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Chapter 7: Archaeology and Cultural Heritage

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INDEX

7 ARCHAEOLOGY AND CULTURAL HERITAGE

7.1 Introduction

7.1.1.1 This Chapter of the Environmental Impact Assessment Report (EIAR) presents the results of the EIA as regards the potential effects of the Bowshiel Solar Farm and Battery Energy Storage System (BESS) (the Proposed Development) on archaeology and cultural heritage.

7.1.1.2 The Chapter provides an overview of the existing baseline environment for the Proposed Development, an assessment of potential significant effects on archaeology and cultural heritage receptors, and an assessment of potential cumulative impacts with other relevant projects and effects arising from interactions on receptors across topics.

7.1.1.3 This Chapter should be read within the context of the following:

- **Volume 3: Technical Appendix 7.1** Heritage Baseline; and
- **Volume 3: Technical Appendix 7.2** Sieving Exercise;

7.1.1.4 The Archaeology and Cultural Heritage Chapter is supported by figures provided in **Volume 2** of the EIAR:

- **Figure 4.1**: Cumulative Developments;
- **Figure 7.1:** Study Areas for assessing Direct/Indirect Physical Impacts and Setting Impacts;
- **Figure 7.2**: All heritage assets within 1 km Study Area overlain on site infrastructure;
- **Figure 7.3**: All designated heritage assets within 3 km Study Area, overlain on bare earth ZTV;
- **Figure 7.1.1**: Site Location;
- **Figure 7.1.2**: 1 km Study Area;
- **Figure 7.1.3**: Designated Assets within 1 km Study Area;
- **Figure 7.1.4**: Non-Designated Assets within the Site; and
- **Figure 7.1.5**: Non- Designated Assets within the 1 km Study Area.

7.1.1.5 The Archaeology and Cultural Heritage Chapter is also supported by LVIA and Cultural Heritage visualisations provided in **Volume 2**. All pertinent visualisations are listed within the appendix of this Chapter.

7.1.1.6 This Chapter has been authored by Environmental Resource Management (ERM). Further competency details of the authors of this Chapter are outlined in **Volume 3, Technical Appendix 1.1: EIA Team**.

7.2 Legislation, Policy and Guidance

7.2.1 Legislation

7.2.1.1 The preparation of the Archaeology and Cultural Heritage Chapter has been informed by the policy, legislation and guidance set out below.

Legislation

- The Ancient Monuments and Archaeological Areas Act 1979;
- The Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997;
- The Historic Environment Scotland Act 2014 and
- The Protection of Military Remains Act 1986

Policy

- Scotland's Fourth National Planning Framework (NPF4)[1];
- Historic Environment Policy for Scotland (HEPS)[2];
- Our Past, Our Future: The Strategy for Scotland's Historic Environment[3]; and
- Scottish Borders Local Development Plan 2 (LDP2) adopted 2024[4].

Guidance

- Planning Advice Note 71/2004: Conservation Area Management[5];
- Planning Advice Note 2/2011: Planning and Archaeology[6];

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[1] Scottish Government (2022) Scottish Planning Policy. Online. Available at https://www.gov.scot/publications/national-planning-framework-4-revised-draft/pages/3/ [Accessed 02/02/2025]
[2] HES. Historic Environment Policy for Scotland (2019). Available at https://www.historicenvironment.scot/advice-and-support/planning-and-guidance/historic-environment-policy-for-scotland-heps/. [Accessed 02/02/2025]
[3] HES. Our Past, Our Future (2023). Available at https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=79204155-9eb2-4d29-ab14-aff200ec2801 [Accessed 04/04/2025]
[4] Scottish Borders Local Development Plan 2 2024. Available at https://www.scotborders.gov.uk/plans-guidance/local-development-plan-2/2 [Accessed 07/05/2024]`
[5] Scottish Government. Planning Advice Note (PAN) 71, on how to preserve and manage conservation areas (2004). Available at https://www.gov.scot/publications/conservation-management-planning-advice/. [Accessed 04/12/2024]
[6] Scottish Government. Planning Advice Note 2/2011: Planning and archaeology (2011). Available at https://www.gov.scot/publications/pan-2-2011-planning-archaeology/. [Accessed 04/12/2024]

- HES: Environmental Impact Assessment Handbook[7];
- HES: Managing Change in the Historic Environment Series[8]; and
- CIfA Guidance for Desk Based Assessment[9].

7.2.1.2 Additional information on the legislation, policy and guidance relevant to this Chapter can be found within **Volume 3: Technical Appendix 7.1 Heritage Baseline**.

7.3 Assessment Methodology

7.3.1 Scoping Responses and EIA Consultation

7.3.1.1 Consultation is a key part of the application process. It has played an important part in ensuring that the baseline characterisation and impact assessment is appropriate to the scale of development as well as meeting the requirements of the regulators and their advisors.

