Chapter 5: Cultural Heritage

Chapter 5
Cultural Heritage

Introduction

5.1 This chapter presents the findings of the assessment of the likely significant effects of the Proposed Development with respect to the historic environment or, in the terminology of the EIA Regulations[1], cultural heritage, associated with the construction, operation and decommissioning of the Proposed Development. Cultural heritage comprises *"the physical evidence for human activity that connects people with place, linked with the associations we can see, feel and understand."*[2] Its constituent parts are known as 'heritage assets'.[3] These can be tangible features, buildings, or places or intangible stories, traditions and concepts[4] that provide physical evidence of past human activity and hold of sufficient value (i.e. cultural significance) to this and future generations to merit consideration in the planning system.[5] This assessment therefore focuses on if, and how, the Proposed Development will change the cultural significance of heritage assets within and around it.

5.2 The specific objectives of the chapter are to:

- Describe the baseline;
- Describe the assessment methodology and significance criteria used in completing the impact assessment;
- Describe the potential significant effects, including cumulative effects;
- Describe the mitigation measures proposed to address likely significant effects (if required); and
- Assess the residual effects remaining following the implementation of mitigation (if required).

5.3 Relevant heritage assets are also to be discussed in the Landscape and Visual Impact Assessment (LVIA) presented in **Chapter 4: Landscape and Visual Impact Assessment** of this EIA Report. The LVIA focuses on a development's visibility from a location, such as a heritage asset, and the effect that visibility has on visitors to that location; in other words, on visual amenity. In contrast, the cultural heritage assessment focuses on effects to the cultural significance of heritage assets. Each assessment therefore considers different types of receptors (people vs. cultural significance) and effects, and can come to differing conclusions on levels of effect relating to the same receptor.

5.4 This chapter is supported by the following figures and appendices which are referenced throughout the text:

- **EIA Report Volume 3a: Figures**
  - **Figure 5.1: The Location of Heritage Assets within the Site;**
  - **Figure 5.2: The Location of Heritage Assets within the Inner Study Area;**
  - **Figure 5.3: The Location of Designated Heritage Assets within the Outer Study Area; and**
  - **Figure 5.4: The Location of Visualisations to Inform the Assessment of Setting Change.**
- **EIA Report Volume 3b: Visualisations**
  - **Figure 5.5: CH01: In-combination view from Mutiny Stones (SM361);**

[1] Environmental Impact Assessment (EIA) under The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended)
[2] HES, 2014. The Historic Environment Strategy for Scotland, pp. 2.
[3] 'Heritage assets' are synonymous with the terms 'cultural heritage asset', 'historic asset', 'monument' or 'site'.
[4] SNH and HES, Environmental Impact Assessment Handbook, p.172, (2018).
[5] Ibid, p.175.

- **Figure 5.6: CH02: In-combination view from Mutiny Stones (SM361);**
- **Figure 5.7: CH03: View from Dunside Hill, Cairn (SM12507);**
- **Figure 5.8: CH04: In-combination view from Dunside Hill, Cairn (SM12507);**
- **Figure 5.9: CH05: In-combination view from Byrecleugh, Farmstead (SM4549);**
- **Figure 5.10: CH06: View from Byrecleugh, Farmstead and Cultivation (SM4508);**
- **Figure 5.11: CH07: View from Byrecleuch, Former Beater's Cottage (LB8348);**
- **Figure 5.12: CH08: View from Crow Stones, Johnscleugh, stone settings 1790 m SW of, 1360 m SSW of, 1105 m SSW of (SM4423);**
- **Figure 5.13: CH09: View from Nine Stones, Johnscleugh, stone settings 1790 m SW of, 1360 m SSW of, 1105 m SSW of (SM4423);**
- **Figure 5.14: CH10: View from Kingside Hill, stone circle (SM740);**
- **Figure 5.15: CH11: View from Borrowston Rig, stone circle and cairns (SM359);**
- **Figure 5.16: CH12: View from Dabshead Hill, fort and standing stone (SM4657);**
- **Figure 5.17: CH13: View from Wrunklaw, fort (SM5003);**
- **Figure 5.18: CH14: View from Longformacus House (LB45623);**
- **Figure 5.19: CH15: View from Hume Castle (SM387);**
- **Figure 5.20: CH01_139m Turbine Hub Height Wireframe;**
- **Figure 5.21: CH02_139m Turbine Hub Height Wireframe; and**
- **Figure 5.22: CH05_139m Turbine Hub Height Wireframe.**

- **EIA Report Volume 4: Appendices**
  - **Appendix 5.1: Historic Environment Assessment**

Methodology

Effects Scoped In to the Assessment

5.5 This assessment concentrates on the effects of construction and operation of the Proposed Development upon those heritage assets identified during the review of desk-based information and field surveys (the extents of the study areas are set out in the Method of Baseline Characterisation section below).

5.6 The following potential effects were identified and agreed at the Scoping stage for consideration in this assessment:

- Direct effects resulting from physical change to heritage assets within the Site. Heritage assets beyond the Site are not at risk of direct physical change as a result of the Proposed Development.
- Direct effects to designated and non-designated heritage assets that are identified as being sensitive to setting change. These effects are considered in relation to the Site and the different study areas as set out above.
- Cumulative operational effects as a result of setting change. (Note: See specific guidance on cumulative assessment below).
- Decommissioning effects.

Effects Scoped Out of the Assessment

5.7 On the basis of the desk-based assessment and field survey work undertaken, the professional judgement of the EIA team, experience from other relevant projects and policy guidance or standards, and feedback received from consultees, the following topic areas have been 'scoped out' of detailed assessment as proposed in the Scoping Report:

- Direct physical effects to heritage assets outside of the Site;
- Direct effects to non-designated heritage assets beyond the Inner Study Area as a result of setting change;
- Cumulative effects to the cultural significance of heritage assets during construction as a result of setting change. (This is because such effects are temporary);
- Indirect physical effects on heritage assets of national, regional or local cultural heritage value as a consequence of vibration, dewatering or changes in hydrology (since such effects are unlikely, and will not be significant, given the scale and nature of the Proposed Development); and
- Cumulative physical effects (these are considered unlikely given the nature of the Proposed Development).

Legislation and Guidance

Legislation and policy

5.8 This assessment is carried out in accordance with the principles contained within the following legislation:

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

5.9 Relevant planning policy is covered in **Appendix 5.1**.

Guidance

5.10 This assessment is carried out in accordance with the principles contained within the following documents:

- Historic Environment Policy for Scotland (HEPS) (HES, 2019)
- Code of Conduct: professional ethics in archaeology (Chartered Institute for Archaeologists (CIfA), 2022);[6]
- Standard and guidance for historic environment desk-based assessment (CIfA, 2020);[7]
- Managing Change in the Historic Environment Guidance Notes – setting (hereafter referred to as the HES setting guidance) (Historic Environment Scotland (HES), 2020);[8]
- Managing Change in the Historic Environment Guidance Notes – Gardens and Designed Landscape (HES, 2020);[9]
- Designation Policy and Selection Guidance (HES, 2019);[10]
- Planning Advice Note 2/2011: Planning and Archaeology;[11]
- Environmental Impact Assessment Handbook (particularly the framework for Cultural Heritage Impact Assessment provided in Appendix 1; hereafter this guidance is referred to as the EIA Handbook) (HES and Scottish Natural Heritage (SNH), 2018);[12] and

[6] CIfA,2022. Code of conduct: professional ethics in archaeology. Available on line: https://www.archaeologists.net/sites/default/files/Code%20of%20conduct%20revOct2022.pdf [Accessed March 2023].
[7] CIfA, 2020. Standard and Guidance for historic environment desk-based assessment. Available on line: https://www.archaeologists.net/sites/default/files/CIfAS%26GDBA_4.pdf [Accessed March 2023].
[8] HES, 2020. Managing Change in the Historic Environment: Setting. Available on line: https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationid=80b7c0a0-584b-4625-b1fd-a60b009c2549 [Accessed March 2023]
[9] HES, 2020. Managing Change in the Historic Environment: Gardens and Designed Landscape. Available on line: https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationid=83214207-c4e7-4f80-af87-a678009820b9 [Accessed March 2023]
[10] HES, 2019. Designation Policy and Selection Guidance. Available on line: https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=8d8bbaeb-ce5a-46c1-a558-aa2500ff7d3b [Accessed March 2023]
[11] Planning Advice Note 2/2011: Planning and archaeology. Available on line: https://www.gov.scot/publications/pan-2-2011-planning-archaeology/ [Accessed March 2023]
[12] HES and SNH, 2018. Environmental Impact Assessment Handbook https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationid=6ed33b65-9df1-4a2f-acbb-a8e800a592c0 [Accessed March 2023]

- Principles of Cultural Heritage Impact Assessment (PCHIA) in the UK (CIfA, Institute of Historic Building Conservation and Institute of Environmental Management and Assessment, 2021).[13]

Consultation

5.11 In undertaking the assessment, consideration has been given to the Scoping responses and other consultation which has been undertaken as detailed in **Table 5.1**.

