and the Proposed Development ZTV. The development at Creag Rhiabach (under construction) forms part of the baseline for the assessment carried out above.
- 10.9.4 It has been assessed that there is no predicted visibility of the Proposed Development site from any heritage assets within the 10 km Outer Study Area (paragraph 10.6.7). Therefore, it is predicted that there will be no cumulative effects resulting from the construction of the Proposed Development.

10.10 Summary

- 10.10.1 A desk-based assessment has been carried out, drawing on the results of previous field survey carried out across the site, to establish the cultural heritage baseline, within both the Inner Study Area and in the Outer Study Area. The assessment has been informed by consultations carried out with HES and HET.
- 10.10.2 Eighteen heritage assets were identified within the Inner Study Area, details of which are provided in Technical Appendix 10.1. Two of these assets, both associated with the construction of the Cassley Power Station, were identified within the site: an air shaft (1), assessed as being of **low** sensitivity, and a spoil tip (5), assessed as being of **negligible** sensitivity.
- 10.10.3 Sixteen heritage assets were identified within 1 km of the site boundary. These are mainly located on the lower lying slopes along the shore of Loch Shin and most relate to post-medieval settlement. They include a farmstead (6), two unroofed buildings (15 and 16), four groups of shieling huts (10, 11, 13, and 18), and five sheepfolds (4, 9, 12, 14 and 17), all assessed as being of **low** sensitivity. A modern, 20th century, power station, Cassley Power Station (3), is assessed as being of **low** sensitivity, and two possible survey posts (2 and 8), and an area of peat cutting (7), are assessed to be of **negligible** sensitivity.
- 10.10.4 An assessment of the identified cultural heritage baseline, and consideration of the current and past land-use within and in the immediate vicinity of the site, suggests that there is a **low** or **negligible** potential that hitherto undiscovered archaeological remains are present within the site. Table 10.5 and Table 10.6 provide a summary of residual and cumulative effects.
- 10.10.5 The layout of the Proposed Development has been designed to avoid direct effects on the identified heritage assets within the site and no direct effects have been identified.
- 10.10.6 No mitigation is required in relation to potential direct effects from construction, operation or decommissioning of the Proposed Development, beyond the good practice measures outlined above.

Written guidelines will be issued for all construction contractors outlining arrangements for calling upon retained professional support in the event that buried archaeological remains are discovered. If archaeologically significant discoveries are made during construction work, and it is not possible to preserve the discovered remains in situ, provision would be made for appropriate mitigation to scope and standards to be agreed with HET on behalf of THC. The provision would include the consequent production of written reports, on the findings, with post-excavation analysis and publication of the results of the works, where appropriate.

- 10.10.7 No significant adverse effects have been identified as affecting the settings of any designated heritage assets within the Outer Study Area and no significant cumulative effects have been identified.

Table 10.5 – Summary Table – Cultural Heritage

Description of Effect	Significance of Potential Effect		Mitigation Measure	Significance of Residual Effect	
	Significance	Beneficial/ Adverse		Significance	Beneficial/ Adverse
Construction					
No effects on known heritage assets are predicted.	N/A	N/A	N/A	N/A	N/A
No effects on buried archaeological remains are predicted.	N/A	N/A	N/A	N/A	N/A
Operation					
No effects are predicted	N/A	N/A	N/A	N/A	N/A
Decommissioning					
No effects are predicted	N/A	N/A	N/A	N/A	N/A

Table 10.6 – Summary of Cumulative Effects

Receptor	Effect	Cumulative Developments	Significance of Cumulative Effect	
			Significance	Beneficial/ Adverse
No cumulative effects are predicted.	N/A	N/A	N/A	N/A

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