7.3.1.2 Consultation with statutory bodies regarding Archaeology and Cultural Heritage has been conducted through email prior to the production of a Scoping Report, the EIA Scoping Opinion and subsequently through consultation via email during preparation and production of this EIAR Chapter.

7.3.1.3 The results of the public consultation are discussed where pertinent to this Chapter.

7.3.1.4 The points raised during consultation with statutory bodies specific to Archaeology and Cultural Heritage are outlined in **Table 7.1**, including consideration of where they have been addressed within this EIAR.

[7] HES (2018). Environmental Impact Assessment Handbook. Available at https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=6ed33b65-9df1-4a2f-acbb-a8e800a592c0. [Accessed 04/12/2024]
[8] HES (2016) Managing Change in the Historic Environment. Online. Available at: https://www.historicenvironment.scot/advice-and-support/planning-and-guidance/legislation-and-guidance/managing-change-in-the-historic-environment/ [Accessed 04/11/2024]
[9] CIfA Guidance for DBA. Available at Available at CIfAS&GDBA_4.pdf (archaeologists.net). [Accessed 02/02/2025]

TABLE 7.1 CONSULTATION RESPONSES SPECIFIC TO ARCHAEOLOGY AND CULTURAL HERITAGE

CONSULTEE	TYPE AND DATE	SUMMARY OF CONSULTATION RESPONSE	ACTION
Historic Environment Scotland (HES)	Pre-Scoping Report. Letter issued by ERM. 2025.01.28 Scoping Response issued 2024.03.06	ERM issued a consultation letter to HES providing an overview of the EIAR assessment methodology as relating to the Archaeology and Cultural Heritage Chapter, as well as a baseline of designated assets within the 3 km Setting Study Area. A list of photomontages and wirelines proposed to support the Chapter was also presented. Finally, the letter included a sieving exercise, along with a rationale for any assets included or excluded from a detailed assessment of Setting impacts.	HES issued a response via a letter dated 2025.02.26 and detailed below.
	Scoping Response issued by HES 2025.01.16 and the ECU on 2025.01.29.	In this response HES highlighted their concern over Setting Impacts to SM369 Ewieside Hill, fort 640m NE of Edmondsdean. Within the HES response there were recommendations for mitigation through design, as well as a request for additional visualisations to support the forthcoming EIAR	The concerns over the Setting Impacts to both scheduled monuments were fed into design changes within Fields 12 and 13, those closest to the scheduled monument. Infrastructure was relocated below the 230 m AOD contour line and the BESS compound was relocated from Field 12 to Field 13. HES recommendations for additional visualisations were taken forward with the proposed visualisations included within the EIAR.
	EIA Consultation issued by ERM 2025.03.31	ERM issued a consultation letter to HES providing an updated list of visualisations to support the EIAR, inclusive of photomontages requested by HES during the previous round of consultation.	HES issued a response on 2025.03.31 stating that they were content with the list of proposed visualisations.
Scottish Borders Council (SBC)	Pre-Scoping Report. Letter issued by ERM on. 2025.01.28.	ERM issued a consultation letter to SBC providing an overview of the EIAR assessment	No formal response has been received to date, although methodology and specific impacts,

CONSULTEE	TYPE AND DATE	SUMMARY OF CONSULTATION RESPONSE	ACTION
	Scoping Response issued 2024.03.06	methodology as relating to the Archaeology and Cultural Heritage Chapter, as well as a baseline of designated assets within the 3 km Setting Study Area. A list of photomontages and wirelines proposed to support the Chapter was also presented. Finally, the letter included a sieving exercise, along with a rationale for any assets included or excluded from a detailed assessment of Setting impacts.	effects and mitigation was detailed within the Scoping Response issued by SBC.
	Scoping Response issued by ECU on 2025.04.04.	In this response SBC highlighted the risk of potential Direct/Indirect Physical Impacts to a cluster of non-designated assets within the south-east corner of the Site, most notably Late Prehistoric settlement around High Chesters and a WWII crash site within Fields 18, 6 and 5. SBC made recommendations to review and include reference to the Protection of Military Remains Act 1986. In relation to Direct and Indirect Physical Impacts SBC made recommendation that the Site design should attempt to limit physical disturbance of heritage assets on site and that there was a preference for preservation in situ. The Council also raised the possibility of Setting Impacts to SM369 Ewieside Hill, fort, as well as to heritage assets located east of the current A1 and from surrounding hills.	Mitigation measures relating to Direct/Indirect Physical Impacts are outlined within **Section 7.5** of this report. SBC council concerns over Direct Physical Impacts to known and unknown assets are addressed through a programme of geophysical survey to support the heritage baseline within this Chapter, as well as through primary and tertiary mitigation, as set out within this Chapter. Intrusive archaeological site investigation will be undertaken post-determination, should planning consent S36 consent and deemed planning permission be granted. The scope of these works will be outlined through a Written Scheme of Investigation to be secured by condition. In relation to Setting Impacts, a sieving exercise was issued to SBC on 2025.01.28, detailing assets sieved in and out and detailed assessment of Setting Impacts along with a rationale for inclusion or exclusion. This letter also listed supporting visualisations intended to support the Chapter. No response has yet been issued to this consultation letter. Mitigation