Table 5.1: Consultation responses

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
The Scottish Borders Council (SBC) 01/05/22	Formal Scoping Consultation	There is the potential for both direct and indirect impacts to these heritage assets including from setting change to assets outside of the red line boundary. The overall intention for the avoidance of damage to heritage assets is welcomed.	Direct and indirect impacts to heritage assets within the Site and Inner Study Area (5 km) and impacts resulting from setting change to designated heritage assets beyond Inner Study Area have been considered in this assessment.
		The relevant policies for cultural heritage identified in the SBC Local Development Plan and Scottish Planning Policy (SPP) should be considered.	Relevant policies for both the SBC and ELC Local Development Plans were taken into account as part of the assessment (refer to **Appendix 5.1**).
		The Scottish Government Remote Sensing Portal and National Library of Scotland should be used to inform the desk-based assessment.	These sources were examined for additional information to support the desk-based assessment (see **Appendix 5.1**).
		SCB Archaeology Service confirmed that they have no objection to the heritage assets that have been proposed as heritage Assets and proposed visualisation locations.	Noted.
		SBC identify that they are largely content with the methodology of the proposed assessment.	Noted.
East Lothian Council (ELC) 08/04/22	Formal Scoping Consultation	ELC identifies the Supplementary Planning Guidance on Cultural Heritage and the Built Environment and Special Landscape Area Supplementary Guidance on Historic Landscapes are relevant to the assessment. They note that work being undertaken by the Garden History Society in relation to local designed landscapes was identified as a	The supplementary planning guidance identified by ELC have been taken into consideration in the assessment (refer to **Appendix 5.1**). Data received as part of the ELC Historic Environment Record (HER) data (received 26/01/23) identifying local designated landscapes has been reviewed as part of the assessment. No additional non-designated gardens and designed landscapes were scoped into the assessment.

[13] CIfA, Institute of Historic Building Conservation and Institute of Environmental Management and Assessment, 2021. Available on line: https://www.archaeologists.net/sites/default/files/j30361_iema_principlesofchia_v8.pdf. [Accessed March 2023].

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
		possible source of baseline information.	
		ELC commented that the outer limit of a 10 km study area is likely to contain most of the assets where significant effects on setting are. Although it is likely that heritage assets closest to the proposal have the greatest potential for effects, there could be effects beyond the 10 km outer study area. In addition, some historic assets have outlook as part of their essential character. Historic Gardens and Designed Landscapes on the Inventory may have vistas towards the Lammermuirs.	Potential impacts resulting from setting change have been considered for designated heritage assets beyond 10 km (the Outer Study Area; refer to **Appendix 5.1**). This assessment was informed by the ZTV to identify theoretical visibility. The ZTV along with heritage assets forming the baseline are depicted on **Figures 5.1**, **5.2** and **5.3** in **EIA Report Volume 3a**. This included the potential for Inventory-listed gardens and designed landscapes to be affected by the Proposed Development.
		ELC noted that there should be brief consideration as to whether there are assets that could be directly damaged due to turbines breaking or falling over (if turbines are located close to the edge of the Site).	As part of the interactive design process consideration has been given to the potential of direct impacts resulting from turbine failure. None of the proposed turbine locations are within 220 m of a designated heritage asset.
HES 06/04/22	Formal Scoping Consultation	HES noted that the Scoping Report identified that assets beyond 10 km should be scoped out of the EIA process. HES did not consider this to be acceptable and advised that the assessment of impacts on setting should focus on ZTV analysis rather than defined search areas, and consideration given to impacts on views of assets beyond the ZTV.	Potential impacts resulting from setting change, have been considered for designated heritage assets beyond 10 km (the Outer Study Area; refer to **Appendix 5.1**). This assessment was aided by the ZTV to identify theoretical visibility. The ZTV for the Proposed Development along with the location of heritage assets forming the baseline is shown on **Figures 5.1**, **5.2** and **5.3**.
		HES offered specific advice on four designated heritage assets: the Mutiny Stones, long cairn 1100 m NNW of Byrecleugh (SM361), Dunside Hill, cairn 1225 m S of Byrecleugh (SM12507), Byrecleugh, farmstead 1900 m WNW of (SM4549) and Byrecleugh, farmstead and cultivation remains 300 m SSW of (SM4508)	The design development sought to reduce potential impacts on these heritage assets. Potential impacts were considered for these heritage assets in the assessment. These are reported in **Appendix 5.1** and this chapter.
SBC Archaeology	Meeting to discuss the	SBC highlighted the potential for previous unrecorded cairns on hilltops within the Site,	Noted and considered as part of the baseline data gathering and assessment of the potential for

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
Service 05/08/22	Proposed Development.	prehistoric features around the burns within the steep slopes, burnt mounds, features relating to mining/extraction and further historic routes similar to the Herring Roads.	previously unrecorded heritage assets within the Site (Refer to **Appendix 5.1**).
Hume and Greenlaw Community Council 11/05/22	Feedback at community council meeting	Consideration should be given to potential impacts on Hume Castle.	Hume Castle was considered in the assessment of potential impacts resulting from changes to the castle's setting. These are reported in **Appendix 5.1**.
HES 15/03/23	Gatecheck 1 Consultee Responses	HES confirmed that they were broadly content that the details given reflect HES's involvement with, and advice regarding, the EIA process for the Proposed Development.	Noted.
		HES welcome the clarification that assets outside the 10 km buffer will be considered where long-distance views contribute to cultural significance as part of the EIA assessment.	Noted.
		HES noted that direct impacts to designated heritage assets will be avoided by design and recommend that direct impacts on the monuments within the development boundary are fully assessed in the EIA Report.	Direct effects from physical change to heritage assets within the Site have been assessed.
		HES recommend that consideration be given to direct impacts such as vibration and hydrological changes which may result from the proposals even if the construction footprint avoids the scheduled area of designated monuments within the development boundary.	Indirect physical effects (such as vibration and changes to hydrology) were scoped out of the assessment at Scoping. **Chapter 8: Hydrology, Hydrogeology, Geology and Peat** and **Chapter 9: Noise and Vibration** of the EIA Report have been reviewed and used to inform the assessment.
ELC 14/03/23	Gatecheck 1 Consultee Responses	ELC requested that a ZTV overlaid with relevant assets be provided. The applicant proposes to supply only the ZTV raster. This makes it difficult to see which assets are affected and we would prefer that they are shown as requested.	The ZTV raster has been supplied to the ELC to enable them to conduct their own analysis of potential impacts. The ZTV for the Proposed Development along with the location of heritage assets forming the baseline is shown on **Figures 5.1**, **5.2** and **5.3**.

Committed Design Considerations

Project Design Assumptions, Good Practice Measures and Embedded Design

5.12 The avoidance of impacts to heritage assets resulting from the construction and operation of the Proposed Development has been a key consideration in the evolution of the design.

5.13 Chapter 2: Site Selection and Design Strategy of the EIA Report outlines the site selection process that was undertaken by the Applicant for the Proposed Development, the approach taken to design and how, and why, the turbine layout and associated infrastructure has been modified during the iterative EIA process.

5.14 Following initial consultation site specific design principles for cultural heritage were applied as part of the iterative design process. These comprised seeking to avoid physical interaction with heritage assets and to limit the intervisibility between key heritage assets.

5.15 Alongside other technical design considerations, between Layout 1 (Preliminary Layout) and Layout 2 (Scoping Layout), the design was altered to avoid designated heritage assets. Layouts 3 and 4 (Interim Layouts) sought to revise proposed Layout 2 turbine locations to reduce the dominance of turbines in views from the Mutiny Stones (SM361). Between Layouts 5 and 12 (Interim Layouts) turbines T4 and T7 were removed from the design due to their proximity to the Mutiny Stones (SM361), and a 1 km minimum setback established. In addition, at Layout 13 (Final Layout) the alignment of the access track to the north-east cluster (T2, T3 and T5) moved north slightly to avoid crossing an additional historic field boundary and utilise existing tracks.

5.16 Further detailed information on the evolution of the design of the Proposed Development is presented in **Chapter 2**.

Method of Baseline Characterisation

Extent of the Study Area

5.17 Physical effects to the cultural significance of heritage assets are assessed within the Site only. Setting effects are assessed for assets within the Site, and using two study areas, which have been defined in response to the bare earth modelling of the Proposed Development's ZTV and an understanding of the distance over which significant visual effects are considered likely. The two study areas are the:

- **Inner Study Area**: consisting of the land beyond the Proposed Development's outermost turbine to a distance of 5 km from it. All heritage assets located within the Inner Study Area have been considered for the potential for effects arising from setting change; and
- **Outer Study Area**: consisting of land between 5 km (Inner Study Area) and 10 km. Designated heritage assets lying within this area have been considered for the potential for effects due to setting change.

5.18 Consideration has also been given to the potential for setting change to heritage assets within the ZTV, beyond 10 km.

Desk Study

5.19 The following data sources have informed the assessment:

- HES spatial datasets and database for designated heritage assets comprising:
  - Scheduled monuments;
  - Listed buildings;
  - Conservation areas; and
  - Inventory-listed Gardens and Designed Landscapes.[14]
- SBC Historic Environment Record (HER) data (received 17 January 2023);
- ELC HER data (received 26 January 2023);

[14] No World Heritage Sites or Inventory-listed Historic Battlefields have been identified within the baseline.

- SBC and ELC conservation area information, including conservation area appraisals where available;
- HES Canmore database;[15]
- Historic Land-use Assessment (HLA) data;
- Historic Ordnance Survey mapping (principally First and Second Edition 25 inch and 6 inch to a mile mapping where available for the Primary Study Area) and other published historic mapping held in the National Library of Scotland (NLS) and available online;
- Aerial photographs (oblique and vertical) held by the National Collection of Aerial Photography (NCAP), Cambridge Aerial Photos and Britain From Above available online;
- Available reports from recent archaeological work undertaken in the area ('grey literature');
- Relevant archive material held by SBC, HES, NLS, Registers of Scotland available online;
- Publicly accessible LiDAR data;[16]
- Visualisations and 3-D turbines modelled and viewed in relevant software; and
- Findings of other relevant topics identified in **Chapter 4, Chapter 8** and **Chapter 9** of the EIA Report.

