

Volume 2: Chapter 8 – Cultural Heritage

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8. CULTURAL HERITAGE

8.1 Introduction

- 8.1.1 This chapter considers the potential effects of the Proposed Development on cultural heritage interests (e.g. historic environment sites and features, archaeological remains, and built heritage), hereafter referred to as ‘heritage assets’. The chapter details the results of a desk-based assessment of the Site, using information provided by Historic Environment Scotland (HES) and the Angus Council Historic Environment Record (HER).
- 8.1.2 The specific objectives of the study are as follows:
- identify the cultural heritage baseline within the Site: Defined as the Proposed Development plus Limit of Deviation (LOD) of up to 200 m;
 - assess the Site in terms of its archaeological potential;
 - consider the potential construction, operational (impacts on setting), and cumulative effects of the Proposed Development on heritage assets; and
 - identify (where appropriate) any mitigation measures to address likely impacts upon heritage assets.
- 8.1.3 The chapter should be read in conjunction with **Chapter 3: Project Description** for full details of the Proposed Development.
- 8.1.4 The cultural heritage assessment was undertaken by CFA Archaeology Ltd, a Registered Organisation (RO) of the Chartered Institute for Archaeologists (CIfA).
- 8.1.5 The chapter is supported by the following figures in **Volume 3**:
- **Figure 8.1 Cultural Heritage: Inner Study Area;**
 - **Figure 8.2 Cultural Heritage: Outer Study Area;** and
 - **Figures 8.3 to 8.5: Cultural Heritage Visualisations.**
- 8.1.6 The following appendices in **Volume 4** are also referred to throughout the chapter:
- **Appendix 8.1 Cultural Heritage Assets within the Inner Study Area;**
 - **Appendix 8.2 Designated Heritage Assets within the Outer Study Area;**
 - **Appendix 8.3 Designated Heritage Assets within Urban Settings or Townscapes;** and
 - **Appendix 8.4 Balkemback Stone Circle Technical Constraints**
- 8.1.7 The following terminology will be referred to throughout this chapter:
- Site: defined as the area bounded by the Limits of Deviation (LODs) for the proposed overhead line (OHL) and access tracks (**Volume 3, Figure 3.1: Proposed Development**);
 - Proposed Development: the infrastructure, access, and landscaping required for the tie-in diversion of two existing OHLs to the proposed Emmock 400 kV substation, and for a 275 kV tie-back between Emmock substation and the existing Tealing Substation (see **Volume 2, Chapter 3: Project Description**);
 - Horizontal LOD: An area of up to 200 m in which micro-siting of the OHL and access tracks can take place within the terms of the Section 37 Consent (see **Volume 2, Chapter 3: Project Description**);
 - Zone of Theoretical Visibility (ZTV): digital terrain model used to identify the likely extent of predicted visibility of the OHL (for further details see **Volume 2, Chapter 7: Landscape and Visual Amenity**).

8.2 Scope of the Assessment

Effects Assessed in Full

- 8.2.1 The EIA Scoping process, baseline conditions and professional judgement have identified the following effects for detailed assessment:
- direct effects during construction on heritage assets within the Site;

- operational effects on the settings of designated heritage assets within 3 km of the Site;
- cumulative effects during construction on heritage assets within the Site; and
- cumulative effects during operation on the settings of designated heritage assets within 3 km of the Site.

Effects Scoped Out

8.2.2 On the basis of the desk-based work undertaken, the professional judgement of the EIA team drawing on experience from other relevant projects, policy guidance or standards, and feedback received from consultees, the following effects have been 'scoped out' of detailed assessment, as proposed in the EIA Scoping Report (see **Volume 4, Appendix 6.1 Scoping Report**) and as agreed with the Scottish Ministers in the EIA Scoping Opinion (see **Volume 4, Appendix 6.2 Scoping Opinion**).

- Direct construction effects on heritage assets outside the Inner Study Area. No construction works associated with the Proposed Development will be undertaken beyond the Site.
- Indirect effects on upstanding archaeological remains or structures and buried archaeological remains or deposits. The Proposed Development is unlikely to give rise to significant adverse effects through, for example, hydrological changes or from vibration.
- Setting effects on heritage assets resulting from proposed reconductoring works along the existing Westfield - Tealing OHL. The proposed reconductoring works would only involve a slight change in the existing baseline conditions, and there would be no perceptible change to the settings of heritage assets located close to the existing OHL.
- Temporary setting effects on heritage assets resulting from construction activities, such as the presence of pull through/machine positions, erection of scaffolding, and creation of temporary access tracks and working areas. These construction activities would be temporary, resulting in only short-term, **Minor** effects on heritage assets in close proximity to the Proposed Development, and would have no significant adverse permanent effect.
- Effects on the setting of Listed Buildings in urban settings. The settings of these buildings are constrained to, and defined by, their built environment and interrelationship with other historic buildings. The Proposed Development would not have a significant adverse effect on the settings of such designations.

Study Area

8.2.3 Two study areas have been used for the cultural heritage assessment:

- Inner Study Area: the area of the Proposed Development, including its LOD, has been used for the identification of heritage assets that could be directly affected by the Proposed Development, both during the construction and/or reconductoring of OHLs and during works required for Site access. As described in **Paragraph 3.5.4 of Volume 2, Chapter 3: The Proposed Development** the LOD comprises up to 100 m either side of proposed sections of new OHL (including where reconductoring and temporary towers are proposed), where existing OHL alignments are proposed for dismantling, and along the routes of new and to-be-upgraded tracks or paths (both temporary and permanent), (See **Volume 3, Figure 8.1: Cultural Heritage: Inner Study Area**).
- Outer Study Area: an area extending 3 km from the Site boundary has been used in combination with a ZTV to identify designated heritage assets that could have their settings affected by the Proposed Development. At distances beyond 3 km, it is considered that the Proposed Development would not significantly alter the settings of heritage assets however, following consultation, consideration has been given to designated heritage assets beyond 3 km where long-distance views and intervisibility are considered important to an asset's setting and **Volume 3, Figure 8.2: Cultural Heritage Outer Study Area**) shows the assets that are therefore within the scope of the assessment.

8.3 Assessment Methodology

Legislation, Policy and Guidance

8.3.1 This assessment is carried out in accordance with the principles contained within the following legislation, policies, and guidance.

Legislation

8.3.2 Legislation governing the investigation, preservation, and recording of Scheduled Monuments, Listed Buildings, and other areas of special architectural and/or historic interest includes:

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

Policy

8.3.3 Policy documents that direct decision-making affecting the historic environment are as follows. These policies are relevant to a wide range of decision-making processes, including the determination of planning applications, and are applicable at both national and local levels:

- National Planning Framework for Scotland 4 (NPF4) (Scottish Government);
- Angus Local Development Plan - Policy 8 - Built and Cultural Heritage;
- Historic Environment Policy for Scotland (HEPS) (published 2019); and
- Planning Advice Note 2/2011: Planning and Archaeology (PAN2/2011).

Guidance

8.3.4 Industry guidance which sets out best-practice working methods for those investigating, advising on, and categorising the historic environment, includes the following:

- Standards and guidance for Historic Environment Desk-Based Assessment (ClfA, 2014; updated 2020);
- Code of Conduct: professional ethics in archaeology (ClfA, 2014; revised 2021);
- Designation Policy and Selection Guidance (HES, 2019);
- Managing Change in the Historic Environment: Setting (HES, 2016);
- Environmental Impact Assessment Handbook (Scottish Natural Heritage (SNH & HES, 2018); and
- Principles of Cultural Heritage Assessment (IEMA, 2021).

Consultation

8.3.5 In undertaking the assessment, consideration has been given to the consultation responses detailed in **Table 8.1: Summary of Consultation**. A full summary of consultation is provided in **Volume 2, Chapter 6: Scope and Consultation**.

Table 8.1: Summary of Consultation

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
Aberdeenshire Council Archaeology Service (ACAS) 28th April 2025	Formal Scoping Response	Confirmed that the approach, methodology, and sources proposed in the cultural heritage assessment were appropriate.	Noted. The sources and methodology used in the assessment are outlined in the remainder of Section 8.3 below.
		Agreed with the list of issues to be scoped into and out of the assessment.	Noted. The issues scoped out are listed in Paragraph 8.2.2 above.
Historic Environment Scotland 13th May 2025	Formal Scoping Response	Recommended that an appropriate cultural heritage assessment methodology and terminology should be used when assessing direct and indirect impacts (including setting	The methodology and terminology outlined in Appendix 1 of the EIA Handbook (SNH & HES, 2018 ¹) have been taken into account when developing the methodology for this assessment, which is outlined below.

¹ Scottish Natural Heritage (SNH & HES), 2018. *Environmental Impact Assessment Handbook*.