CONSULTEE	TYPE AND DATE	SUMMARY OF CONSULTATION RESPONSE	ACTION
			measures relating to Setting Impacts are detailed within **Section 7.5** of this Chapter. An updated sieving exercise is included within Technical Appendix 7.2 of this EIAR, with specific comments relating to non-designated assets. In relation to Direct/Indirect Physical Impacts to the assets around High Chesters within Fields 18, 6 and 5, mitigation by design has been put in place to avoid disturbance of below ground remains. Details are provided within **Section 7.5** of this Chapter. In addition, the Defence Infrastructure Organisation archaeologist has been contacted for advice, and guidance on any additional mitigation required to avoid disturbance of the known WWII crash site.
Ministry of Defence (MOD) | Joint Casualty & Compassionate Centre	Email correspondence issued 2025.04.14	ERM contacted MOD | Joint Casualty & Compassionate Centre for further information on the WWII crash site, located within the Proposed Development. MOD confirmed that the crash site was investigated in 2014 and the crew were recovered from the Site. MOD advised that any ground disturbance within 100 m of the crash site will need to be undertaken under a license issued by the MOD.	Any disturbance of the soil within 100m of the crash site would need to be licenced under POMRA86. This includes any groundbreaking activities relating to archaeological work or construction of the Proposed Development.

7.3.2 Scope of Assessment

7.3.2.1 This Chapter describes the potential Direct/Indirect Physical Impacts, Setting Impacts and Cumulative Impacts to Cultural Heritage assets arising from the Proposed Development and assesses whether those effects are Significant in the context of EIA regulations. This Chapter:

- compiles the existing environmental baseline determined from assessment of publicly available data, project-specific survey data and stakeholder consultation;
- presents the predicted environmental impacts to heritage assets and resulting effects arising from the Proposed Development through the Construction, Operation and Decommissioning phases;
- identifies mitigation measures designed to prevent, reduce, or offset adverse effects and enhance beneficial effects on the environment;
- identifies residual effects on heritage assets, including those considered to be significant, taking into account the above mitigation; and
- identifies any uncertainties or limitations in the methods used and conclusions drawn from the compiled environmental information.

7.3.3 Design Parameters

7.3.3.1 Direct and Indirect Physical Impacts will be assessed against the following design parameters, as described in full within **Volume 1: Chapter 3 Development Description**: Direct and Indirect Physical Impacts will be assessed against the following design parameters: Solar PV Array: spatial extent and maximum impact depth;

- BESS: spatial extent and maximum impact depth;
- Substation Electrical Infrastructure: spatial extent and maximum impact depth;
- Access tracks: spatial extent and maximum impact depth;
- Cable trenching: spatial extent and maximum impact depths;
- Hard standing: spatial extent and maximum impact depths; and
- Temporary construction compound: spatial extent and maximum impact depths

7.3.3.2 Setting Impacts will be assessed against the following design parameters:

- Solar Array: spatial extent and maximum above ground height;
- BESS compound: spatial extent and maximum above ground height;
- Substation: spatial extent and maximum above ground height;
- A 40-year Operational lifespan for the Proposed Development; and
- Complete removal of all above ground infrastructure upon Decommissioning

7.3.4 Chapter Specific EIA Methodology

7.3.4.1 **Volume 1: Chapter 4: EIA Methodology** sets out the general approach to the assessment of likely significant effects that may arise from the Proposed Development.

7.3.4.2 Whilst Chapter 4 provides a general framework for identifying impacts and assessing the significance of their effects, in practice the approaches and criteria applied across different topics vary.

7.3.4.3 The approach to the Archaeology and Cultural Heritage assessment that has been addressed in the EIA is outlined in **Section 7.4** and is in line with HES guidance listed within **Section 7.2** above (HES 2018: Environmental Impact Assessment Handbook) and is compliant with the HES and NatureScot EIA handbook.

7.3.4.4 Specific information pertaining to the datasets used to support the EIAR and the methodology for assessing the Site's potential, the value of heritage assets, magnitude of impact, and the significance of any identified effects to cultural significance are discussed below.

7.3.5 Terminology

7.3.5.1 In accordance with the HES Environmental Impact Assessment Handbook, the following definitions are applied throughout this Chapter:

Direct Physical Impacts

7.3.5.2 These occur where the physical fabric of the asset is removed or damaged as a direct result of the Proposed Development, such as from the removal of archaeological deposits as a result of the excavation of foundation trenches. Such impacts will generally result from the construction phase and will be permanent.