5.20 In addition to the sources identified above, the Scottish Archaeological Research Framework (ScARF)[17] was used to inform the assessment of the cultural significance and importance of those heritage assets identified in the baseline.

Field Survey

5.21 A walkover survey of the construction footprint and selected heritage assets within the Site and site visits to selected heritage assets in the Inner and Outer Study Areas was undertaken in August 2022 and February 2023 to inform the assessment. Weather conditions during these surveys were good, with excellent visibility.

5.22 The walkover survey targeted the construction locations within the Site. It allowed for the verification of known heritage assets, confirming their interpretation, location, and likely sensitivity to change, and informed the assessment of potential effects on those assets. Selected heritage assets beyond the Site were also visited to confirm their setting and inform the assessment of change to that setting.

5.23 The selection of heritage assets beyond the Site was informed by the ZTV and professional judgement in relation to the likely sensitivity to setting change of heritage assets with theoretical visibility or the potential for in-combination views that contribute to their cultural significance.

5.24 Selected photographs from the walkover survey and site visits are included in **Appendix 5.1**.

Assessment Approach

5.25 The adopted assessment approach follows the six analytical steps set out in the PCHIA guidance for understanding heritage assets and evaluating change:

1. Understanding heritage assets:
    a. Describe the heritage asset;
    b. Ascribe cultural significance; and
    c. Attribute importance.
2. Evaluating the consequences of change:

[15] National Record of the Historic Environment
[16] Made available via the Scottish Remote Sensing Portal, with terrain and surface models processed as hillshade visualisations by LUC's GIS team.
[17] ScARF is an evolving research resource for Scottish archaeology which provides a national overview of the subject by period and identifies relevant national research questions. Available online at: https://scarf.scot/national/

a. Understand change;

b. Assess impact; and

c. Weigh the effect.

5.26 The assessment methodology also draws on that set out in the EIA Handbook, as far as it is compatible with, or complements, the PCHIA guidance.

Understanding Heritage Assets

Heritage Asset Descriptions

5.27 All heritage assets are described factually and in a manner proportionate to their importance and susceptibility to change. The description includes sufficient detail to understand the potential effect of the Proposed Development on their cultural significance and, consequently, only information that is relevant to understanding how cultural significance might be affected by the Proposed Development has been included. Further information on heritage assets identified in this chapter is presented in **Appendix 5.1**.

Heritage Asset Value (Cultural Significance)

5.28 Heritage assets are important due to their cultural significance, which can be articulated in various ways. This assessment draws upon the heritage values referenced by HES's Historic Environment Policy for Scotland,[18] which in turn are drawn from The Burra Charter[19] and detailed in the Australia International Council on Monuments and Sites (ICOMOS) Understanding and Assessing Cultural Significance Practice Note.[20] These values comprise:

- **Evidential value:** This refers to the information content of a place and its ability to reveal more about an aspect of the past through examination or investigation of the place, including the use of archaeological techniques. The relative scientific value of a place is likely to depend on the importance of the information or data involved, on its rarity, quality or representativeness, and its potential to contribute further important information about the place itself or a type or class of place or to address important research questions.
- **Historic value:** This is typically either illustrative or associative. It is intended to encompass all aspects of history; for example, the history of aesthetics, art and architecture, science, spirituality, and society. It therefore often underlies other values. A place may have historic value because it has influenced, or has been influenced by, an historic event, phase, movement or activity, person or group of people. It may be the site of an important event. For any place, the significance will be greater where the evidence of the association or event survives at the place, or where the setting is substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of such change or absence of evidence.
- **Aesthetic value:** This refers to the sensory and perceptual experience of a place; that is, how we respond to visual and non-visual aspects such as sounds, smells and other factors having a strong impact on human thoughts, feelings and attitudes. Aesthetic qualities may include the concept of beauty and formal aesthetic ideals. Expressions of aesthetics are culturally influenced.
- **Social / Spiritual value:** This refers to the associations that a place has for a particular community or cultural group and the social or cultural meanings that it holds for them. Spiritual value refers to the intangible values and meanings embodied in or evoked by a place which give it importance in the spiritual identity, or the traditional knowledge, art and practices of a cultural group. Spiritual value may also be reflected in the intensity of aesthetic and emotional responses or community associations and be expressed through cultural practices and related places.

[18] HES 2020. Designation Policy and Selection Criteria.
[19] Australia International Council on Monuments and Sites (ICOMOS), 2013. The Burra Charter. Available online at: https://australia.icomos.org/publications/burra-charter-practice-notes/#bc
[20] Australia ICOMOS, 2013. Understanding and assessing cultural significance practice note. Available online at: https://australia.icomos.org/wp-content/uploads/Practice-Note_Understanding-and-assessing-cultural-significance.pdf

5.29 The ICOMOS values are a more consistent and easily understandable way of framing the values encapsulated by the HES designation criteria,[21] which offer an alternative framework for understanding cultural significance.

The Contribution of Setting to Cultural Heritage

5.30 The ICOMOS heritage values are a way of transparently and consistently articulating the cultural significance of a heritage asset, including any contribution made by setting to it. The HES setting guidance explains that setting is the way the current surroundings of a heritage asset or place contribute to how it is understood, appreciated, and experienced in the present landscape. All heritage assets have a setting, but the contribution that this makes to their cultural significance varies in line with the location, form, function and preservation of the asset and its surroundings. In this assessment, the contribution made by setting to a heritage asset's cultural significance is set out discursively.

5.31 Setting can be integral to the cultural significance of a heritage asset contributing to one of more of its heritage values or their appreciation. Therefore, a change in an important element of a heritage asset's setting can equate to a direct impact to its cultural significance. Equally, where setting does not contribute to a heritage asset's cultural significance or is not sensitive to change resulting from a Proposed Development, no effect can result from setting change. For this reason, not all heritage assets in the study area need to be subject to detailed assessment. An explanation of how heritage assets are identified as being sensitive to the Proposed Development is discussed below in the sensitivity section.

Heritage Asset Importance

5.32 The ICOMOS heritage values (discussed above) can help explain a heritage asset's cultural significance, but they do not explain how important (e.g. high, medium, low) the significance of the asset is. Establishing the importance of a heritage asset is a key stage of the assessment process as it influences the way in which decisions are made during the development of a proposal as well as the weight to be given to it by the decision-maker. Importance is determined using professional judgement alongside an understanding of local, regional, and national historic environment research objectives and, where appropriate, the use of the designation criteria for heritage assets. The criteria used to inform the assessment of importance of heritage assets are identified in **Table 5.2**.

Table 5.2: Heritage Asset Importance Criteria

Importance	Criteria
High	Designated heritage assets. Non-designated heritage assets that meet the criteria for statutory designation, or an equivalent level of cultural significance.
Medium	Non-designated heritage assets of regional or regional/local value.
Low	Non-designated heritage assets of local value.
Very Low	Non-designated heritage assets of less than local or other value.
Uncertain	The heritage value of the heritage asset could not be fully ascertained.

Evaluating the Consequences of Change

5.33 A heritage asset's importance is not an automatic indication of how sensitive it is to a Proposed Development. Sensitivity varies depending on the nature of a heritage asset's cultural significance, the contribution that setting makes to that cultural significance, and the character of the development and the way in which it interacts with that cultural significance. Hence, understanding if a heritage asset is sensitive to a particular development proposal determines which assets need to be subject to detailed assessment.[22]

[21] Ibid
[22] SNH & HES, 2018. The EIA Handbook, PP 179, paragraph 31.

5.34 Unless otherwise stated, all heritage assets within the Site have been assumed to be of high sensitivity to physical change. This is because their cultural significance is likely to be derived primarily from their evidential and historic value (form and fabric); and being located within the Site, these factors are at risk of being diminished or lost through physical change. Any heritage assets that the Proposed Development could physically interact with have been assessed in detail.

5.35 In terms of the operation of the Proposed Development, the risk to the cultural significance of heritage assets is one of setting change. Visibility is typically a key factor in setting change and the most far-reaching experiential quality. Therefore, heritage assets sensitive to setting change have been identified via the creation of study areas informed by review of a bare earth ZTV and an understanding of the distance over which significant visual effects were considered likely. Heritage assets within the Inner and Outer Study Areas that were identified as having theoretical visibility of the Proposed Development were subject to a high-level desk-based appraisal of their cultural significance (including the contribution made by setting) and their potential interaction with the Proposed Development. Designated heritage assets lying outside the ZTV were also subject to a high-level review to see if they had the potential for change to their cultural significance because of potential in-combination views. Heritage assets deriving cultural significance from elements of their setting that could be changed by the Proposed Development have been assessed in detail.

5.36 All heritage assets identified as being sensitive to the Proposed Development have been assessed in **Appendix 5.1**.

5.37 This chapter presents the findings of the assessment of effects of the Proposed Development on those heritage assets considered to have the potential to experience significant effects in EIA terms.

Understanding Change

5.38 In line with the PCHIA guidance and EIA Handbook, the way in which the Proposed Development may change the cultural significance of a heritage asset, and whether that change is temporary or permanent, has been clearly articulated with explicit reference to the heritage value(s) affected.

Assessing Impact (magnitude of change)

5.39 Assessment of the impact to a heritage asset's cultural significance as a result of the Proposed Development has been undertaken using professional judgement and an understanding of how the heritage values of that asset that contribute to its cultural significance will be affected. It is not a measure of the reach or extent of the proposal or the importance of the heritage asset. As per the PCHIA guidance a simple scale is used for assessing an impact and, for transparency, the criteria for this are set out below in **Table 5.3**.