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
		impacts) upon heritage assets resulting from the Proposed Development.	The assessment also follows guidance outlined in HES' 2016 <i>Managing Change in the Historic Environment: Setting</i> .
		Agreed that the 3 km Outer Study Area, when applied alongside a ZTV, is an appropriate method of identifying heritage assets which may receive setting impacts.	Noted. The study areas used for the assessment are set out in Paragraph 8.2.3 , and consideration of setting impacts on assets beyond 3 km has been undertaken with use of a ZTV.
		Proposed the following designated heritage assets for detailed setting impact assessment: - Balkemback Cottages Stone Circle (SM 2868) - Martin's Stone Cross-slab, Balkello (SM 159) - Craig Hill Fort and Broch (SM 3038)	Noted. Detailed setting impact assessments for these three heritage assets is provided in Section 8.7 .
	Formal Scoping Response	Welcomed the selection of visualisations to illustrate possible potential impacts on the above identified heritage assets.	Noted. A list of the visualisations used as part of the cultural heritage assessment is provided in Table 8.7: Cultural Heritage Visualisation Viewpoints .
		Content with the list of issues to be scoped out of the assessment.	Noted. The issues scoped out are listed in Paragraph 8.2.2 above.

Desk Based Research and Data Sources

8.3.6 A detailed desk-based assessment was conducted for the Inner Study Area using a range of documentary, archival, and biographic sources. Up-to-date information was obtained from appropriate sources on the locations and extents of heritage assets with statutory protection and non-statutory designations within the Inner Study Area. Sources include:

- Angus HER: a digital database extract for all heritage assets within the Inner Study Area was obtained in September 2024;
- National Record of the Historic Environment (NHRE) Scotland online database (Canmore²): for any information on heritage assets within the Inner Study Area additional to that contained in the HER;
- HES Spatial Data Warehouse³: provided up-to-date data on the locations and extents of Scheduled Monuments, Listed Buildings, Conservation Areas, Inventory Gardens and Designed Landscapes, and Inventory Historic Battlefields;
- Historic Land-Use Assessment Data for Scotland (HLAmap⁴): for information on the historic land-use character of the Inner Study Area;
- Map Library of the National Library of Scotland: for Ordnance Survey maps (principally first and second editions) and other historic maps resources;

² HES, 2025. *Historic Environment Scotland's National Record of Historic Environment (NRHE) database (Canmore)*, [Online] Available at: <https://pastmap.org.uk/map> [Accessed September 2024].

³ HES, 2025. *Historic Environment Scotland (HES) GIS downloader*, [Online] Available at: <https://portal.historicenvironment.scot/apex/f?p=PORTAL:downloads:::::DATASET:ALL> [Accessed May 2025].

⁴ HES, 2025. *Historic Land-Use Assessment Data for Scotland (HLAmap)*, [Online] Available at <http://hlapmap.org.uk> [Accessed May 2025].

- Aerial photography and satellite imagery (Google Earth, Bing maps, ESRI World Imagery): for the identification of sites and features potentially of historic environment value not recorded elsewhere or shown on historic maps; and
- Relevant bibliographic references cited in the HER/NHRE records: for background and historic information.

Assessing Significance

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

- Direct (physical) impacts: occur where the physical fabric of the asset is removed or damaged, or where it is preserved or conserved, as a direct result of the Proposed Development. Such impacts are most likely to occur during the construction phase and are most likely to be permanent.
- Setting impacts: are generally direct and result from the proposal causing change to/within the setting of a heritage asset such that the asset's cultural significance, or the way in which it is understood, appreciated, and experienced, is altered. Such impacts are generally, but not exclusively, visual, occurring directly as a result of the appearance of the Proposed Development in the surroundings of the asset. However, they may relate to other senses or factors, such as noise, odour or emissions, or historical relationships that do not relate entirely to intervisibility, such as historic patterns of land-use and related historic features. Such impacts may occur at any stage of a development's lifespan and may be permanent, reversible, or temporary.
- Cumulative impacts: can relate to impacts upon the physical fabric or setting of an asset. Cumulative impacts may arise as a result of impact interactions, either between different impacts of the Proposed Development itself, or additive impacts resulting from incremental changes caused by the Proposed Development together with other projects already in the planning system or allocated in a Local Development Plan.
- Adverse effects are those that detract from or reduce the 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.

8.3.8 The assessment of significance of effects has been undertaken using two key criteria: the sensitivity of the heritage asset and the magnitude of the predicted impact, which measures the degree of change to the baseline condition of an asset resulting from the Proposed Development.

Criteria for Assigning Sensitivity to Heritage Assets

8.3.9 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 the laws and policies that apply to it (HES 2019⁵).

8.3.10 **Table 8.2: Sensitivity of Heritage Assets** summarises the relative sensitivity of key heritage asset categories and their settings as defined by HES (2019) 'Designation Policy and Selection Guidance' document. Only those heritage assets relevant to the Proposed Development are considered here (excluding, in this instance, World Heritage Sites and Marine Resources, neither of which are present in the Outer Study Area).

Table 8.2 Sensitivity of Heritage Assets

Sensitivity of Asset	Definition/Criteria
High	Assets valued at an international or national level, including:

⁵ HES, 2019. 'Designation Policy and Selection Guidance', Edinburgh.

Sensitivity of Asset	Definition/Criteria
	- Scheduled Monuments; - Category A Listed Buildings; - Inventory Gardens and Designed Landscapes; - Inventory Historic Battlefields; and - Non-designated assets that meet the relevant criteria for designations.
Medium	Assets valued at a regional level, including: - Archaeological sites and areas that have regional value (contributing to the aims of regional research frameworks⁶); - Category B Listed Buildings; and - Conservation areas.
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 (eg quarried and gravel pits, dilapidated sheepfolds, etc)

8.3.11 The magnitude of impact (adverse or beneficial) will be assessed in the categories high, medium, low, and negligible, as defined in **Table 8.3: Magnitude of Impact** and set out in Appendix 1 of the EIA handbook (SNH & HES 2018⁷).

Table 8.3: Magnitude of Impact

Magnitude of Impact	Definition/Criteria	
	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, such that it may no longer be considered a heritage asset.	Preservation of a heritage asset in situ where it would otherwise be completely or almost completely lost in the do-nothing scenario.
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 substantially altered.	Changes to key elements of a heritage asset's fabric or setting, resulting in its cultural significance being preserved (where this would otherwise be lost) or restored.
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 result in elements of a heritage asset's fabric or setting detracting from its cultural significance being removed.
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.	

⁶ North-East Scotland Regional Research Framework, 2025. [Online] Accessible at: <https://www.aberdeenshire.gov.uk/leisure-sport-and-culture/archaeology/north-east-scotland-regional-research-framework>.

⁷ SNH & HES, 2018. Environmental Impact Assessment Handbook.

Assessment of Effects on Setting

8.3.12 HES's guidance document, 'Managing Change in the Historic Environment: Setting⁸', 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 of 'curtilage' of an individual historic asset into a broader landscape context."

8.3.13 The HES 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".

8.3.14 The HES guidance recommends three stages when assessing the impact of a development on the setting of a heritage asset:

"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; [and]

Stage 3: evaluate the potential impact of the proposed changes on the setting, and the extent to which any negative impacts can be mitigated."

8.3.15 Following these recommendations, the Proposed Development ZTV (**Volume 3, Figure 8.2 Cultural Heritage: Outer Study Area**) has been used to identify those heritage assets from which there could be theoretical visibility of one or more elements of the Proposed Development.

Significance of Effect

8.3.16 The sensitivity of the asset (**Table 8.2: Sensitivity of Heritage Assets**) and the magnitude of the predicted impact (**Table 8.3: Magnitude of Impact**) have been used to inform the assessment of the overall significance of effect (direct physical effect or effect on setting), following the criteria provided in **Table 8.4: Significance of Effect**.

Table 8.4: Significance of Effect

Magnitude of Change	Sensitivity of Asset				
		High	Medium	Low	Negligible
	High	Major	Major/Moderate	Moderate/Minor	Minor/Negligible
	Medium	Major/Moderate	Moderate	Moderate/Minor	Minor/Negligible
	Low	Moderate/Minor	Moderate/Minor	Minor	Negligible
	Negligible	Minor/Negligible	Minor/Negligible	Negligible	Negligible

8.3.17 Major and Moderate effects are considered to be 'significant' in the context of the EIA Regulations; Minor and Negligible effects are considered to be 'not significant'.

8.3.18 Where a significant effect in the context of the EIA Regulations is predicted on the setting of a Scheduled Monument, an assessment will be made as to whether that effect would result in a significant adverse impact on the 'integrity' of its setting as described in NPF4 Policy 7. For the purposes of the assessment, the integrity of the setting of a Scheduled Monument will be considered to be maintained if the setting's contribution to the cultural significance of the Scheduled Monument would not be compromised by the Proposed Development, either alone or cumulatively.

⁸ Historic Environment Scotland, 2016. 'Managing Change in the Historic Environment: Setting'.