Indirect Physical Impacts

7.3.5.3 These occur where an asset's physical fabric is lost or better preserved as a result of the proposal even though the asset is located outside of the Site boundary. Examples include damage to walls as a result of vibration from piling operations or blasting, the degradation of waterlogged deposits as a result of dewatering and changes in currents resulting in increased/decreased erosion. Such impacts may result at any stage of development and are likely to be permanent.

Setting Impacts

7.3.5.4 These result from the proposal causing change within the setting of a heritage asset that affects its cultural significance or the way in which it is understood, appreciated and experienced. Such impacts are generally, but not exclusively, visual, occurring as a result of the appearance of the proposal in the surroundings of the asset. However, they may relate to other senses or factors, such as noise, odour or emissions, or historical relationships that do not relate entirely to intervisibility, such as historic patterns of land use and related historic features. Such impacts may occur at any stage of a proposal's lifespan and may be permanent, reversible or temporary.

Cumulative Impacts

7.3.5.5 Cumulative impacts can relate to the physical fabric or setting of assets. They may arise as a result of impact interactions, either of different impacts of the Proposed Development itself or between the impacts of other projects, or additive impacts resulting from incremental changes caused by the Proposed Development together with other projects already in the planning system or allocated in a Local Development Plan.

Setting

7.3.5.6 This is the way the surroundings of a heritage asset contribute to how it is understood, appreciated and experienced. Setting can incorporate a range of factors, including: current landscape context; views to, from and across the asset; key vistas; the prominence of the asset in views across the surrounding landscape; aesthetic qualities; relationships with other heritage assets or landscape features; non-visual factors such as historical, literary, artistic or scenic association; or a sense of place which may combine several of the factors detailed above. Setting is not simply the visual aspect of the asset in question. In general, there will be an appreciable historical relationship between the asset and its setting, either in terms of a physical relationship, or a more distant visual relationship. Some assets' cultural significance will relate to an aesthetic relationship with their surroundings which may result from design or be fortuitous.

Cultural Significance

7.3.5.7 This relates to the ways in which a heritage asset is valued by both specialists and the wider public. It may derive from factors including the asset's fabric, setting, context and associations. It applies to varying degrees to all of Scotland's historic environment. Cultural significance may change over time, for example as use changes or as understanding develops owing to new information or changes in ideas or values.

7.3.5.8 NPF4 Policy 7 a) provides as follows:

'Development proposals with a potentially significant impact on historic assets or places will be accompanied by an assessment which is based on an understanding of the cultural significance of the historic asset and/or place.'

7.3.5.9 The Glossary to NPF 4 (Part 3 – Annexes, p.147) defines 'cultural significance' as follows:

'Cultural significance means aesthetic, historic, scientific or social value for past, present or future generations. Cultural significance can be embodied in a place itself, its fabric, setting, use, associations, meanings, records, related places and related objects.'

7.3.5.10 This same definition is adopted in Historic Environment Policy for Scotland (HEPS) (2019), which acknowledges the derivation of this definition from the Burra Charter (Australia ICOMOS Burra Charter 2013, Article 1, 1.2), Article 6 of which provides that:

'The cultural significance of a place and other issues affecting its future are best understood by a sequence of collecting and analysing information before making decisions. Understanding cultural significance comes first, then development of policy and finally management of the place in accordance with the policy.'

7.3.5.11 Cultural Heritage (inclusive of artefacts, buried archaeological remains, above ground structures and earthworks as well as intangible aspects of heritage) is considered in detail within a Practice Note accompanying the Burra Charter entitled 'Understanding and Assessing Cultural Significance'[10]. This Practice Note provides that an asset's significance derives from its 'values', which it defines as follows:

- **Aesthetic value** '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.'

- **Historic value** '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.'

- **Scientific value** '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. To establish potential, it may be necessary to carry out some form of testing or sampling. For example, in the case of an archaeological site, this could be established by a test excavation.'

- **Social value** '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.'

7.3.5.12 A cultural heritage asset may derive cultural significance from one, several or all of these values. For example, buried archaeological remains may typically derive cultural significance from their scientific value, whereas a listed castle may derive cultural significance from its aesthetic and historic values as well as from its scientific value.

[10] Australia ICOMOS, The Burra Charter (2013) 'Understanding and Assessing Cultural Significance' available online at: https://australia.icomos.org/wp-content/uploads/Practice-Note_Understanding-and-assessing-cultural-significance.pdf

7.3.6 Study Areas

7.3.6.1 To assess potential Direct/Indirect Physical Impacts and Setting Impacts on the historic resource, the following study areas have been defined:

1 km Study Area

7.3.6.2 The 1 km Study Area will be used to produce a heritage baseline to inform Direct and Indirect Physical Impacts. This Study Area takes in the Site boundary and land within 1 km of the Site. The wider historic environment will be considered, as and when pertinent to the Proposed Development.