Table 5.3: Level of Impact / Magnitude of Change Criteria

Importance	Criteria
Large	Substantial, near total, or total loss of an asset's cultural significance either through physical and/or setting change. Substantial level of change to how that significance is understood, appreciated, or experienced.
Medium	Medium loss or alteration of an asset's cultural significance either through physical and/or setting change. Medium level of change to how that significance is understood, appreciated, or experienced.
Small	Slight loss or alteration of an asset's cultural significance either through physical and/or setting change. Small changes to how that significance is understood, appreciated, or experienced.
None	No change to the cultural significance of the heritage asset, or how that significance is understood, appreciated, or experienced

Level of Effect (Significance of Effect)[23]

5.40 The level of the effect has been determined using professional judgement to reflect the importance of the heritage asset using the scaled criteria in **Table 5.4** below. The justification for the significance of effect has been reported clearly. This approach accords with the guidelines for assessment set out in the PCHIA guidance (termed 'weighting the effect') and EIA Handbook.

5.41 A clear statement has been made as to whether an effect is a significant effect in terms of the EIA Regulations based on professional judgement of the available evidence and guided by the description of significance of effect identified in **Table 5.4**. As standard, major and moderate effects are considered significant in the context of the EIA Regulations.

Table 5.4: Significance of Effect Criteria

Importance	Criteria
Major	A large magnitude of change (e.g. total or near total loss) to the cultural significance of a heritage asset of medium or high importance.
Moderate	A medium magnitude of change (e.g. substantial loss or alteration) to the cultural significance of a heritage asset of medium or high importance; or a high magnitude of change (total or near total loss) to a heritage asset of low importance.
Minor	A small magnitude of change (slight loss or alteration) to the cultural significance of a heritage asset of medium or high importance; a medium or small (slight to substantial loss or alteration) to the cultural significance of a heritage asset of low importance; or any change to a heritage asset of very low importance.
Negligible	No change to the cultural significance of a heritage asset.

Cumulative Effects

5.42 Cumulative effects have been considered in relation to schemes listed in the **Table 4.2** of **Chapter 4**. A cut-off date of 21st February 2023 was applied for the inclusion of developments within the cumulative effects assessment.

5.43 The potential for cumulative effects resulting from setting change have been considered in recognition that the potential for setting change to significantly affect a heritage asset diminishes with distance, significant cumulative effects, including those resulting from in-combination views beyond the Outer Study Area are not predicted. A list of the schemes scoped in for inclusion in the assessment of cumulative effects on heritage assets is presented in **Table 5.1** of **Appendix 5.1**.

Limitations and Assumptions

5.44 The assessment has utilised a range of sources on the area's historic environment. Much of this is necessarily secondary information compiled from a variety of sources (e.g. HER data and grey literature reports). It has been assumed that this information is reasonably accurate unless otherwise stated.

5.45 Given their locations some heritage assets with intervisibility with the Proposed Development were not the subject of a site visit due to limited access or ground conditions, however, desk-based sources and visualisations were sufficient to identify potential effects due to setting change.

5.46 The potential for previously unrecorded heritage assets, including buried archaeological remains, has been considered in relation to the pattern and significance of known heritage assets (drawn from the SBC and ELC HER data and a review of historic mapping and available digital aerial imagery and LiDAR data) within the vicinity of the Site and land use history within it to understand the archaeological potential.

[23] In EIA terms the level of effect is typically referred to as the significance of effect. This terminology has deliberately been avoided to prevent confusion with the discussion of cultural significance. Similarly, the PCHIA term of 'weighting the effect' has been avoided to remove any sense of conflation with weighing of effects in the planning balance – a matter solely for the decision-maker.

5.47 While non-intrusive or intrusive archaeological investigations[24] have not been undertaken to inform the historic environment baseline, the sources identified above are sufficient to identify the potential for previously unrecorded heritage assets, including buried archaeological remains, within the Site and the assessment of any likely significant effects.

5.48 Whilst some information gaps are inevitable, given the buried nature of archaeological remains, it is considered that there is sufficient information to enable an informed decision to be taken in relation to the identification and assessment of likely significant environmental effects on cultural heritage. A precautionary approach has been applied, based on the available information and the professional experience and judgement of the project team, to ensure that all likely significant effects have been assessed and reported. For the avoidance of doubt, when any asset is identified as being of 'uncertain' importance, a precautionary approach would be applied, and the effect reported as potentially significant. However, this has not been necessary in this instance.

Baseline Conditions

5.49 A summary of the baseline conditions is presented below. Further information on the archaeological and historical context for the assessment and individual heritage assets forming the baseline is presented in **Appendix 5.1**.

The Site

5.50 The location of heritage assets identified within the Site are shown on **Figure 5.1**.

Designated Heritage Assets

5.51 Five designated heritage assets comprising four scheduled monuments and one category C listed building are located within the Site. These heritage assets are of **high** importance due to their designations.

5.52 Mutiny Stones (SM361) is a Neolithic long cairn aligned north-east / south-west on the lower south-east facing slope of Byrecleugh Ridge, to the north of the Dye Water. While the cairn is little disturbed, parts of the south side have been robbed to provide stone for a circular sheepfold and grouse butt. Antiquarian archaeological excavations in the 1870s and 1920s did not recover any meaningful information from the cairn.

5.53 The cairn is located on open moorland to the west of Byrecleugh Burn to the south of the cairn. Sitting low in the landscape, the cairn is situated off the south-east / north-west ridge below the higher ground forming Byrecleugh Ridge (431 m AOD) to the north-west. A light vehicle track not visible from the Mutiny Stones, crosses the moorland c.100 m to the south-west of the cairn.

5.54 The cairn's positioning in the landscape limits views beyond the surrounding high ground and ridges. There are longer views over but not into the Dye Water towards Black Hill and Dirrington Great Law. The cairn's position in the landscape provides a sense of enclosure formed by a wide, open bowl defined by the areas of higher ground and ridges.

5.55 The Mutiny Stone's position in the landscape encourages visitors to approach by accessing the Dye Water and traveling either up the Byrecleugh Burn, or following the ridge to the west. Given the cairn's low profile (now and in the past) and position below and to the north-east of the adjacent ridge suggests that the asset was not designed to be dominant in the landscape or seen against the skyline. Despite its size the cairn is not a prominent feature until in relatively close proximity to it. This may have influenced the choice of location and the way the Mutiny Stones were intended to be experienced by enabling a deliberate element of anticipation and surprise.

5.56 While the Mutiny Stones has putative intervisibility with other prehistoric funerary monuments, specifically Dunside Hill, Cairn (SM12507), had visibility and prominence in the landscape been a key factor in the choice of its location, there are more suitable locations within the cairn's immediate vicinity, such as Byrecleugh Ridge, that would have satisfied this requirement. Rather the location of the Mutiny Stones suggests visibility was not a key factor.

5.57 As a place of burial and ritual during the Neolithic, it is likely that the Mutiny Stones had a prominent place within a social group's territory and may have acted as a focal point for communal activity in the landscape, as well as serving as a physical and symbolic marker of its builders' place in space and time. This might account for the cairn's location above the natural landscape barrier or division defined by the Dye Water. The Mutiny Stones does not attempt to dominate the landscape and its

[24] Non-intrusive and intrusive archaeological investigations can include geophysical survey and archaeological trial trenching.

relatively discrete location and form, suggests that its significance may have been more related to the cairn's ritual associations than as a landscape marker.

5.58 The cultural significance of the Mutiny Stones is largely derived from its evidential (scientific) value of the physical remains of the cairn, including any buried archaeological remains, which have the potential to add to the understanding of ritual and funerary practices during the Neolithic period, and may provide information about contemporary agriculture, economy and environment. This includes any paleoenvironmental information that may be preserved in soils beneath the cairn that has the potential to inform the understanding of climate, local conditions and land cover when the cairn was constructed.

5.59 As the only long cairn in south-east Scotland the Mutiny Stones is of the historical (illustrative) value derived from the impressive stone structure and the form of the cairn which contributes to the understanding of the development of monumental architecture during the Neolithic and the placing of similar assets within the landscape. The cairn is an important surviving component of the wider prehistoric landscape of land use, settlement and ritual and the position of the cairn within the landscape adds to its significance.

5.60 Despite material from **Dunside Hill, Cairn (SM12507)** having been used to build a modern marker cairn and the addition of material from field clearance, the extent of the Neolithic or Bronze Age cain can be seen as a low stoney platform approximately 12 m in diameter. However, its poor condition does obscure its prehistoric origins from the casual visitor.

5.61 Located on open moorland just below the south-west edge of the summit to Dunside Hill, a number of frequently used light vehicle track cross the moorland immediately to the west of the cairn. From the cairn there are open views over but not into the Dye Water towards the ridge of high ground to the north. While turbines from the Fallago Rig Wind Farm are visible on the skyline, they are not dominant in views towards the north-west. Views to the west extend over the open rolling moorland as far as the modern conical beacons at Twin Law which are clearly visible on the skyline to the south-west and mark the location of the poorly preserved Twin Law cairns (SBC HER Ref: 57449).