Assessment Assumptions and Limitations

- 8.3.19 This assessment has been undertaken using data derived from HES's Spatial Warehouse⁹ and from the Angus HER (see **Section 8.3.6** for details). It is assumed that, at the time of the acquisition of the data, the information provided was accurate and up to date.
- 8.3.20 No walkover field survey has been carried out over the Inner Study Area. The Proposed Development layout (see Volume 3, Figure 8.1: Cultural Heritage: Inner Study Area) crosses an area of improved arable fields and the desk-based assessment indicated that there was no potential for previously unknown heritage assets to survive as upstanding remains within the ploughed fields. The scope of the desk-based assessment has been sufficient to establish the character and cultural significance of the known cultural heritage baseline within the Inner Study Area and to carry out the impact assessment for this area.

Limits of Deviation

- 8.3.21 The Proposed Development, as described in **Volume 2, Chapter 3: Project Description**, includes a horizontal LOD of up to 200 m to allow for micro-siting of towers and access tracks in the event that changes are needed post consent. The assessment presented in this chapter is based on the likely effects on heritage assets associated with the construction and operation of the Proposed Development, based on the proposed tower schedule provided in **Volume 4, Appendix 3.1: Tower Schedule**.
- 8.3.22 The potential for movement in the position of towers away from the alignment described in **Volume 2, Chapter 3: Project Description** will potentially change the specific heritage assets that could be directly affected by construction of the Proposed Development. This is taken into consideration within the assessment, with commentary on the effects from potential changes set out in **Section 8.6: Assessment of Likely Significant Effects – Construction**. Final tower positions and access tracks would be subject to micro-siting within the horizontal LOD on the basis of detailed ground investigation. At this stage, consideration would also be given to detailed local environmental sensitivities, including the proximity to heritage assets. Towers and access tracks which lie within close proximity to heritage assets would be micro-sited as far from heritage assets as possible to avoid or minimise direct effects where practicable.

8.4 Baseline Conditions

Summary of Baseline

- 8.4.1 The heritage assets that have been identified in both the Inner and Outer Study Areas are shown respectively on:
- **Volume 3, Figure 8.1 Inner Study Area: Cultural Heritage Assets;**
 - **Volume 3, Figure 8.2 Outer Study Area: Cultural Heritage Assets;**
 - **Volume 4, Appendix 8.1 Cultural Heritage Assets within the Inner Study Area;**
 - **Volume 4, Appendix 8.2 Designated Heritage Assets within the Outer Study Area;** and
 - **Volume 4, Appendix 8.3 Designated Heritage Assets within Urban Settings or Townscapes**

Inner Study Area

Designated Heritage Assets

- 8.4.2 There is one Scheduled Monument in the Inner Study Area: an embankment associated with the Dundee and Newtyle Railway (SM 6123). The monument comprises part of a railway incline, surviving as an earthwork, cutting, and associated stone-built engine house. As a Scheduled Monument, the embankment is of national heritage value and **high** sensitivity.
- 8.4.3 There are no other designated heritage assets recorded within the Inner Study Area.

⁹ Historic Environment Scotland, 2021. *Historic Environment Record - Scotland* [Online] Available at: https://data.spatialhub.scot/dataset/historic_environment_records-is

Non-Designated Heritage Assets

- 8.4.4 A total of 28 non-designated heritage assets have been identified within the Inner Study Area. Of these, 19 were recorded in the Angus HER, and nine have been identified on historic maps and/or aerial photographs consulted as part of the desk-based assessment.

Prehistoric

- 8.4.5 The HER records a group of stone coffins (NO33NE0017) found at Balkemback Farm during the late 18th century. The coffins, which were likely Bronze Age cist burials, are recorded to have contained both ashes and urns in which human remains were identified. It is not known if the cists themselves have been removed or whether the location of the cists is accurately recorded. There is consequently potential for other buried archaeological remains, of similar Bronze Age date, to survive.
- 8.4.6 The HER records two areas of cropmarks (NO33NE0023 and NO33NE0025) located along the course of the existing OHL as it crossed farmland in Wynton. One of the sites (NO33NE0023) may indicate the presence of a ring-ditch, while the other (NO33NE0025) suggests a rectilinear enclosure measuring 50 m by 20 m, with an entrance to the south. The sites indicate possible prehistoric settlement activity and have been categorised by the Angus HER as being regionally significant.
- 8.4.7 A further two areas of cropmarks (NO33NE0033 and NO33NE0034), also recorded along the course of the existing OHL in Wynton, may indicate the sites of souterrains – sunken galleries typically associated with Iron Age food storage or other settlement-adjacent practices. The site of a third souterrain (NO33NE0019), located along a section of OHL proposed for dismantling, was reportedly excavated in the late 18th century, at which time it was recorded to contain wood ash, fragments of earthen vessels, and a quern (a device for grinding grain).
- 8.4.8 As possible or confirmed features of the prehistoric landscape, the above assets (NO33NE0017, NO33NE0019, NO33NE0023, NO33NE0025, NO33NE0033 and NO33NE0034) are of regional heritage value and **medium** sensitivity.
- 8.4.9 The site of a cup-marked stone (NO33NE0014) has been recorded within the working area of the OHL proposed for dismantling. The stone is incorporated into the wall of Cross House, a private residence, and has 13 cup markings, some of which bear conical forms. The original provenance of the stone is unknown, and the asset is therefore of little residual heritage value and **negligible** sensitivity.

Post-Medieval Rural Settlement and Agriculture

- 8.4.10 The majority of the heritage assets recorded within the Inner Study Area are associated with post-medieval rural settlement and associated agricultural activity.
- 8.4.11 The sites of several cottages, often recorded with associated crofts or sheepfolds, are listed in the HER or have been identified on mid-19th century historic mapping throughout the Inner Study Area (NO33NE0054, NO33NE0055, NO33NE0056, NO33NE0057, NO33NE0086, HA02, HA07). Larger residences, such as farmsteads sited alongside or within associated enclosures, have also been recorded (NO33NE0069, NO33NE0111, NO33NE0113, HA05, HA06, HA08). Individual enclosures (NO33NE0020) and sheepfolds (NO33NE0051) further emphasise the historic pastoral character of much of the Inner Study Area.
- 8.4.12 As minor surviving elements of the post-medieval agricultural landscape, the above assets are of local heritage value and **low** sensitivity.
- 8.4.13 One later addition concerns the Wynton Manure Works (HA01), shown on early 20th-century historic mapping but since demolished and redeveloped, and therefore of **negligible** sensitivity.

Modern/Miscellaneous

- 8.4.14 The remains of the Tealing Airfield (NO43NW0051) overlap with the south-eastern corner of the Inner Study Area, at a point where the existing, proposed, and to-be-dismantled OHLs converge at the existing Tealing Substation. The Tealing Airfield opened in the mid-20th century, operating as an advanced fighter training base and temporary

Prisoner of War (PoW) camp during the latter part of the Second World War. It is of local heritage value and **low** sensitivity.

- 8.4.15 The Angus HER records the spot at which a bronze vessel (NO33NE0016), said to resemble a kettle, was discovered around the mid-18th century. The precise site of recovery is unknown and, as the artefact has since been removed, the findspot has no intrinsic heritage value and is of **negligible** sensitivity.
- 8.4.16 The desk-based assessment identified three mid-19th to 20th-century landscape features shown on historic mapping. These comprise a pond (HA03) in Wynton, absent on maps by the turn of the century, and two disused quarries (HA04 and HA09), likely once associated with the larger Balluderon Quarry. As poorly-preserved (if at all) elements of the modern landscape, the above assets are of little or no intrinsic heritage value, and of **negligible** sensitivity.

Archaeological Potential

- 8.4.17 The Site is an area of improved arable farmland surrounded by further agricultural fields.
- 8.4.18 The Historic Land-Use Assessment map (HLAmap) categorises the Site as largely 18th-century 'Rectilinear Fields and Farms', which it describes as '*Rectilinear field boundaries and associated farm steadings and other buildings [...] typical of agricultural improvements since the 1700s. Recent amalgamation of these fields is common.*'
- 8.4.19 Roy's 'Military Survey of Scotland' map (1747-55) depicts the Site as open moorland. The Ordnance Survey first edition map (1862) depicts the Site as enclosed farmland, which remains the same on the second edition map (1902) and has changed relatively little since the 19th century.
- 8.4.20 Recorded archaeological sites in the Inner Study Area indicate the possibility that prehistoric remains may be encountered within the Site. Evidence for prehistoric settlement and activity in the Outer Study Area likewise highlights this possibility, with prehistoric settlement and funerary remains recorded in close proximity to the Site. These include the Balkemback Cottages Stone Circle (SM 2868), Balkello Standing Stone (SM 6145), and Tealing Souterrains (SM 90299).
- 8.4.21 Given the number of post-medieval sites within both the Inner and Outer Study Areas, as part of the historic and contemporary agricultural character of the landscape, there is likewise potential for post-medieval agricultural remains to be located within the Site.
- 8.4.22 Overall, taking into account the current agricultural land-use alongside evidence for prehistoric and post-medieval activity recorded both within the Site and Outer Study Area, there is a **moderate** potential for hitherto undiscovered buried archaeological remains to survive within the Site.