3km Study Area

7.3.6.3 The 3 km Study Area includes the area within a 3 km radius of the Site and was used to inform the assessment of Setting Impacts to designated assets and selected non-designated assets identified through consultation with the HES and SBC.

7.3.6.4 In relation to Cumulative Impacts arising from the Proposed Development and other projects in the surrounding landscape, a 3 km Study Area was used to guide the selection of projects assessed within this Chapter.

7.3.6.5 The 3 km Study Area for Setting Impacts and Cumulative Impacts was not used as an arbitrary cut-off point for assessing potential impacts. Due consideration was given to assets and projects beyond 3 km that fall within the bare earth Zone of Theoretical Visibility (ZTV), as well as assets or projects specifically identified for inclusion by stakeholders.

7.3.7 Referenced Data Sets

7.3.7.1 The data sources that have been used to inform this Chapter of the EIAR are presented within **Table 7.2**.

TABLE 7.2 SUMMARY OF KEY PUBLICLY AVAILABLE DATASETS FOR ARCHAEOLOGY AND CULTURAL HERITAGE

SOURCE	YEAR	SPATIAL COVERAGE	SUMMARY
HES datasets including: National Record of the Historic Environment (Canmore Catalogue); Database of World Heritage Sites; Database of Scheduled Monuments; Database of Listed Buildings; Database of Inventoried Garden and Designed Landscapes; and Database of Inventoried Battlefields.	2025	Scotland. Used Within 1 km Study Area for heritage baseline 3 km Setting Study Area	Geographic Information System (GIS) data sets of designated and non-designated assets to inform the heritage baseline and Direct/Indirect Physical Impacts. GIS data sets of designated assets to inform Setting and Cumulative Impacts.
SBC Historic Environment Record (HER)	2025	Used within 1 km Study Area to inform heritage baseline	GIS data sets of designated and non-designated assets to inform the heritage baseline and Direct/ Indirect Physical Impacts. GIS data sets of designated assets to inform Setting and Cumulative Impacts.
Conservation Area Appraisals and maps as held by the local planning authority	2025	Within 3 km Study Area. Used within 15 km Study Area to inform Setting Impacts to designated assets	Maps of Conservation Areas to inform Setting and Cumulative Impacts.
National Landscape Character Assessment	2025	Scotland	Online Web viewer. https://www.nature.scot/professional-advice/landscape/landscape-character-

SOURCE	YEAR	SPATIAL COVERAGE	SUMMARY
		Used within 1 km Study Area to inform heritage baseline	assessment/scottish-landscape-character-types-map-and-descriptions
Aerial and Satellite Photography, and LiDAR	1945-2025	UK Wide. Used within 1 km Study Area to inform heritage baseline	GIS and Environment Agency data sets for LiDAR were consulted but not available within the Site boundary. Google Maps and Google Earth were consulted. Canmore aerial photography and satellite imagery were consulted. These datasets were consulted to inform the heritage baseline and direct/ indirect (physical) impacts
Cartographic evidence from the Ordnance Survey (OS) and historic maps;	17th to 20th century	Scotland. Used within 1 km Study Area to inform heritage baseline	A review of the National Library of Scotland online historic mapping was undertaken to inform the heritage baseline and direct/ indirect (physical) Impacts. A review of OS online map archive was also undertaken.
Digital Terrain Model (DTM)	2025	UK wide. Used within 1 km Study Area to inform heritage baseline	OS Mapping. OS Terrain 5 software.
The Statistical Accounts for Scotland	Late 18th and 19th century	Scotland. Used within 1 km Study Area to inform heritage baseline	A review of the National Records of Scotland (NRS) online Catalogue was undertaken to inform the heritage baseline.
The National Records of Scotland (NRS)	17th to 20th century	Scotland. Used within 1 km Study Area for heritage baseline	A review of the NRS online Catalogue was undertaken to inform the heritage baseline

SOURCE	YEAR	SPATIAL COVERAGE	SUMMARY
Archaeological Data Service (ADS) for heritage data including grey literature reports, archaeological journals, and the Excavation Index for Scotland	1980-2025	UK wide. Used within 1 km Study Area to inform heritage baseline	A review of the ADS Library was undertaken to inform the heritage baseline
Published and grey literature, archaeological journals and monographs	1980-2025	UK wide. Used within 1 km Study Area to inform heritage baseline	A review of the ADS Library was undertaken to inform the heritage baseline
Regional and national research framework assessments and strategies	2025	Scotland. Used within 1 km Study Area to inform heritage baseline	A review of the Scottish Archaeological Research Framework (ScARF) was undertaken to inform the heritage baseline

7.3.8 Primary Survey

7.3.8.1 To provide site specific and up to date information on which to base this assessment, a walkover survey was conducted within the Site boundary. The walkover survey was intended to supplement regional and national datasets and to ground truth that data.