5.62 It is likely that the site of the cairn was chosen to take advantage of its prominent location within the landscape and putative intervisibility with other contemporary heritage assets. The Mutiny Stones (SM361) is just discernible from the heritage asset approximately 2 km to the north-north-west and the Twin Law cairns (SBC HER Ref: 57449) approximately 2.1 km to the south-west. Had intervisibility with contemporary monuments been important, then the summit of Dunside Hill would have provided wider views of the surround landscape and great theoretical visibility with other possibly contemporary heritage assets including those to the east.

5.63 The location and distribution of funerary monuments, such as Dunside Hill cairn, in the landscape has the potential to provide important insights into the nature of the prehistoric landscape and the understanding of social organisation, land division and land use at the time. The location of natural landscape barriers or division such as the Dye Water to the north and Watch Water to the south, and the spatial relationship and potential intervisibility between other similar heritage assets may evidence this.

5.64 The cultural significance of this heritage asset is primarily the cairn's evidential (scientific) value derived from its physical remains, as well as the potential for environmental evidence preserved in the soils beneath the cairn. The potential for the upstanding remains of the cairn and any buried archaeological remains to contribute to the understanding of prehistoric burial practices and of climate, local conditions and land cover when the cairn was constructed, is likely to have been reduced by the cairn's later adaptions and poor condition.

5.65 The contribution the cairn's historical (illustrative) value can make to its significance is limited by the cairn's poor condition as a result of stone robbing which has compromised its contribution to understanding the diversity of cairns in south-east Scotland, in the practice of burial and design of funerary monuments.

5.66 Byrecleugh, Farmstead (SM4549) comprises the remains of six rectangular buildings forming a pre-Improvement farming settlement. While an area of rig and furrow cultivation associated with Bryecleugh farmstead have previously been identified, this is not evident on review of the publicly accessible LiDAR.

5.67 Nestled on the eastern bank of the Kersons Cleugh where it joins the Dye Water, the siting of the farmstead is likely to have been influenced by the protection provided by the shelter of the Dye Water and Kersons Cleugh and its south-facing aspect. Surrounded by open moorland, views towards the hilltops from the farmstead are restricted by the sharply rising hill slopes to the north and south. There are views from the farmstead along the Dye Water to the south-east and south-west.

5.68 The access track to the Fallago Rig Wind Farm which runs the length of the upper Dye Water and the modern steel and timber bridge that carries it over the Kersons Cleugh, passes in close proximity to the remains of the farmstead to the south. The tip of one turbine blade can be seen in views from the farmstead to the north-north-west. Light vehicle tracks lead off from the access track to the west and east of the farmstead. Immediately to the east and south-east are a corrugated iron shed and a timber beaters hut. To the west of the farmstead is a 19th century sheepfold, defined by modern post and wire fencing. Two large Improvement era field enclosures are located on the east-facing slope to the north of the sheepfold.

5.69 Byrecleugh farmstead's sheltered setting next to a ready source of water, with access to better quality soils for cultivation and open moorland for grazing, as well as views along the Dye Water, contributes to how the farmstead's choice of location can be understood, appreciated and experienced. The asset's spatial and functional relationship with contemporary features in the wider landscape including Byrecleugh, Farmstead and Cultivation (SM4508) and the site of the excavated buildings to the south (SBC HER ref: 121162300), contribute to how this heritage asset is understood and appreciated as part of a wider system of medieval and early post-medieval upland land use.

5.70 Byrecleugh, Farmstead and Cultivation (SM4508) are the remains of a pre-Improvement agricultural settlement of four contiguous scooped courts cut into a north-facing and south-east-facing slope, three of which have evidence of buildings. There are extensive areas of well-preserved rig and furrow cultivation to the north in the flat valley bottom of the Dye Water, south and west extending up the south-east facing slopes of Hall Burn and Wood Cleugh, and to the east on the north-west-facing slope at the base of Dunside Hill. While the scheduled area only defines the physical remains of the farmstead, areas of likely contemporary cultivation have been considered an integral part of this designated heritage asset.

5.71 The farmstead is located in an area of rough pasture next to the confluence of the Hall Burn with the Dye Water. This location takes advantage of the sheltered position provided by cleugh, which provides protection from the prevailing wind. The field boundaries associated with later Improvement era field system defined by drystone walls intersect with the heritage asset. The farmstead's location provides direct access to the deeper more fertile and easily workable soils of the Dye Water and the gentler lower slopes of Upper Knowe and Dunside Hill, while still providing access to the open moorland for gazing. Approximately 300 m to the north is the former beaters cottage (LB8348), later Improvement era enclosure fields, agricultural buildings and modern houses at Byrecleuch and the access track to Fallago Rig Wind Farm runs through the Dry Water.

5.72 The low-lying location of the farmstead, and the rising ground at the base of Upper Knowe restricts views of the open moorland to the south-west. While views beyond the enclosure fields at Byrecleugh to the north-west include Byrecleugh Ridge, they do not contribute to the significance of the Byrecleugh farmstead and cultivation. Views to the north-west and north-east along the Dye Water may have been important as they would have enabled the observation of people passing through the valley.

5.73 The farmstead's sheltered setting next to a ready source of water and in close proximity to fertile and easily cultivated areas of the Dye Water, the open moorland for grazing and views along the Dye Water, contributes to how this heritage asset's choice of location can be understood, appreciated and experienced. The farmstead's spatial and functional relationship with contemporary features in the wider landscape particularly the extensive system of rig and furrow cultivation and Byrecleugh, Farmstead (SM4549) approximately 2 km to the north-east, contribute to how this heritage asset is understood and appreciated as part of a wider system of medieval and early post-medieval upland land use.

5.74 The cultural significance of these heritage assets (SM4549; SM4508) is derived from its evidential (scientific) value of their upstanding remains and the potential for any associated buried archaeological remains that may be present to contribute to the understanding of the development and function of pre-Improvement agricultural settlements and agricultural practices in marginal areas from the medieval to the early post-medieval period. They also have some historical (illustrative) value as representative examples of pre-Improvement farmstead found in close association with each other.

5.75 Byrecleuch, Former Beater's Cottage (LB8348) is the only surviving element of the Duke of Roxburgh's 19th century shooting lodge complex at Byrecleugh (SBC HER Ref: 342882). The building comprises a two storey, two bay rectangular plan building of whitewashed rendered rubble stone with timber sash and case windows to the south facing principal elevation.

5.76 The former beater's cottage is located on the south-facing slope to the north of the Dye Water. The cottage is now accompanied by later buildings, including 20th century bungalows, to the north and east. The south-facing principal elevation retains open views towards the managed open moorland on Dunside Hill to the south. To the north of the cottage are a number of mature trees, the remnants of planting associated with the demolished shooting lodge.

5.77 The location of the former beater's cottage, on the site of the former shooting lodge, and surrounded by open moorland managed for grouse shooting, contributes to how the heritage asset's function is understood and appreciated as a building designed to house beaters during the shooting season, and the way the building is experienced as such.

5.78 The cultural significance of this heritage asset is derived from its evidential (architectural) and historical (illustrative) value which is drawn from its surviving architectural features and historic interest as the remaining element of a 19th century shooting lodge. While buildings of this type are a common feature of upland shooting estates, the beater's cottage is the only surviving element of the Duke of Roxburgh's shooting lodge.

Non-designated Heritage Assets

5.79 A further 69 non-designated heritage assets have been identified within the Site. The majority of these are located on the lower slopes of the Dye Water and Watch Water below or on the fringes of the open moorland. They are characterised by discrete areas of rig and furrow cultivation, enclosures and field systems, the remains of pre-Improvement and later farmsteads and building remains, features associated with post-medieval and modern animal husbandry, such as sheepfolds, marker cairns, as well as individual 19th century buildings. These heritage assets are typical of those found throughout the Lammermuir Hills and upland Scotland and have been assessed to be of **very low** to **low** importance.

Potential for Previously Unrecorded Heritage Assets, Including Buried Archaeological Remains

5.80 No previous unrecorded above ground heritage assets have been identified following the walkover survey or from a review of publicly available LiDAR data.

5.81 While prehistoric cairns are a common feature on the open moorland and hilltops within the Site and wider landscape, there is limited evidence of prehistoric activity within the Site other than a redeposited lithic assemblage and the antiquarian recovery of an axehead at Byrecleugh. Later medieval and post-medieval activity, largely associated with upland animal husbandry and cultivation, is restricted to the lower slopes and bottoms of the Dye Water and Watch Water and along the sides of minor watercourses. Archaeological monitoring undertaken during groundworks for the adjacent Fallago Rig Wind Farm (SBC HER Refs: 1251634; 121009908) identified five possible fire pits and a track of unknown date.

5.82 Evidence of historic land use of the moorland and hilltops within the Site appears to have been confined to grazing and later sporting activities. This in-combination with the exposed and largely unproductive environment suggests there is a **low** potential for previously unrecorded heritage assets, including buried archaeological remains, within the Site above c.350 m AOD. There is greater potential for previously unrecorded buried archaeological remains below c.350 m AOD, particularly adjacent to watercourses and within valley bottoms.

5.83 There are areas of peat with depths measuring between 0.35 m to 2 m within the Site (please refer to **Chapter 8** of the EIA Report for details), with the deepest peat deposits found on the hilltops. It can take over 1,000 years for a metre of peat to form, with the varying depths having the potential to preserve any archaeological remains which predate, or coincide with, the peat formation. As peat is formed in anaerobic conditions, which prevent the micro-biological activity needed for the chemical breakdown of organic materials there is potential for organic archaeological remains, and **low** to **negligible** potential for paleoenvironmental evidence within the Site.