Outer Study Area

- 8.4.23 There are nine Scheduled Monuments within the Outer Study Area, excluding the aforementioned Dundee and Newtyle Railway embankment (SM 6123) which lies within both the Inner and Outer Study Areas (see **Volume 3, Figure 8.1: Cultural Heritage: Inner Study Area**). These include prehistoric settlement remains (SM 7059 and SM 90299), prehistoric funerary and ritual monuments (SM 2868, SM 6145, and SM 6562), a Pictish cross-slab (SM 159), a 16th-century dovecot (SM 90298), and the industrial remains of a railway (SM 5967). The closest of these Scheduled Monuments to the Site is the Neolithic stone circle at Balkemback Cottages (SM 2868), located approximately 190 m to the east of the Proposed Development.
- 8.4.24 There are 48 Listed Buildings recorded within the Outer Study Area: two Category A listed, 26 Category B listed, and 20 Category C listed. The nearest Listed Buildings are Category C listed Balkemback Farmhouse (LB 17449) and South Balluderon Walled Garden (LB 17457), which are both located approximately 500 m from the Proposed Development. The closest Category A Listed Building is the South Balluderon Farmstead (LB 17458), comprising the steading, stackyard walls, an implement shed, field trough, and walled mill dam. The farmstead is located within the same complex of buildings as South Balluderon Walled Garden, approximately 500 m to the west of the Proposed Development.
- 8.4.25 Overall, the majority of the Listed Buildings within the Outer Study Area are either small rural residences, such as farmhouses and cottages, or functional elements of the landscape, such as bridges and agricultural features. The

settings of these designated assets are generally localised, with long-distance views or visual prominence not representing important aspects of the buildings' settings. Elsewhere, such as to the south of the Site, along the northern edge of Dundee, the settings of Listed Buildings like railway stations, churches, factories, townhouses, and a hospital, are primarily defined by the more enclosed townscape environment.

Future Baseline in the Absence of the Proposed Development

- 8.4.26 If the Proposed Development were not to proceed, there would be no immediate change to the baseline condition of the heritage assets recorded within the Inner Study Area. Current agricultural land-use would most likely continue, and the primary changes to which heritage assets may be subject would be those associated with agricultural activity, erosion, and other natural processes. Changes in farming and land management practices, driven by policy regimes or climate change, may affect the appearance of the wider agricultural landscape of the Outer Study Area.
- 8.4.27 In the longer term, settlement in proximity to Dundee is likely to continue, altering the character of the Outer Study Area. A number of small existing settlements are located nearby one another, with potential future expansion, even if small in scale, likely to increase the concentration of settlement to the east of the Site.

Implications of Climate Change for Baseline Conditions

- 8.4.28 The summary of the relevant climate change projections using the UK Climate Change Projections 2018 (UKCP18) are:
- temperatures are projected to increase, particularly in summer;
 - winter rainfall is projected to increase and summer rainfall is most likely to decrease;
 - heavy rain days (rainfall greater than 25 mm) are projected to increase, particularly in winter;
 - near surface wind speeds are expected to increase in the second half of the 21st century with winter months experiencing more significant effects of winds; however, the increase in wind speeds is projected to be modest; and
 - an increase in frequency of winter storms over the UK.
- 8.4.29 With regards to the heritage assets identified in the Inner and Outer Study Areas, it is not thought that there will be any significant environmental effects resulting from the predicted change in the future climate baseline. The potential effects identified can be summarised as follows:
- Any remains present above or below ground, and which would remain in situ and undisturbed as a result of the Proposed Development, are unlikely to be negatively affected by the projected changes in ambient temperature, increased winter rainfall, or prolonged dry spells in summer.
- 8.4.30 Based on the qualitative assessment above, in combination with professional judgement, there are likely to be no significant effects on cultural heritage assets within the Inner or Outer Study Areas from predicted changes to the future baseline. It is therefore not necessary to assess this issue further within the assessment.

8.5 Mitigation and Monitoring

- 8.5.1 NPF4 (2024) provides a mitigation hierarchy of avoidance, minimisation, restoration, and offsetting. Avoidance and minimisation measures can be achieved through design (eg embedded and applied mitigation), whilst compensatory measures offset effects that have not been avoided or minimised.
- 8.5.2 HEPS requires the recognition, care, and sustainable management of the historic environment, and the emphasis in Planning Advice Note (PAN) 2/2011: Planning and Archaeology (PAN2) is for the preservation of important remains in situ (where practicable) and by record where preservation is not possible.
- 8.5.3 The approach advocated above is inherent in the approach adopted to mitigation.

Embedded Mitigation

- 8.5.4 Topic specific embedded mitigation (mitigation achieved through design) is outlined below.

- CH1: Avoidance of Scheduled Monuments. The Proposed Development, including both OHL and access elements, has been designed to avoid any direct impacts on Scheduled Monuments that lie in close proximity to the Site. Where Scheduled Monuments lie within the Proposed Development horizontal LOD (eg SM 6123), these would be marked out with a suitable stand-off buffer, enforced via protective fencing or other high-visibility markers, to be agreed in advance with HES. The buffer will remain in place during the construction phase.

Applied Mitigation

- 8.5.5 For its new infrastructure projects in recent years, the Applicant has developed and effectively implemented a suite of General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs) which prescribe good environmental management practices. In addition, the Applicant has developed a Consents and Environment Specification which prescribes environmental management principles which Principal Contractors are required to meet under the terms of the Principal Contract. The Consents and Environment Specification includes management plans that the Principal Contractors are required to prepare and implement, including a Construction Environmental Management Plan (CEMP), and subsidiary plans on aspects such as ecological and ornithological management, construction noise management, construction transport management, etc. These measures are referred to as Applied Mitigation and are detailed in **Table 8.5: Applied Mitigation**. In preparing and implementing these plans, Principal Contractors will also be required to incorporate any additional management measures identified through the EIA as necessary to avoid or reduce significant residual effects (ie “additional mitigation”).

Table 8.5: Applied Mitigation

Mitigation Measure	Project Stage/Timing	Responsibility
CH2: Construction works will proceed in accordance with the measures outlined in the CEMP.	Construction	Principal Contractor
CH3: Construction machinery will operate only within defined working areas and access corridors, limiting ground disturbance.	Construction	Principal Contractor
CH4: Upstanding cultural heritage remains will be retained where possible. Where necessary, existing cultural heritage features may be fenced off or otherwise visibly marked out to signal their presence to construction workers.	Construction	Archaeological Contractor and Principal Contractor
CH5: If required, archaeological evaluation (trial trenching) will be undertaken in archaeologically sensitive areas within the LOD, with the scope of the works to be agreed with ACAS and detailed in a Written Scheme of Investigation (WSI).	Pre-Construction	Archaeological Contractor
CH6: Archaeological monitoring (watching briefs) and set piece excavations will be undertaken to record specific heritage assets where these cannot be avoided through design or micro-siting. The scope of the works to be agreed with ACAS and detailed in a WSI.	Pre-Construction	Archaeological Contractor
CH7: Should they be encountered, previously unidentified archaeological remains will be subject to a programme of archaeological works to be developed in consultation with ACAS and detailed in a WSI. It is envisaged that the requirement for a WSI will be secured through a suitably worded planning condition.	Construction	Archaeological Contractor and Principal Contractor

Further Survey Requirements and Monitoring

- 8.5.6 Post-construction monitoring would be carried out for heritage assets that have been marked out for the duration of the construction works. Details on the monitoring measures are set in **Table 8.6. Monitoring**.

Table 8.6: Monitoring

Monitoring Measure	Project Stage/Timing	Responsibility
CH8: Check that marking out of heritage assets within the Proposed Development Site has been effective and that none of the heritage assets have been disturbed during construction works.	Post Construction	Archaeological Contractor
CH9: Check that all markers have been removed from heritage assets following completion of the Proposed Development.	Post Construction	Archaeological Contractor

8.6 Assessment of Likely Significant Effects - Construction

- 8.6.1 The assessment of effects is based on the project description as detailed in **Volume 2, Chapter 3: Project Description**.
- 8.6.2 Direct (physical) impacts on heritage assets are most likely to arise from ground disturbing activities that occur during construction works, which may damage and possibly destroy cultural heritage remains. Direct impacts can also occur as a result of above ground disturbance: for example, as a result of landscaping, vehicle movement over cultural heritage features, or from the storage of construction materials above them. Direct effects on heritage assets are normally adverse, permanent, and irreversible.
- 8.6.3 There is potential for direct impacts on heritage assets in the following circumstances:
- Where heritage assets lie within the proposed LOD around OHL towers proposed for construction or dismantling. No impacts are predicted to heritage assets located within the LOD of the existing OHL; and
 - Where heritage assets lie alongside or in close proximity to the routes of proposed access tracks.

Micrositing (LOD)

- 8.6.4 The Proposed Development would be subject to a horizontal LOD (or micrositing) of up to 200 m in either direction of the proposed OHL alignment, measured from each tower centre, and from the centre line for proposed new permanent and temporary access tracks. Where possible, in the event that such changes are required to avoid direct impacts to heritage assets, the micrositing allowance would allow for the repositioning of design elements of the Proposed Development post consent.