7.3.8.2 A geophysical survey was commissioned by the Applicant with a detailed gradiometer (magnetometry) survey being carried across the Site.

7.3.8.3 The results of this primary survey are available within **Volume 3: Technical Appendix 7.1 Heritage Baseline**. No additional heritage assets, beyond those identified during the production of the heritage baseline, or identified through geophysics were identified during the walkover.

7.3.8.4 In addition, a setting site visit was undertaken in June 2024, with key heritage assets within the Zone of Theoretical Visibility (ZTV) visited to both verify the ZTV and inform the magnitude of Setting Impacts.

7.3.9 Assessment of Archaeological Potential

7.3.9.1 The potential for surviving archaeological evidence of past activity within the Site boundary is expressed in the report as ranging between the scales of High and Negligible or Unknown, where this cannot be determined, as detailed within **Table 7.3**.

TABLE 7.3 CRITERIA FOR ASSESSING ARCHAEOLOGICAL POTENTIAL

POTENTIAL	DEFINITION
High	A known or strong potential for archaeological evidence to survive intact or reasonably intact;
Medium	A reasonable likelihood for past activity with a potential that archaeological evidence could survive.
Low	The area is not thought to contain archaeological evidence of past activity or said evidence is likely to have been disturbed since deposition.
Negligible	The area is highly unlikely to contain archaeological evidence of past activity or the area has been disturbed to such an extent that survival is all but impossible.
Unknown	Insufficient information to assess.

7.3.10 Assessing the Effect to Cultural Significance

7.3.10.1 Following identification of historic assets with the potential to be impacted by the Proposed Development, this Chapter identifies the predicted changes and assesses the magnitude of impact of these changes upon the historic environment. The impact assessment makes specific reference to any alterations to the intrinsic, contextual or associative values of the heritage assets.

7.3.10.2 The assessment implements a systematic approach to understand the impact pathways and the level of impacts on given receptors. The process considers the following:

- the value ('cultural significance') of the asset;
- how/from what the asset derives its cultural significance;
- the Magnitude of Impact of the Proposed Development upon the asset; and
- the Significance of Effect of any impacts upon an asset's cultural significance.

7.3.10.3 The duration of an effect is also referred to. Direct (Physical impacts) will typically be permanent and irreversible. Indirect (Physical) Impacts such as damage to historic fabric of upstanding structures from ground vibration may be reversible through sympathetic repair/restoration or following removal or decommissioning of the cause of the impact. Setting Impacts are assumed to be reversible, following Decommissioning and removal of all above ground infrastructure at the end of the Development's working life.

7.3.11 Value of a Receptor

7.3.11.1 The value of a heritage asset reflects the relative importance of an asset as described in the designation process. As a starting point, the value of the cultural heritage assets / receptors has been equated with designation status, as shown in **Table 7.4**.

TABLE 7.4 FRAMEWORK FOR DETERMINING THE VALUE OF RECEPTOR

VALUE	DEFINITION
High	Heritage Assets valued at national level. These may include Scheduled Monuments, Category A Listed Buildings, Registered Battlefields, Gardens and Designed Landscapes, and nationally important archaeological features and conservation areas (as defined in the Council's HER).
Medium	Heritage Assets valued at a regional level. These may include Category B and some Category C Listed Buildings as well as regionally important archaeological features and conservation areas. Regionally important non-designated assets have been assigned a medium value based upon professional judgment.
Low	Heritage Assets valued at a local level. These may include Category C Listed Buildings, some conservation areas and non-designated assets of local value.
Negligible	Badly preserved and/or damaged or very common archaeological features and buildings of little or no value at local or any other scale.
Uncertain	Historic assets for which the importance of the resource has not been ascertained and archaeological resources the importance of which cannot be ascertained.

7.3.11.2 In relation to below ground heritage resource, it is often not possible to confirm a value with any certainty, as the full spatial extent of an asset, density of archaeological remains and state of preservation cannot be known prior to further archaeological site investigation. In such circumstances a professional judgement as to the importance/value of the receptor

may be applied. It should be noted that the assessment of value for non-designated assets is a matter of judgement applied by professional experts, based on the receptors within the relevant Study Area and input, where available, from SBC HER.

7.3.12 Magnitude of Impact

7.3.12.1 In respect of Direct/Indirect Physical Impacts, the magnitude of impact is the predicted degree of change to the physical fabric of the asset as a result of the Development.

7.3.12.2 In respect of Setting Impacts, the magnitude of impact comprises the extent of change (either beneficial or adverse) to the cultural significance of an asset as a result of change to its Setting.