Inner Study Area

5.84 The location of heritage assets identified within the Inner Study Area are shown on **Figure 5.2**.

Designated Heritage Assets

5.85 Eleven designated heritage assets of **high** importance have been identified within the Inner Study Area. These comprise:

- Seven scheduled monuments:
  - Five prehistoric funerary and ritual monuments (SM5921; SM4919; SM7872; SM7873; SM8766);
  - A hillfort (Hopes, fort, Long Yester; SM751); and
  - A medieval monastic grange (Penshiel Grange; SM6028).

- Four category C listed post-medieval farmhouses and their associated agricultural ranges (LB17516; LB45618; LB45619; LB17513).

5.86 Further information on these designated heritage assets and a justification for screening them out of further assessment is presented in **Appendix 5.1**.

5.87 The following designated heritage assets have been identified as having theoretical visibility with the Proposed Development, the presence of which during operation has the potential to change their setting and have therefore been included for further assessment.

5.88 Penshiel Grange (SM6028) is medieval monastic grange. While the upstanding remains date from the 15th century, the site is believed to have been occupied since the 12th century and is likely to include buried archaeological remains from this earlier period of activity. The architectural remains consist of the main building which once had a vaulted ground floor and probably one upper floor. To the south of this building is a rectangular enclosure or courtyard defined by low wall foundations. To the north of the main building are the foundations of two buildings and walling, probably the remains of another courtyard.

5.89 Located on a raised terrace between Penshiel Hill to the west and Faseny Water to the east, the building's remains are now within an area of field enclosures associated with the post-medieval farmstead at Priestlaw to the north-east. Approximately 300m to the north-east is Whitadder Reservoir. Views from the heritage asset are limited to those along the north / south axis of the Faseny Water, beyond which longer views are restricted by higher ground to the west and east.

5.90 It is likely that the siting of the grange was chosen to take advantage of its sheltered position, access to easily cultivated land and the moorland beyond for animal grazing. This element of its setting contributes to how it is understood, appreciated and experienced. The grange's once isolated location may also have been important, however this element of its setting has been diminished by the presence of later post-medieval and modern buildings and Whiteadder Reservoir.

5.91 The cultural significance of this heritage asset is largely derived from the evidential (scientific) value of its physical remains, including any buried archaeological remains, and its historical (illustrative) value as a rare example of medieval monastic architecture, that have the potential to contribute to the understanding of ecclesiastical architecture, the organisation and function of monastic communities, land use and economy in Scotland.

5.92 Whitestone Cairn, Harestone Hill (SM5921) comprises the remains of a cairn of Bronze Age date, surviving as a prominent stony mound on the summit of Harestone Hill. The eastern part of the cairn is partially overlain by a sheepfold constructed from the cairn material.

5.93 Whitestone cairn's position on the summit of Harestone Hill provides commanding presence over the surround landscape, including Hopes Water to the north-west and Faseny Water to the north-east. Beyond, views extend as far as the Pentland range to the west and over the Lothian plain to the Firth of Forth as far as the Fife coast and out to sea to the north and north-east. Views into the Lammermuir Hills to the south-east and south are constrained by a ridge of high ground. Turbines at Fallago Rig Wind Farm, the closest of which are approximately 1.6 km to the south-east, form part of the cairn's setting.

5.94 It is likely that Whitestone cairn was deliberately sited to take advantage of its prominent location between the valley of the Hopes Water and Faseny Water, as well as the broad views beyond as far as the Fife coast. Theoretical intervisibility with other possibly contemporary heritage assets in the wider landscape, including Lammer Law cairn (ELC HER ref: MEL787) approximately 4.5 km to the west, may also have been important.

5.95 Also dating from the Bronze Age, **Mainslaughter Law, cairn (SM4919)** is situated on the crest of Mainslaughter ridge on a slight south-east facing slope to the north of a minor road. While there are extensive views from the cairn to the west, south and south-east, its orientation on the south-east facing slope suggests that views in that direction and putative intervisibility with other possibly contemporary funerary monuments on Dirrington Great Law (SM4626) and Dirrington Little Law (SM4638) may have been an important consideration in the choice of location. Had panoramic views over the wider landscape been important then the summit of Mainslaughter Law c.200 m to the north would have provided them.

5.96 The cultural significance of these heritage assets is largely derived from the evidential (scientific) value of their physical remains, including any buried archaeological remains that have the potential to contribute to the understanding of prehistoric burial practices. There is also the potential for environmental evidence preserved in the soils beneath the cairns that may inform the understanding of climate, local conditions and land cover when the cairn was constructed. While the cairns belong to a numerous and widespread group of prehistoric funerary monuments, they have historical (illustrative) value as good

representative examples of their type and form, with the potential to contribute to the understanding of the diversity of cairns in south-east Scotland in the practice of burial and design of funerary monuments.

Non-designated Heritage Assets

5.97 Two hundred and ninety non-designated heritage assets have been identified within the Inner Study Area from data held by the SBC and ELC HERs. These heritage assets are of similar date, type and form to those identified within the Site and are typical of the upland areas of the Lammermuir Hills. They are characterised by poorly preserved prehistoric cairns, the remains of pre-Improvement and Improvement era buildings, farmsteads and their associated enclosures, areas or rig and furrow cultivation, sheepfolds, modern marker cairns, quarries and trackways.

5.98 These heritage assets have been assessed to be of **very low** to **medium** importance. Given the locations, type and form, changes to the setting of these heritage assets are not predicted to result in significant effects.

Designated heritage assets within the Outer Study Area

5.99 The following designated heritage assets of **high** importance are located within the Outer Study Area:

- 76 scheduled monuments;
- 82 listed buildings;
- Gifford Conservation Area (CA281); and
- Two Inventory-listed Garden and Designed Landscapes (Thirlestane Castle (GDL000371) and Yester House (GDL000388)).

5.100 In addition, Hume Castle, castle and associated settlement (SM387) which is located 18.5 km to the south-east of the Proposed Development has been included in the baseline due to potential changes to this heritage asset's setting.

5.101 The locations of these designated heritage assets are shown on **Figure 5.3**.

5.102 Further information on these designated heritage assets and a justification for screening them out of further assessment is presented in **Appendix 5.1**.

5.103 Of the designated heritage assets identified within the Outer Study Area that have theoretical visibility with or whose setting may change as a result of the presence of, the Proposed Development, the following have been included for further assessment given the potential of the Proposed Development to change their setting.

5.104 Johnscleugh, stone settings 1790 m SW of, 1360 m SSW of, 1105 m SSW of (SM4423)[25]comprises a contemporary group of three separate ritual monuments likely to date from late Neolithic and early Bronze Age. These are:

- The 'Crow Stones' - 18 small stones that form an oval shape measuring c.43 m north-west / south-east by c.33 m.
- The 'Nine Stones' - nine stones of varied size that form a circle c.6.5 m in diameter; and
- The 'Kingside Burn stone setting' - seven stones set around the edge of a peat mound c.3.8 m east / west by c.2.8 m and c.0.3 m high.

5.105 This group of heritage assets are located on an area of open moorland on a south and south-east facing slope, between the minor watercourses of the South Grain, Kingside Burn and the Whiteadder Water. An area of Improvement era enclosure fields with windbreaks plantations are located to the south, beyond which the B6355 lies to the south, and a line of electricity pylons cross the landscape to the south-east.

5.106 The Crow Stones are located to the north of Kingside Burn at the base of Moss Law, from which the land rises sharply to the west and south-west restricting longer views beyond its immediate burn side setting and north-east towards Nine Stone Rig. Similarly, the Kingside Burn stone setting is located adjacent and to the north of Kingside Burn. Views to the south-west, south and south-east are limited by the rising land forming the ridge between the lower slopes of Wanside Rig and Kingside Hill. A steel tower electricity pylon is located less than 20 m to the south of the stone setting. The Nine Stones are located below and to

[25] This heritage asset comprises three discreet but related ritual monuments located at Nine Stone Rig (the Crow Stones, Nine Stones and Kingside Burn stone setting) and as such have been assessed as one heritage asset.

the south-east of the summit of Nine Stone Rig. This asset's more elevated position provides views south-west towards the Crow Stones but limits direct intervisibility with the Kingside Burn stone setting which is below and to the south.

5.107 Given the placement of these ritual monuments in the natural bowl created by the higher ground to the south, west and north, it is likely that they were intended to be experienced together as part of a discrete ritual landscape. They are likely to have been approached along Kingside Burn from Whiteadder Water to the north-east.

5.108 While this group of heritage assets are likely to be contemporary given their place in the landscape, theoretical intervisibility between them is limited. Views beyond their immediate surrounds are restricted by the higher ground to the south-west, south and south-east. The setting of the Crow Stones and Kingside Burn stone setting adjacent to the Kingside Burn and within the natural bowl created by the higher ground to the north, west and south appears to have been an important element in their choice of location. Their spatial and probable functional relationship with each other and similar assets in the wider landscape including Kingside Hill, stone circle (SM740) is likely to have been important. These key elements of their setting contribute most to their cultural significance and how they are understood, appreciated and experience as part of a discrete late Neolithic and early Bronze Age ritual landscape.

5.109 The cultural significance of this group of ritual monuments is predominantly derived from the evidential (scientific) value of their physical remains, including any buried archaeological remains that have the potential to significantly enhance the understanding of late Neolithic and early Bronze Age ritual activity in south-east Scotland.

5.110 The Crow Stones and the Nine Stones, in particular, have historical (illustrative) value given the preservation of their upstanding remains which are visible as oval or circular circuits of upstanding stones. Stone circles and stone settings are very rare in south-east Scotland, and these examples have enhanced significance because they form part of a localised group of similar remains concentrated in this area of the Lammermuir Hills, which includes the Kingside Hill, stone circle (SM740).