Predicted Construction Effects

- 8.6.5 The layout of the Proposed Development, including the positioning of towers and the siting of other infrastructure, has been designed to avoid direct effects on known cultural heritage assets where practicable (see **Section 8.5**).
- 8.6.6 The majority of assets recorded in the Inner Study Area comprise upstanding buildings (LB17449, NO33NE0054, NO33NE0055, NO33NE0056, NO33NE0057, NO33NE0069, NO33NE0113, NO43NW0051 HA05, HA07), some of which are still occupied, or heritage assets located within the LOD of the existing OHL (NO33NE0025, NO33NE0033, NO33NE0034, NO33NW0057), to which no works are proposed. No construction effects are predicted for these assets.
- 8.6.7 Of the remaining assets, there is potential for construction works to result in direct impacts on the following:
- The historic footprint of an active farmstead (NO33NE0111), an asset of **low** sensitivity, is recorded to partially overlap with the course of an access trackway. The modern farmhouse is still in use, and the wider footprint of the farmstead as it is recorded on the HER is now occupied by improved farmland, with no associated remains visible on modern aerial photographs. It is assessed that works associated with the access trackway have the potential to result in a **negligible** impact, resulting in an effect of **negligible** significance (not significant in EIA terms). No mitigation measures are required.
 - The site of a souterrain (NO33NE0019), an asset of **medium** sensitivity, is recorded to lie along the course of the OHL proposed for dismantling, approximately 150 m from the nearest to-be-removed towers (Towers 687 and 688). The souterrain was excavated in the 18th century, and no above-ground remains are now visible in what is

arable farmland. It is assessed that works (eg movement of machinery) associated with dismantling the OHL have potential to result in a **negligible** impact, resulting in an effect of **negligible** significance (not significant in EIA terms). Applied mitigation (CH5 to CH7) would address any potential impacts on below-ground remains through implementation of a WSI and preservation by record (eg through investigation and recording) of any remains encountered.

- Cropmarks indicating a sub-rectangular enclosure (NO33NE0020), an asset of **low** sensitivity, are recorded to lie within the LOD of the OHL alignment as it runs north-south at the west of the Inner Study Area, less than 100 m from the nearest proposed towers (AT4 and AT5). The cropmarks are not visible on modern aerial photography and the area has been subject to ploughing, with the corresponding integrity of any below-ground remains likely to have suffered as a result. Groundworks (including possible micro-siting) required for the installation of the new OHL have the potential to result in a **low** magnitude impact, resulting in an effect of **minor** significance (not significant in EIA terms). Applied mitigation (CH5 to CH7) would address any potential impacts on below-ground remains through implementation of a WSI and preservation by record (eg through archaeological investigation and recording) of any remains encountered.
- The remains of a disused quarry (HA04), an asset of **negligible** sensitivity, are recorded to lie along the course of the proposed OHL alignment in the north-western part of the Inner Study Area, less than 100 m from the nearest tower (AT2). The overgrown remains of the quarry are visible on modern aerial photographs. It is assessed that groundworks required for the installation of the new OHL have the potential to result in a **negligible** magnitude impact, resulting in an effect of **negligible** significance (not significant in EIA terms). No mitigation measures are required.
- The site of a former building (HA08), an asset of **low** sensitivity, is shown on historic mapping to overlap with the course of an access track. The location of the former building is now occupied by improved farmland, with no associated remains visible on modern aerial photographs. It is assessed that works associated with the access track have the potential to result in a **negligible** impact, resulting in an effect of **negligible** significance (not significant in EIA terms). No mitigation measures are required.

8.6.8 A further asset has been considered for potential construction effects from accidental damage or deviation from the proposed alignment of the OHL:

- The Dundee and Newtyle Railway Embankment (SM 6123): a Scheduled Monument of high sensitivity, overlaps with the western extent of the Inner Study Area. No construction works are proposed within the scheduled area of the embankment, with the closest construction operations (installation of access track and a safe-working 'EPZ' area) being approximately 100 m away. Notwithstanding the above, direct effects from the accidental movement of construction equipment could result in a high magnitude impact, resulting in an effect of **major** significance (significant in EIA terms). Embedded Mitigation (CH1) makes provision for the marking out of this Scheduled Monument for avoidance during the construction phase.

Residual Construction Effects

8.6.9 The adoption of embedded and applied mitigation measures set out above will avoid, minimise, or offset the loss of any archaeological and/or cultural heritage remains that may occur as a result of the construction of the Proposed Development. Taking this proposed mitigation into account, any residual effects arising from the construction of the Proposed Development in relation to heritage assets within the Inner Study Area would be of no more than **negligible** magnitude.

8.7 Assessment of Likely Significant Effects - Operation

Predicted Operational Effects

8.7.1 Having considered the ZTV presented in **Volume 4: Appendix 8.2: Cultural Heritage Assets within Outer Study Area** it is considered that the Proposed Development could result in adverse effects on the settings of cultural heritage assets within the Outer Study Area, although such effects would diminish with increasing distances from the Site. At distances beyond 3 km, it is considered that, in all but one instance, the Proposed Development would not

appreciably alter the settings of heritage assets, or the contributions which setting makes to an asset's cultural significance.

- 8.7.2 The following heritage assets within or beyond the Outer Study Area (specifically in the case of Craig Hill Fort and Broch (SM 3038) which is outwith the 3 km Outer Study Area) were identified and agreed during the scoping process (see **Volume 4: Appendix 6.1: Scoping Report** and **Volume 4 Appendix 6.2: Scoping Opinion** to require consideration for potential setting effects arising from the Proposed Development:
- Balkemback Cottages Stone Circle (SM 2868);
 - Martin's Stone Cross-slab, Balkello (SM 159); and
 - Craig Hill Fort and Broch (SM 3038).
- 8.7.3 These three heritage assets, in addition to others identified for assessment through appraisal of the ZTV, are discussed in detail below. Other designated heritage assets from which there is some degree of predicted visibility of the Proposed Development, but for which there is no specific setting impact concern, are assessed in tabulated form in **Volume 4, Appendix 8.2: Cultural Heritage: Designated Cultural Heritage Assets within the Outer Study Area**.
- 8.7.4 With the exception of the Craig Hill Fort and Broch (SM 3038), no heritage assets located beyond the Outer Study Area have been identified through appraisal of the ZTV to require assessment for potential setting impacts.
- 8.7.5 The assessment of operational effects has been carried out with reference to the layout of the Proposed Development and location of heritage assets shown on **Volume 3, Figure 8.2: Cultural Heritage: Outer Study Area**. The criteria detailed in **Tables 8.2 to 8.4** have been used to assess the nature and magnitude of effects. This assessment is set out in summary form in **Volume 4, Appendix 8.2 Designated Cultural Heritage Assets within the Outer Study Area**.
- 8.7.6 Visualisations (**Volume 3, Figures 8.3 to 8.5**) are provided to inform the assessment of predicted operational effects. These are listed in **Table 8.7: Cultural Heritage Visualisation Viewpoints**. The visualisations have been selected based on a heritage asset's proximity to the Proposed Development in combination with an initial appraisal of the ZTV, and have been agreed with HES.

Table 8.7: Cultural Heritage Visualisation Viewpoints

VP	Asset Name	Asset No.	Asset Status	Approx. Grid Ref
Volume 3, Figure 8.3 (CH1)	Balkemback Cottages, Stone Circle	SM 2868	Scheduled Monument	338181, 738444
Volume 3, Figure 8.4 (CH2)	Martin's Stone, Cross-slab	SM 159	Scheduled Monument	337488, 737576
Volume 3, Figure 8.5 (CH3)	Craig Hill, Fort and Broch	SM 3038	Scheduled Monument	343192, 735847

Balkemback Cottages Stone Circle (SM 2868)

- 8.7.7 This Scheduled Monument comprises the remains of a Neolithic stone circle, located in an area of arable farmland to the northwest of Dunian. The overall diameter of the stone circle measures 14 m and is comprised of four boulders, two of which are upstanding while the other two are recumbent. The upright stones measure between 1 m and 1.2 m in height. As the remains of a prehistoric stone circle, the Scheduled Monument has the potential to provide information on early prehistoric ritual practices, and is of national heritage value and **high** sensitivity.
- 8.7.8 The stone circle is located on a gentle south-facing slope within an arable field. Open aspect views are gained from the stone circle in a southern arc, overlooking lower lying farmland. Rising topography and a coniferous shelterbelt to the north and northwest of the stone circle limit visibility in those directions. The stone circle is not a prominent feature in the landscape, lacking visibility at most distances, and is best appreciated at close quarters. Long-distance views

toward the stone circle consequently contribute little to the experience, appreciation, and understanding of the Scheduled Monument, and it may be that the stone circle was never intended to be visible from the wider landscape.