7.3.12.3 Impacts may be beneficial or adverse, short term, long term or permanent. In relation to cultural heritage, impacts are generally adverse and are classified, for both Direct/Indirect Physical Impacts and Setting Impacts. The degree of impact is assigned on the criteria shown in detailed in **Table 7.5**.

TABLE 7.5 FRAMEWORK FOR DETERMINING MAGNITUDE OF IMPACT

MAGNITUDE	DESCRIPTION	
	POSITIVE CHANGE	NEGATIVE CHANGE
Substantial	Overwhelming positive changes to/around the asset such that the cultural significance of the asset is substantially enhanced; this may result from positive changes to an asset or to key aspects of an asset's setting, either physically, visually or in relation to noise, sound quality and/or improved access.	Setting Impacts: substantial adverse change to an asset's setting such that a total or near complete loss of cultural significance, and/or an inability to understand, appreciate or experience the heritage asset results.
		Direct/Indirect (Physical) Impacts: substantial change to an asset's physical fabric such that a total or near complete loss of cultural significance, and/or an inability/near-inability to understand, appreciate or experience the heritage asset results.
Moderate	Moderate (appreciable but neither substantial nor slight) positive changes to/around the asset such that the cultural significance of the asset is moderately enhanced; this may result from positive changes to an asset or to aspects of an asset's setting, either physically, visually or in relation to noise, sound quality and/or improved access.	Setting Impacts: a moderate level of adverse change to an asset's setting such that an appreciable (but not substantial) loss of cultural significance, and/or a moderate reduction in the ability to understand, appreciate or experience the heritage asset results.
		Direct/Indirect (Physical) Impacts: a moderate level of adverse change to an asset's physical fabric such that an appreciable (but not substantial) loss of cultural significance, and/or a moderate reduction in the ability to understand,

MAGNITUDE	DESCRIPTION	
	POSITIVE CHANGE	NEGATIVE CHANGE
		appreciate or experience the heritage asset results.
Slight	Slight (perceivable to only a modest extent) positive changes to/around the asset such that the cultural significance of the asset is enhanced to a modest extent; this may result from positive changes to an asset or to aspects of an asset's setting, either physically, visually or in relation to noise, sound quality and/or improved access.	Setting Impacts: a slight level of adverse change to an asset's setting such that a modest loss of cultural significance, and/or a modest reduction in the ability to understand, appreciate or experience the heritage asset results.
		Direct/Indirect (Physical) Impacts: a slight level of adverse change to an asset's physical fabric such that a modest loss of cultural significance, and/or a modest reduction in the ability to understand, appreciate or experience the heritage asset results.
None	No positive changes to/around the asset such that the cultural significance of the asset is preserved but not enhanced; this may result from no/negligible positive changes to an asset or to aspects of an asset's setting, either physically, visually or in relation to noise, sound quality and/or improved access.	Setting Impacts: no adverse change to an asset's setting such that the asset's cultural significance and ability to understand, appreciate, and experience the heritage asset would be preserved.
		Direct/Indirect (Physical) Impacts: no adverse change to an asset's physical fabric such that the asset's cultural significance and ability to understand, appreciate, and experience the heritage asset would be preserved.

7.3.13 Significance of Effect

7.3.13.1 The significance of effect is broadly determined by correlating the value of the asset against the anticipated magnitude of impact, as detailed in **Table 7.6**. The final determination of the significance of effect in each instance is informed by professional judgement.

TABLE 7.6 FRAMEWORK FOR DETERMINING SIGNIFICANCE OF EFFECT

SIGNIFICANCE OF EFFECT		RECEPTOR VALUE			
		NEGLIGIBLE	LOW	MEDIUM	HIGH
MAGNITUDE OF IMPACT	NEGLIGIBLE	Negligible/None	Negligible/None	Negligible/None	Negligible/None
	SLIGHT	Negligible/None	Minor	Minor	Moderate
	MODERATE	Negligible/None	Minor	Moderate	Major
	SUBSTANTIAL	Negligible/None	Moderate	Major	Major

7.3.13.2 Effects predicted to be of 'Major' significance are considered to be 'significant' in the context of the EIA Regulations. Where an effect is predicted to be of 'Moderate' significance, professional judgment will be applied in determining whether the effect qualifies as 'significant' in the context of the EIA Regulations.

7.3.14 Limitations and Assumptions

7.3.14.1 The following limitations and assumptions have been identified for the Archaeology and Cultural Heritage Chapter and assessment:

- This assessment primarily comprises a desk-based review of information taken from HES datasets and data from the SBC HER, as well as a variety of secondary sources, supplemented by non-intrusive field survey. Whilst this information is assumed to be accurate, it does not constitute a complete record of the historic environment and does not preclude the potential for hitherto unidentified archaeological remains or deposits to be encountered within the Site. Undertaking primary survey work to support this Chapter does not preclude the potential for additional or subsurface archaeological remains to survive within the Site; and

- Beyond the walkover survey, geophysical survey and setting impact site visits, no additional intrusive archaeological site investigation works, e.g. in the form of trial trenching, have been undertaken to inform this Chapter. A programme of additional intrusive archaeological works will be undertaken post-determination.