5.111 Interpreted as an early Neolithic to late Bronze Age stone circle or an enclosed cremation cemetery **Kingside Hill, Stone Circle (SM740)** comprises c.30 small boulders forming a circle about 11.9 m in diameter and no more than c.0.4 m high, with a large boulder in the centre in the middle of a low cairn some 3 m in diameter.

5.112 Located on a natural shelf below and to the west of Kingside Hill and to the south of Kingside Burn, this heritage asset is isolated within an area of Improvement era field enclosures with two windbreak plantations to the east and south-west. This heritage asset's spatial relationship with other ritual monuments, including the Johnscleugh group (SM4423) to the north of Kingside Burn, may contribute to the understanding of the distribution, character and meaning of early Neolithic to late Bronze Age ritual and funerary monuments in south-east Scotland and as part of a localised group of similar monuments concentrated in this area of the Lammermuir Hills.

5.113 The cultural significance of Kingside Hill, stone circle is predominantly derived from its evidential (scientific) value of its standing remains and any buried archaeological remains present which have the potential to significantly enhance understanding of prehistoric ritual and funerary activity in south-east Scotland. It has some historical (illustrative) value given the preservation of their upstanding remains and potential contribution of the spatial and functional relationship to other similar monuments to the understanding of the distribution, character and meaning of late Neolithic and early Bronze Age ritual and funerary sites in south-east Scotland.

5.114 The enclosure forming **Wrunklaw Fort (SM5003)** is located at the base of the south-west facing slope of Wrunk Law. While the form of the enclosure earthworks suggest it dates from the Iron Age, the origin of this heritage asset is not fully understood. The outer ditch, some 10 m wide and c.3.5 m deep, and entrance to the south-west, suggest it had a defensive function. Within the enclosure are the remains of a post-medieval farmstead and later shepherd's cottage.

5.115 The heritage asset's position overlooking the Dye Water to the south, with views into and along it, suggests that this asset was designed to enable the occupants to control access along the valley. This element of its setting has the potential to contribute to how this asset's possible function as a defensive structure is understood and appreciated, controlling movement along the Dye Water, and how it is experienced as such.

5.116 The cultural significance of Wrunklaw fort is predominantly derived from the evidential (scientific) value of the heritage asset's physical remains, including any buried archaeological remains that may be present, which have the potential to inform the understanding of this asset's date and function. The asset also has some historical (illustrative) value given its potential to contribute to the form of promontory forts and the understanding of the settlement, economy and development of the landscape in the Iron Age in this area.

Implications of Climate Change

5.117 Chapter 12: Other Issues provides details of the climate change projections in the north of Scotland for the 2060s, when the operational period of the Proposed Development is likely to end. In summary, the projections highlight that in the 2060s, summer and winter temperatures are likely to be greater than the current baseline, with winter rainfall increasing and summer rainfall decreasing.

5.118 Increase in rainfall will change groundwater and soil conditions, potentially affecting the preservation of buried archaeological remains and eroding / flooding above ground heritage assets.

Future Baseline in the Absence of the Proposed Development

5.119 In the 'do nothing' scenario, there will be little physical change to the cultural significance of the heritage assets within the Site as current land use (rough grazing and management for grouse shooting) entails processes which cause little or no ground disturbance to areas which have not already been disturbed. As such, only natural decay (weathering and erosion) is considered likely to affect any assets in the 'do nothing' scenario. It should, however, be noted that patterns of rural land use may change as a consequence of the UK leaving the European Union and as Scottish Government objectives drive an increase in woodland expansion.

5.120 Effects related to change in setting in a 'do nothing' scenario are impossible to quantify as it primarily rests on whether new proposals for development are brought forward elsewhere within the surroundings of the Site.

Design Considerations

5.121 Chapter 2 outlines the site selection process that was undertaken by the Applicant for the Proposed Development, the approach taken to design and how, and why, the turbine layout and associated infrastructure has been modified during the iterative EIA process.

5.122 The Proposed Development has evolved considerably from the 'maximum development scenario' initially established at Scoping. Following initial consultation, site specific design principles for cultural heritage were applied as part of the iterative design process. These comprised seeking to avoid physical interaction with heritage assets and to limit the intervisibility of the Proposed Development with key heritage assets, including the Mutiny Stones (SM361).

5.123 Alongside other technical design considerations, between **Layout 1 (Preliminary Layout**) and **Layout 2 (Scoping Layout)**, the design was altered to avoid designated heritage assets. **Layouts 3** and **4 (Interim Layouts**) sought to revise proposed **Layout 2** turbine locations to reduce the dominance of turbines in views from the Mutiny Stones (SM361). Between **Layouts 5** and **12 (Interim Layouts)** turbines T4 and T7 were removed from the design due to their proximity to the Mutiny Stones (SM361), setting turbines back by 1 km. In addition, at **Layout 14 (Final Layout)** the alignment of the access track to the north-east cluster (T2, T3 and T5) moved north slightly to avoid crossing an additional historic field boundary and utilise existing tracks.

5.124 Further detailed information on the evolution of the design of the Proposed Development is presented in **Chapter 2**.

Micrositing

5.125 Prior to construction, micrositing may take place to allow adjustment within a defined radius of the proposed turbine locations, and a similar tolerance either side of the access track locations. The micrositing allowance for turbines and associated infrastructure is up to 100 m (with adjustments of more than 50 m to be approved by SBC and the ECoW), as set out in **Chapter 3: Development Description**. Following a review of the micrositing allowances no additional impacts to heritage assets were identified.

5.126 It is considered that changes to the location of turbines would not increase the significance of effect resulting from setting change identified in **Appendix 5.1**.

Assessment of Likely Significant Effects

5.127 The assessment of effects is based on the project description as outlined in **Chapter 3** and the embedded mitigation by design described in **Chapter 2.** An Outline Construction Environmental Management (CEMP) has also been prepared and is included in **Appendix 3.1**.

5.128 Significant effects are reported below. Non-significant effects are presented in **Appendix 5.1**.

Potential Construction Effects (Direct Physical)

5.129 No significant effects on heritage assets have been identified as a result of the construction of the Proposed Development.

5.130 One non-significant effect has been identified as a result of the construction of the Proposed Development (refer to **Appendix 5.1**).

5.131 Construction activities for the Proposed Development have the potential to remove or truncate any previously unrecorded heritage assets, including buried archaeological remains, that may be present within the footprint of the Proposed Development. However, the potential for previously unrecorded heritage assets within areas of open moorland and hilltops within the Site has been assessed to be **low**.

5.132 While the presence of peat is recorded within the Site, the design of the Proposed Development has sought to avoid impacting on these areas, or hydrological changes within the Site. The potential for peat deposits containing paleoenvironmental that could inform the understanding of past environments, including past human activity, is considered to be **low** to **negligible** due to its shallow depth, and its drained and degraded nature.

Potential Operational Effects (Direct Effects due to Setting Change)

5.133 This section identifies significant effects resulting from changes to the setting of heritage assets resulting from the presence of the Proposed Development during operation, and the potential effects on the cultural significance of heritage assets identified in the baseline, including how changes to the setting will affect how the current setting of heritage assets contributes to how they are understood, appreciated or experienced.

Mutiny Stones (SM361)

5.134 This designated heritage asset is of **high** importance.

5.135 The closest turbine to the Mutiny Stones will be T3 located approximately 1 km to the north-north-west, above the cairn to the east of the highest point of Byrecleugh Ridge. T8 will be located below and to the north of the ridge, approximately 1.4 km across the Dye Water to the south-west of the Mutiny stones. The most easterly of the turbines (T15) will be approximately 2.3 km to the south of the cairn.

5.136 The access track for turbines T2, T3 and T5 will leave the existing access to Fallago Rig Wind Farm that runs the length of the upper Dye Water to the north-east of the modern farm buildings at Byrecleugh. Passing through an area of Improvement era field enclosure before crossing the open moorland just below and to the south-west of the south-east / north-west ridge leading to the Byrecleugh Ridge. As it passes to the south-west of the Mutiny Stones, the alignment will remain below the ridge with the existing maintained hill track above and to the north-east. At its closest point the new access track will be approximately 190 m south, 147 m south-west and 186 m west of the Mutiny Stones.

5.137 The turbines of the operational Fallago Rig wind farm are not visible from the Mutiny Stones. The Proposed Development will therefore introduce turbines into the setting of the cairn. From the north-eastern end of the cairn, all 15 turbines will be seen against the skyline, with the tip of T1 just visible and the full extent of five turbines visible to the south-west. Similarly, from the south-western end of the cairn, all 15 turbines will be seen against the skyline, with the full extent of seven turbines visible to the south-west (refer to **Figure 5.5**).

5.138 Given the low profile of the Mutiny Stones and the cairn's location on the west facing slope (see **Figure 5.6**), and the alignment of the new access track to the south-west of the south-east / north-west ridge, the access track will not be visible from the Mutiny Stones.

5.139 While the closest turbines (T2, T3 and T5) to the north-west will be set back from the Mutiny Stones behind the higher ground to the north-west, the presence of the Proposed Development will be a marked intrusion into the cairns setting (see **Figure 5.5**). Turbines will be the prominent feature in views to the north-west, west and south-west, diminishing the open isolated moorland character of the cairn's setting (refer to **Figure 5.6**).