- 8.7.9 The key setting aspects which most contribute to the cultural significance of Balkemback Stone Circle are its current farmland setting, which allows for quiet consideration of the stone circle, and the views obtained to the south over lower lying land.
- 8.7.10 At its closest, the Proposed Development would be located approximately 190 m to the west of the stone circle. The ZTV (see **Volume 3, Figure 8.2 Cultural Heritage: Outer Study Area**) indicates that the Proposed Development would be visible in views to the west and south from the Scheduled Monument, although this does not take into account screening in the intervening built and natural environment, which is likely to limit visibility. Visualisations from the stone circle (**Volume 3, Figure 8.3a-o: Balkemback Cottages Stone Circle**) confirm that the Proposed Development would be most visible in southern and western views, while natural screening would limit the visual impact of the Proposed Development in views to the north. Energy infrastructure, including wind turbines and OHLs, are already factors in the Scheduled Monument's setting and, while the Proposed Development will make an addition to views to the west and south, it will likewise include dismantling of existing OHLs to the east, improving south-eastern views from the stone circle across farmland.
- 8.7.11 Overall, the impact of the Proposed Development on the Balkemback Cottages Stone Circle is assessed to be of medium magnitude, resulting in an adverse effect of **moderate** significance (significant in EIA terms). This is largely due to the proximity at which the Proposed Development is to be located relative to the Scheduled Monument, representing a visual change which may distract from the current openness provided by the surrounding agricultural landscape.
- 8.7.12 While the effect on the setting of the stone circle is assessed as being significant in EIA terms, it is necessary to consider whether the predicted effect would 'significantly adversely affect the integrity of its setting' (NPF4 Policy 7(h) ii). As noted above, the key setting contributors to the stone circle's cultural significance are views to the south over lower-lying landscape, and the Scheduled Monument's contemporary relationship with the surrounding farmland, both of which would be retained. The Proposed Development would not change the fundamental agricultural use and character of the landscape, and while southern views would be altered, views to the southeast would be improved. The ability to experience, appreciate, and understand the Scheduled Monument would still be possible, and as such the impact of the Proposed Development to the stone circle's setting described above is considered to have no significant effect on the integrity of the setting of the Scheduled Monument.

Martin's Stone Cross-Slab (SM 159)

- 8.7.13 Martin's Stone (SM 159) is a Pictish red sandstone cross, of which only the upright cross-slab remains, measuring 2 m in height by approximately 0.7 m in width. The cross-slab dates to the second half of the first century AD, and retains carvings depicting humanoid and monstrous figures deriving from a local legendary narrative. As the remains of a Pictish monument, Martin's Stone has the potential to provide information on first-century Pictish pictorial forms and associated local legendary and commemorative traditions. As a Scheduled Monument, the cross-slab is of national heritage value and of **high** sensitivity.
- 8.7.14 The cross-slab stands within a small, railed enclosure towards the centre of an arable field, around 150 m to the west of a public road. The existing Westfield to Tealing 275kV OHL passes to the south of the Scheduled Monument, running in a straight line from the west to the east, at its closest around 300 m away from the cross-slab. Open views of the wider agricultural landscape can be gained from the Scheduled Monument in all directions, with north-western views (away from the road) toward the higher ground of Balkello Hill being especially striking. The cross-slab is not itself a prominent feature in the surrounding landscape, being largely imperceptible from the road, and is best appreciated at close distance.
- 8.7.15 The key setting aspect which most contributes to the cultural significance of Martin's Stone comprises the open arable landscape in which it is located, particularly insofar as this environment allows for contemplative appreciation of the stone's decorative details. Open views, particularly of the higher ground at the north, prompt awareness of the Martin's stone's relatively minimal landscape presence.

8.7.16 The Proposed Development would be located to the north and east, at its closest lying just under 1 km away. The ZTV (see **Volume 3, Figure 8.2 Cultural Heritage: Outer Study Area**) indicates that the Proposed Development would be visible in views to the northeast from the Scheduled Monument, although this does not take into account screening in the intervening natural environment, such as trees along the South Balluderon road which is likely to limit visibility. A visualisation from the cross-slab (**Volume 3, Figure 8.4a-c: Martin's Stone**) confirms that the Proposed Development would be largely screened by the intervening natural environment, representing only a minor addition to the existing energy infrastructure already present in eastern views, and part of the Scheduled Monument's setting. The Proposed Development would stand at a greater remove from the cross-slab than the existing OHLs, preserving a sense of openness in eastern views. Western views, overlooking the decorative face of the stone and looking toward higher ground to the northwest, would be unaffected.

8.7.17 Overall, the impact of the Proposed Development on the Martin's Stone Cross-Slab is assessed to be of low magnitude, resulting in an adverse effect of **minor** significance (not significant in EIA terms).

Craig Hill Fort and Broch (SM 3038)

8.7.18 This Scheduled Monument comprises the remains of a broch (a stone-built tower uniquely associated with the Scottish Iron Age) and fort represented by a single upstanding rampart. These elements survive partially as a series of grassed-over stone structures and earthworks, and partially as cropmarks visible on aerial photographs. The Scheduled Monument is situated on Craig Hill, immediately east of the Fithie Burn. As a complex example of a later prehistoric defended settlement, the Scheduled Monument has the potential to provide information on the nature and development of Iron Age fortified residences. As a Scheduled Monument, the fort and broch are of national heritage value and **high** sensitivity.

8.7.19 The broch and fort occupy a strategic location on the summit of Craig Hill, overlooking the Fithie Burn and offering views in all directions. Although a relatively low hill (approximately 120 m above ordnance datum), the broch and fort would have been a prominent defensible point within the prehistoric landscape, with the presence of the Fithie Burn to the west providing further natural protection. The Scheduled Monument's location continues to provide a good vantage point from which to view the surrounding agricultural landscape.

8.7.20 The key setting aspect which most contributes to the cultural significance of the fort and broch is its topographical location, the natural defensibility of which would have been important in its selection. Although the landscape overlooked by the Scheduled Monument has changed, open views continue to highlight the commanding presence of the prehistoric site.

8.7.21 The Proposed Development would be located approximately 3.5 km to the northwest. The ZTV (see **Volume 3, Figure 8.2 Cultural Heritage: Outer Study Area**) indicates that the Proposed Development would be visible from the western half of the Scheduled Monument, although this does not take into account screening in the intervening built and natural environment, which is likely to limit visibility. A visualisation from the broch and fort (**Volume 3, Figure 8.5: Craig Hill, Fort and Broch**) confirms that, over such distances, the Proposed Development would introduce a barely discernible change to north-western views from the fort and broch. Energy infrastructure, including OHLs, is already present in north-western views from the Scheduled Monument. The sections of existing OHL which run closest to the Scheduled Monument are those proposed for dismantling, such that, whilst new OHLs will be installed, north-western views will be largely unchanged. Where it is visible, the new OHL will be set back at a greater distance from the Scheduled Monument than the existing OHL proposed for removal.

8.7.22 Overall, the impact of the Proposed Development on the Craig Fort and Broch is assessed to be of negligible magnitude, resulting in an adverse effect of **negligible** significance (not significant in EIA terms).

South Balluderon Farm Steading (LB 17458)

8.7.23 The South Balluderon farmstead comprises a series of 19th-century agricultural ranges arranged in a quadrangular plan with cattle courts, a threshing barn, and byre, which have remained largely unaltered since the 19th century. The steading represents a relatively rare example of a surviving 19th to early 20th-century farmstead, with potential to provide information on agricultural practices prior to the advent of modern farming. The South Balluderon farmstead

is a Category A Listed Building and is of national heritage value and high sensitivity due to the surviving on-site machinery and other equipment relating to improvement-era farming.

- 8.7.24 The steading is located immediately east of a public road, and is flanked on its east side by an associated Category B Listed bothy and cottage (LB 17456). The Category C Listed South Balluderon Farmhouse (LB 17457) lies to the immediate south. These surrounding buildings provide a sheltered, localised farmyard setting within a predominantly arable landscape. The steading is open to the south, from which vantage the clearest views of surrounding farmland are attained. These views are otherwise limited by the immediate surrounding buildings and mature trees/vegetation which delineate the farmstead.
- 8.7.25 The key setting aspects which most contribute to the cultural significance of the steading include the localised farmyard fabric, such as the yard within which associated structures and historic equipment are located, and the wider historic association with the agricultural landscape in which the steading stands.
- 8.7.26 The Proposed Development would be located approximately 500 m to the east. The ZTV (see **Volume 3, Figure 8.2 Cultural Heritage: Outer Study Area**) indicates that the Proposed Development would be visible in eastern views, although this does not take into account screening in the intervening natural environment, such as the enclosing woodland, which is likely to limit visibility. Energy infrastructure, including wind turbines and OHLs, is already visible in this direction. Whilst additional OHLs would be added as part of the Proposed Development, sections of the existing OHL would be dismantled, such that eastern views would remain largely unchanged. The Proposed Development would not alter the essential character of the landscape as agricultural, nor obstruct the experience, appreciation, and understanding of the extant equipment and machinery which best articulate the cultural significance of the farmstead.
- 8.7.27 Overall, the impact of the Proposed Development on the South Balluderon Farmstead is assessed to be of negligible magnitude, resulting in an adverse effect of **negligible** significance (not significant in EIA terms).