5.140 Turbines will be visible on the skyline when approaching the Mutiny Stones along the Byrecleugh Burn or when following the south-east / north-west ridge to the west of the cleugh. The presence of turbines during operation will undermine how this element of the cairn's setting, the likely intended access approach from the Dye Water, is appreciated and experienced. The introduction of turbines into the cairn's largely featureless open moorland setting will diminish how this element of its setting contributes to the sense of isolation, and how the deliberate element of anticipation and surprise when finally encountering the Mutiny Stones is experienced. However, the Mutiny Stones does not appear to have been placed in the landscape to be seen against the skyline or to be dominant feature in the landscape. The scale and form of the Mutiny Stones does not become apparent until in close proximity to it (refer to **Figure 5.6**). The way this element of the Mutiny Stones setting contributes to how its positioning in the landscape is appreciated, understood and experienced will not be affected.

5.141 During operation of the Proposed Development, the presence of turbines in the landscape has the potential to affect the ability of the observer to understand the cairn's position in the landscape and the possible design intention and putative symbolic function this may represent. The asset sits within a wide, open 'bowl' landscape formed by the topography of the Byrecleuch Ridge that forms the local skyline, creating a sense of enclosure and separateness. The turbines of the Proposed Development all sit outside this bowl, allowing it to be appreciated and understood, but inevitably eroding that sense of 'separateness' and enclosure.

5.142 The Proposed Development will not affect the evidential (scientific) and historical (illustrative) value of the Mutiny Stones that contributes most to this heritage asset's cultural significance. The theoretical intervisibility with other Neolithic or Bronze Age funerary monuments, specifically Dunside Hill cairn (SM12507) approximately 2.3 km to the south-south-east, or longer views over but not into the Dye Water valley towards Black Hill and Dirrington Great Law will not be affected.

5.143 The presence of turbines during operation of the Proposed Development will substantially alter how the Mutiny Stones setting contributes to the way it is experienced when approaching from the Dye Water, the sense of the cairn's isolation in the landscape and how the choice of location may have enabled a deliberate element of anticipation and surprise. These changes to the way the Mutiny Stones setting contributes to the way it is appreciated and experienced will lead to a level of impact judged to be **medium** resulting in a **moderate** and **significant** potential level of effect.

Byrecleugh, Farmstead (SM4549)

5.144 This designated heritage asset is of **high** importance.

5.145 During the operation of the Proposed Development, 13 turbines will be prominent on the skyline to the north, west and south of Byrecleugh farmstead, with the tips of two further turbines, T3 and T14, just visible. The nearest turbines will be T5 approximately 720 m to the north, T6 c.740 m to the north-north-west and T8 some 730 m to the south.

5.146 The Proposed Development will surround the farmstead to the north, west and south, dominating views towards the sharply rising slope to the north and north-east below Byrecleugh Ridge and Meikle Law, and the steep lower slopes below Blythe Edge and Upper Knowe to the south (refer to **Figure 5.9**). Given the low-lying position of the farmstead in the valley bottom, this is likely to create a feeling that the Proposed Development is dominating and encroaching on the farmstead. This is intensified by the size and distribution of the turbines and the close proximity of turbines T5, T6 and T7. This will affect the contribution the open moorland setting makes to the way the farmstead is experienced as a pre-Improvement agricultural settlement exploiting marginal upland areas.

5.147 The elements of the heritage asset's setting which contribute most to how the farmstead is appreciated and understood as a medieval to post-medieval pre-Improvement agricultural settlement and the choice of location, will be maintained, including:

- The farmstead's sheltered location, with protection provided by the shelter of the Dye Water valley and Kersons Cleugh and its south-facing aspect.
- The readily available water source.
- The valley bottom and lower slopes of the Dye Water that provided deeper fertile soils for cultivation.
- Direct access to the surrounding open moorland for livestock grazing.
- Views down the Dye Valley to the south-west and south-east.

5.148 In addition, the Proposed Development will not affect the evidential (scientific) and historical (illustrative) value of Byrecleugh, farmstead derived from its physical remains, which contributes most to their cultural significance, or the spatial and functional relationship with Byrecleugh, Farmstead and Cultivation (SM4508) approximately 2 km to the south-east.

5.149 While the dominance of the turbines in the setting of the farmstead will not affect the key elements of its setting, the presence of the Proposed Development during operation will substantially alter the way the surrounding open moorland contributes to how the heritage asset is appreciated and experienced. This substantial change could lead to a level of impact judged to be **medium** resulting in a **moderate** and **significant** potential level of effect.

Other Effects

5.150 Non-significant effects due to setting change as a result of the operation of the Proposed Development have been identified for three designated heritage assets of **high** importance:

- Dunside Hill, Cairn (SM12507);
- Byrecleugh, Farmstead and Cultivation (SM4508); and
- Byrecleuch, Former Beater's Cottage (LB8348).

5.151 The slight change to the way their setting contributes to the way they are experienced and their cultural significance could lead to a **minor** potential level of effect.

5.152 Further details of all non-significant effects are reported in **Appendix 5.1**.

Potential Operational Cumulative Effects

5.153 No potential significant cumulative effects on heritage assets have been identified, due to a lack of in-combination visibility of the Proposed Development with similar planned and extant development. Further information on cumulative effects is presented in **Appendix 5.1**.

Decommissioning

5.154 At the end of the Proposed Development's operational life (35 years), an application could be submitted to retain or replace the turbines, or they could be decommissioned. Decommissioning of the Proposed Development will be carried out in line with the legislation and guidance current at the time of decommissioning. Decommissioning effects are assumed to be no worse than construction effects (temporary) and that the CEMP will be updated to ensure best practice is adopted during decommissioning.

Mitigation

Mitigation During Construction

5.155 The Outline CEMP for the Proposed Development identifies construction best practice mitigation for the historic environment.

5.156 No specific mitigation for significant effects has been identified. Mitigation for non-significant effects is identified in **Appendix 5.1**.

5.157 While the potential for previously unrecorded heritage assets, including buried archaeological remains, within the footprint of the Proposed Development has been assessed to be **low**, mitigation in the form of archaeological monitoring and recording will help to offset any (potential partial) loss through preservation by record.

5.158 The SBC Archaeology Service will provide guidance on appropriate conditions to be applied as part of an eventual consent. It is recommended that archaeological monitoring and recording be undertaken by an Archaeological Clerk of Works (ACoW) or Historic Environment Clerk of Works (HECoW) appointed by the Applicant.

Mitigation During Operation

5.159 The evolution of the design process has sought to minimise the potential for impacts on heritage assets resulting from setting change. This has included a reduction in the number of turbines and their re-siting.

5.160 For developments of this sort, it is difficult to fully mitigate impacts to heritage assets resulting from setting change during the operation beyond those changes to the design and layout identified as the Proposed Development evolves. Therefore, no specific additional mitigation to reduce the potential effects to heritage assets due to setting change resulting from the operation of the Proposed Development has been identified.

Assessment of Residual Effects

Residual Effects

5.161 As indicated above, appropriate provision of archaeological monitoring and recording during ground-breaking works will ensure that heritage assets, including previously unrecorded heritage assets identified during construction of the Proposed Development can be effectively understood, characterised and recorded.

5.162 Should assets of regional or national importance be identified, the ACoW or HECoW will liaise with SBC Archaeology Service to agree an appropriate conservation strategy and, where necessary, microsite infrastructure to avoid/reduce effects.

5.163 No specific mitigation to reduce the potential significant effects to the Mutiny Stones (SM361) and Byrecleugh Farmstead (SM4549) due to setting change resulting from the operation of the Proposed Development have been identified. Significant residual effects for these designated heritage assets are therefore **moderate**.

Monitoring

5.164 The following monitoring is proposed:

- An ACoW or HECoW to monitor ground-breaking operations and provide onsite advice on avoidance of effects (e.g. providing onsite identification and recording of previously unrecorded heritage assets, and liaising with the local authority archaeological adviser as necessary).
- Preparation of a Written Scheme of Investigation (WSI) to be submitted to the local authority for approval prior to any construction works (including enabling works) commencing onsite. Measures within the WSI are likely to include the implementation of a working protocol should unrecorded heritage assets, including buried archaeological remains, be discovered, and provision of written guidelines and constraints mapping to all contractors, accompanied by appropriate briefing / toolbox talks to ensure sensitivities are understood.

5.165 It is considered that, following construction of the Proposed Development, no further surveys or monitoring will be required.

Summary

5.166 Significant effects have been identified resulting from the presence of the Proposed Development during operation for the designated heritage assets identified in **Table 5.5**.

Table 5.5: Summary of predicted significant effects of the Proposed Development

Predicted Significant Effect	Significance of Effect (without mitigation)	Mitigation Proposed	Means of Implementation	Timing	Residual Effect
Operational Effects					
Mutiny Stones(SM361)	Moderate	N/A	N/A	N/A	Moderate

Predicted Significant Effect	Significance of Effect (without mitigation)	Mitigation Proposed	Means of Implementation	Timing	Residual Effect
Byrecleugh Farmstead (SM4549)	Moderate	N/A	N/A	N/A	Moderate

Glossary/Abbreviations

Table 5.6: Glossary and abbreviations

Term in Full	Abbreviation	Meaning/Description
Historic Environment Record	HER	
Historic Environment Scotland	HES	
Light Detection and Ranging	LiDAR	A remote sensing method that uses light in the form of a pulsed laser to measure ranges (variable distances) to the Earth.
Zone of theoretical visibility	ZTV	
Australia International Council on Monuments and Sites	ICOMOS	
Above Ordnance Datum	AOD	
Scheduled Monument		A site that's legally protected because of its historical importance.
Listed Building		A building of special architectural or historic interest considered to be of national importance.