Additional Mitigation

- 8.7.28 No additional mitigation is possible to offset the impact of the Proposed Development on the settings of these assets.

Residual Operational Effects

- 8.7.29 During its operational lifetime, the residual effect of the Proposed Development on the settings of the heritage assets in the Outer Study Area would be the same as the predicted impacts.
- 8.7.30 The assessment has found one operational impact of **moderate** significance (significant in EIA terms) to the setting of the Balkemback Cottages Stone Circle (SM 2868). The remainder of operational impacts upon the settings of heritage assets in the Outer Study Area would be of no more than **minor** significance (not significant in EIA terms).
- 8.7.31 It has been assessed that the setting of the Balkemback Cottages Stone Circle (SM 2868) would be changed to some degree by the introduction of the Proposed Development. The key contributors to the Scheduled Monument's setting would, however, be retained, and the experience, appreciation, and understanding of the Scheduled Monument's cultural significance, as this is conveyed through setting, would remain possible. As such the impact of the Proposed Development to the stone circle's setting described above is considered to have no significant effect on the integrity of the setting of the Scheduled Monument.
- 8.7.32 No further mitigation is possible to offset the impact on this asset's setting, and the residual effect will remain one of moderate adverse significance (significant in EIA terms). Technical constraints relating to the Proposed Development near to Balkemback Cottages Stone Circle (SM 2868) are presented in **Volume 4, Appendix 8.4: Balkemback Stone Circle Technical Constraints**.

8.8 Assessment of Likely Significant Effects – Decommissioning

- 8.8.1 There are no heritage assets within the Site anticipated to receive an adverse direct effect during decommissioning of the Proposed Development, as decommissioning works would use the as-built tracks and infrastructure to facilitate decommissioning.

8.8.2 Decommissioning of the Proposed Development would have a beneficial effect in that it would remove operational effects (eg visibility of towers) from the setting of heritage assets in the Outer Study Area.

8.8.3 Further information on decommissioning is available in **Volume 2, Chapter 3: Project Description**.

8.9 Assessment of Residual Cumulative Effects

Introduction

8.9.1 The assessment of cumulative effects on heritage assets is based upon consideration of the effects of the Proposed Development on the settings of designated heritage assets within the Outer Study Area (which includes the Inner Study Area), in addition to the likely effects of cumulative developments.

8.9.2 The assessment takes into account the relative scale of the identified developments, their distance from the affected assets, and the potential degree of visibility of the various developments from the heritage assets under consideration. The relevant cumulative developments, as agreed with consultees, for consideration in the EIA are listed in **Volume 4 Appendix 5.1: Cumulative Developments**. Professional judgment has been applied to determine those most likely to have adverse impacts on cultural heritage interests.

8.9.3 **Table 8.8: Cumulative Assessment: Project Related SSEN Transmission Developments** provides a cumulative assessment of the Proposed Development with the Project Related SSEN Transmission Developments defined in **Volume 2, Chapter 1: Introduction and Background**.

8.9.4 **Table 8.9: Cumulative Assessment: Other Projects** provides a cumulative assessment of the Proposed Development with other reasonably foreseeable SSEN Transmission and third-party developments.

Table 8.8: Cumulative Assessment: Project Related SSEN Transmission Developments

Project	Cumulative Construction Effects	Cumulative Operational Effects
Kintore to Tealing 400 kV OHL	The Proposed Development is not predicted to result in significant direct construction impacts upon any of the heritage assets recorded within the Inner Study Area. Given the limited land take required for the Kintore to Tealing 400 kV OHL, it is predicted that there would likewise be limited potential for direct impacts within the Site. Following the implementation of Applied Mitigation measures (CH5 to CH7), any archaeological remains within the Inner Study Area will have been investigated and, where necessary, excavated and recorded in detail, ensuring preservation by record. Overall, no significant cumulative construction effects are expected to arise from the Proposed Development in combination with the Kintore to Tealing 400 kV OHL.	One operational impact of moderate significance (significant in EIA terms) has been predicted to the setting of the Balkemback Cottages Stone Circle (SM 2868) as a result of the Proposed Development. A separate EIAR prepared for the proposed Kintore to Tealing 400 kV OHL concludes that the project has similar potential to result in a significant adverse impact on the setting of the Balkemback Cottage Stone Circle (SM 2868), due to the introduction of proposed towers in close proximity to the Scheduled Monument. The Kintore to Tealing 400 kV would run parallel with the Proposed Development, with the two being visible in combination where they converge at the Emmock 400 kV Substation. In views from the Balkemback Cottages Stone Circle (SM 2868), the Proposed Development would be visible beyond the Kintore to Tealing 400 kV OHL, at a greater remove from the monument. Overall, it is assessed that the cumulative effect of the Proposed Development in combination with the Kintore to Tealing 400 kV OHL to the Balkemback Cottages Stone Circle (SM 2868) would be of medium magnitude and moderate significance (significant in EIA terms). The proximity of the Kintore to Tealing 400 kV OHL would exercise the greater part of the cumulative impact.
Alyth to Tealing 275 kV OHL upgrade (to 400kV)	The Proposed Development is not predicted to result in significant direct construction impacts upon any of the heritage assets recorded within the Inner Study Area. Although limited land take is required for the Alyth to Tealing 275 kV OHL upgrade, there is potential for an impact upon an	An operational impact of moderate significance (significant in EIA terms) has been predicted to the setting of the Balkemback Cottages Stone Circle (SM 2868) as a result of the Proposed Development. It is considered that the Alyth to Tealing 275 kV OHL upgrade also has potential to result in an adverse impact on the setting of the Balkemback Stone Circle (SM 2868).

Project	Cumulative Construction Effects	Cumulative Operational Effects
	enclosure (N033NE0020). Groundworks could potentially expose and disturb any buried remains that may survive. Following the implementation of Applied Mitigation measures (CH5 to CH7), any archaeological remains within the Inner Study Area will have been investigated and, where necessary, excavated and recorded in detail, ensuring preservation by record. Overall, no significant cumulative construction effects are expected to arise from the Proposed Development in combination with the Alyth to Tealing 275 kV OHL upgrade	The potential adverse impact of the Alyth to Tealing 275 kV OHL on the setting of the Scheduled Monument, however, is not considered likely to be significant due to the limited scope of works required for the upgrade. The result would be a correspondingly minor change to the existing energy infrastructure which already forms part of the stone circle's setting. Overall, no significant cumulative operational effects are expected to arise from the Proposed Development in combination with the Alyth to Tealing 275 kV OHL upgrade.
Tealing to Westfield 275 kV OHL upgrade (to 400kV)	The Proposed Development is not predicted to result in significant direct construction impacts upon any of the heritage assets recorded within the Inner Study Area. Given the limited land take required for the Tealing to Westfield 275 kV OHL upgrade, it is predicted that there would likewise be limited potential for direct impacts within the Site. Following the implementation of Applied Mitigation measures (CH5 to CH7), any archaeological remains within the Inner Study Area will have been investigated and, where necessary, excavated and recorded in detail, ensuring preservation by record. Overall, no significant cumulative construction effects are expected to arise from the Proposed Development in combination with the Tealing to Westfield 275 kV OHL upgrade.	One operational impact of moderate significance (significant in EIA terms) has been predicted to the setting of the Balkemback Cottages Stone Circle (SM 2868) as a result of the Proposed Development. The Tealing to Westfield 275 kV OHL upgrade is unlikely to have an adverse impact on the settings of heritage assets within the Outer Study Area. The upgrade involves the construction of two new steel lattice towers to divert the existing OHL, and so represents a relatively minor change to existing energy infrastructure. Overall, no significant cumulative operational effects are expected to arise from the Proposed Development in combination with the Tealing to Westfield 275 kV OHL upgrade.
Emmock 400 kV Substation	The Proposed Development is not predicted to result in significant direct construction impacts upon any of the heritage assets recorded within the Inner Study Area. A separate EIAR prepared for the proposed Emmock 400 kV Substation (Angus Council Planning Reference 24/00699/FULN) identified the potential for a significant effect on the Balkemback Cottage Stone Coffins (N033NE17), the exact location of which is unknown. Following the implementation of Applied Mitigation measures (CH5 to CH7), any archaeological remains within the Inner Study Area will have been investigated and, where necessary, excavated and recorded in detail, ensuring preservation by record. Overall, no significant cumulative construction effect is expected to arise from Proposed Development in combination with the Emmock 400 kV Substation.	One operational impact of moderate significance (significant in EIA terms) has been predicted to the setting of the Balkemback Cottages Stone Circle (SM 2868) as a result of the Proposed Development. A separate EIAR prepared for the proposed Emmock 400 kV Substation concludes that the substation is unlikely to give rise to any significant impacts on the settings of heritage assets in the Outer Study Area. There is limited predicted visibility of the proposed Emmock 400 kV Substation from any of the heritage assets within the Outer Study Area. Screening provided by existing woodland, and landscaping/tree-planting proposed as part of the design for the Emmock 400 kV Substation, would largely, if not completely, screen views of the substation infrastructure from the heritage assets. Overall, no significant cumulative operational effects are expected to arise from the Proposed Development in combination with the Emmock 400 kV Substation.
Summary		

Project	Cumulative Construction Effects	Cumulative Operational Effects
	The cumulative construction effects arising from the Proposed Development in combination with other Project-Related SSEN Transmission Developments are not predicted to be significant.	The cumulative operational effects arising from the Proposed Development in combination with Project-Related SSEN Transmission Developments are predicted to result in an operational impact of moderate significance (significant in EIA terms) to the setting of the Balkemback Cottages Stone Circle (SM 2868).

Table 8.9 Cumulative Assessment: Other Projects

Project	Cumulative Construction Effects	Cumulative Operational Effects
Fithie Energy Park	The Proposed Development is not predicted to result in significant direct construction impacts upon any of the heritage assets recorded within the Inner Study Area. The proposed Fithie Energy Park would be concentrated in the southeast of the Proposed Development Site. Recorded heritage assets in this area comprise upstanding remains associated with the Tealing Airfield (NO43NW0051), which are unlikely to be affected by construction of the Energy Park. Overall, no significant cumulative construction effects are expected to arise from the Proposed Development in combination with the Fithie Energy Park.	One operational impact of moderate significance (significant in EIA terms) has been predicted to the setting of the Balkemback Cottages Stone Circle (SM 2868) as a result of the Proposed Development. With the information available at present, the Fithie Energy Park is unlikely to have an adverse impact on the settings of heritage assets within the Outer Study Area. Screening provided by existing woodland/shelterbelts would likely partially screen views of the energy park from the designated heritage assets recorded in the Outer Study Area. It is assumed that further screening of the Fithie Energy Park would be provided through design mitigation, including landscaping proposals (such as tree planting), which would further reduce visibility of the energy park from designated heritage assets that lie in close proximity. Overall, no significant cumulative operational effects are expected to arise from Proposed Development in combination with the Fithie Energy Park.
Balnuith BESS	As above. An archaeological walkover survey and Desk Based Assessment has been undertaken for the Balnuith BESS and submitted with the applicant's request for a screening direction. This report concludes that the only impacts upon archaeology would be those associated with previously unknown and buried sites.	One operational impact of moderate significance (significant in EIA terms) has been predicted to the setting of the Balkemback Cottages Stone Circle (SM 2868) as a result of the Proposed Development. The Balnuith BESS is unlikely to have an adverse impact on the settings of heritage assets within the Outer Study Area. Given the relatively small scale of the proposed battery storage compound compared to the wider existing transmission infrastructure, it would be a minor additional feature in the wider landscape surrounding the designated heritage assets. Existing woodland and/or shelterbelts are likely to largely screen views of the development from many of the heritage assets within the Outer Study Area. Overall, no significant cumulative operational effects are expected to arise from Proposed Development in combination with the Balnuith BESS.
Myreton BESS	No information on the archaeological potential for the site of the Myreton BESS has been made publicly available by the applicant for this project other than to state in the consultation information that <i>"No built and cultural heritage features have been identified within the site or close to it. Any potential for effects on built and cultural heritage will be fully assessed in a Heritage Assessment."</i> Therefore, with the information available at present, it is concluded that there is no significant cumulative construction effect.	One operational impact of moderate significance (significant in EIA terms) has been predicted to the setting of the Balkemback Cottages Stone Circle (SM 2868) as a result of the Proposed Development. With the information available at present, the Myreton BESS is unlikely to have an adverse impact on the setting of heritage assets within the Outer Study Area. It is likely that the BESS would be largely screened from many of the heritage assets within the Outer Study Area by the existing Tealing Substation. Where potential visibility occurs, the BESS would be seen together with the existing substation, resulting in only a slight change in these views. Due to the distance between the Myreton BESS and the Balkemback Cottages Stone Circle, in addition to intervening built and natural screening, there would be

Project	Cumulative Construction Effects	Cumulative Operational Effects
		only a slight change in views to and from the Scheduled Monument. Overall, no significant cumulative operational effects are expected to arise from Proposed Development in combination with the Myreton BESS.
17 Acres BESS	The Proposed Development is not predicted to result in significant direct construction impacts upon any of the heritage assets recorded within the Inner Study Area. The redline boundary for the proposed 17 Acres BESS overlaps slightly with the southeastern edge of the Inner Study Area. Recorded heritage assets in this area comprise remains associated with the Tealing Airfield (NO43NW0051) and a Screening Report submitted for the proposed 17 Acres BESS states that direct effects on these remains <i>"are expected to be of low significance and therefore any direct effects will be minor"</i>. None of the heritage assets identified within this area of the Inner Study Area are predicted to be directly affected by construction of the Proposed Development. Accordingly, no significant cumulative construction effects are expected to arise from the Proposed Development in combination with the 17 Acre BESS.	One operational impact of moderate significance (significant in EIA terms) has been predicted to the setting of the Balkemback Cottages Stone Circle (SM 2868) as a result of the Proposed Development. The Screening Report for the proposed 17 Acres BESS concludes that no significant effects on the setting of heritage assets are anticipated from the proposed BESS. Given the relatively small scale of the proposed battery storage compound compared to the wider existing transmission infrastructure, it would be a minor additional feature in the wider landscape surrounding the designated heritage assets. Where potential visibility occurs, the BESS would be seen together with the existing substation, resulting in only a slight change in these views. Due to the distance between the 17 Acres BESS and the Balkemback Cottages Stone Circle, in addition to intervening built and natural screening, there would be only a slight change in views to and from the Scheduled Monument. Overall, no significant cumulative operational effects are expected to arise from Proposed Development in combination with the 17 Acre BESS.
Pitpointie Solar Proposal Application	The Proposed Development is not predicted to result in significant direct construction impacts upon any of the heritage assets recorded within the Inner Study Area. The redline boundary for the proposed Pitpointie Solar Farm overlaps slightly with the western edge of the Inner Study Area, across what is, at most, an approximate 30 m area. There are no heritage assets recorded within this area and thus no possibility for cumulative construction impacts. Accordingly, no significant cumulative construction effects are expected to arise from the Proposed Development in combination with the Pitpointie Solar Farm.	One operational impact of moderate significance (significant in EIA terms) has been predicted to the setting of the Balkemback Cottages Stone Circle (SM 2868) as a result of the Proposed Development. The Pitpointie Solar Farm would be located approximately 3 km to the southwest of the Balkemback Stone Circle. Due to the distance between the solar farm and the Balkemback Cottages Stone Circle, in addition to intervening built and natural screening, it is unlikely that any intervisibility would exist between the Scheduled Monument and Pitpointie Solar Farm. Accordingly, no significant cumulative operational effects are expected to arise from the Proposed Development in combination with the Pitpointie Solar Farm.
Ark Hill Wind Farm Extension	The Proposed Development is not predicted to result in significant direct construction impacts upon any of the heritage assets recorded within the Inner Study Area. The proposed Ark Hill Wind Farm Extension does not lie within, or extend into, the Proposed Development Site, and would not therefore affect any heritage assets recorded in the Inner Study Area. Accordingly, no significant cumulative construction effects are expected to arise from the Proposed Development in combination with the Ark Hill Wind Farm Extension.	One operational impact of moderate significance (significant in EIA terms) has been predicted to the setting of the Balkemback Cottages Stone Circle (SM 2868) as a result of the Proposed Development. The Ark Hill Wind Farm would lie over 3.5 km to the northwest of the Balkemback Stone Circle. The ZTV for the proposal indicates that there would be no visibility of the wind farm from the Scheduled Monument, and the EIA produced for the wind farm extension does not predict any impact upon the setting of the stone circle. Accordingly, no significant cumulative operational effects are expected to arise from Proposed Development in combination with the Ark Hill Wind Farm Extension.

Project	Cumulative Construction Effects	Cumulative Operational Effects
Summary		
	The cumulative construction effects arising from the Proposed Development in combination with other foreseeable projects are not predicted to be significant.	The cumulative operational effects arising from the Proposed Development in combination with other foreseeable projects are not predicted to be significant.

8.10 Summary of Significant Effects

8.10.1 **Table 8.10: Summary of significant Effects** below summarises the predicted significant effects of the Proposed Development on cultural heritage prior to and following to application of additional mitigation.

Table 8.10: Summary of Significant Effects

Predicted Effects	Significance Prior to Additional Mitigation	Mitigation	Significance of Residual Effects Following Mitigation
Operation			
Operational impact to the setting of the Balkemback Cottages Stone Circle (SM 2868).	Moderate (adverse)	None proposed	Moderate (adverse)
Cumulative			
Cumulative impact to the setting of the Balkemback Cottages Stone Circle (SM 2868).	Moderate (adverse)	None proposed	Moderate (adverse)