7.3.14.2 These limitations will primarily be mitigated Through embedded mitigation measures as outlined in **Section 7.5**. Proposed mitigation measures are outlined in **Section 7.8** and residual effects are presented in **Section 7.8.4.**

7.4 Baseline Conditions

7.4.1 Heritage Baseline within the 1 km Study Area

7.4.1.1 A single designated asset is located within the 1 km Study Area; SM369 Ewieside Hill, fort.

7.4.1.2 There are 44 non-designated assets identified in the SBC HER data within the 1 km Study Area. Of these, 14 are within the Site boundary. A further two, previously unknown assets were identified within the Site boundary through geophysical survey. A summary of these assets is discussed below by period.

Early Prehistoric

7.4.1.3 There are no Early Prehistoric assets within the 1 km Study Area. A review of the wider historic landscape identified only three Mesolithic assets within 20 km of the Site. There are eight Neolithic assets recorded within 10 km of the Site. Based on the above there is considered a low potential for additional Early Prehistoric assets to be present within the Site boundary. Any assets recovered dating to this period would likely take the form of isolated finds in the form of flints or stone tools.

Late Prehistoric

7.4.1.4 There are 26 assets dated to the Late Prehistoric period (Bronze Age / Iron Age), within the 1 km Study Area. Of these, eight are within the Site boundary. Of these eight assets, seven are recorded in the SBC HER data and one has been assigned to this period from the geophysical anomalies identified during primary survey.

TABLE 7.7 LATE PREHISTORIC ASSETS WITHIN THE SITE BOUNDARY

MAIN REFERENCE	CANMORE ID	NAME	DESCRIPTION	PERIOD	FIELD
58717	58717	Big Chesters, Bowshiel	Fort/Settlement/Linear Earthwork. Little of this fort is visible. Cropmarks reveal that it measures about 90m by 75 m within a ditch up to 5m broad, and there are upturned entrances on the NE and SE respectively. The interior contains a ditched enclosure, probably a settlement, measuring about 50 m by 40 m internally. An area of at least 6 ha around the fort has been partly enclosed by an irregular earthwork shown as a linear cropmark.	Late Prehistoric	6, 18
58718	58718	Enclosure, Bowshiel	Enclosure. Faint cropmarks reveal the Site of an enclosure, possibly a settlement at this Site, immediately SW of NT76NE; roughly circular on plan, it measures	Late Prehistoric	6, 18

MAIN REFERENCE	CANMORE ID	NAME	DESCRIPTION	PERIOD	FIELD
			about 40 m in diameter internally. There is nothing visible on the ground.		
58719	58719	Fermy Knowe, Enclosure	Fort/Enclosure. The scanty remains of this fort lie on the end of a short spur some 280 m SW of Penmanshiel Cottage. It has been oval on plan, measuring some 40 m NW-SE by 23 m transversely, surrounded by a single rampart of which traces remain at either end.	Late Prehistoric	5
58720	58720	Little Chester, Bowhsiel	Fort/Settlement. Ploughed out Likley Late Prehistoric settlment. The Site of this fort is located about 650 m E of Bowshiel, on the E side of the hill. It has been oval on plan, measuring some 57 m by 50 m surrounded by a single ramaprt, now some 10 m wide and much effaced. There is no trace of an entrance. The course of the rampart, very much ploughed out, is faintly visible at the NE corner of the Site; a vague hollow some 35 m in diameter is traceable at the centre. This earthwork was situated on a NE-facing hill-slope.	Late Prehistoric	6
58721	58721	Enclosure, Bowshiel	Fort/Enclosure. This fort was situated at an elevation of 200 m above sea-level, some 215 m to the west of the Site, on the edge of a steep bank above the Pease Burn. It has been circular in form with an interior diameter of 72 m, and appears to have been surrounded by a single mound. No trace of this enclosure is now	Late Prehistoric	14

MAIN REFERENCE	CANMORE ID	NAME	DESCRIPTION	PERIOD	FIELD
			visible except a slight flattening of the ground		
241407	241407	Ring Ditch, Bowshiel	This ring-ditch, measuring about 12 m in diameter within a ditch about 2 m wide, has been recorded as cropmarks on oblique aerial photography lying on sloping ground about 330 m SW of Bowshiel, above the steeply incised gully of the Pease Burn.	Late Prehistoric	16
360603	360603	The Ring, Cairn	This unusual cairn is situated immediately E of a farm track in a forestry plantation. It comprises a stony mound 7.5 m in diameter by 0.3 m in height, surrounded by a bank about 2m thick and 0.3 m high which encloses an area 19 m in diameter.	Late Prehistoric	6
MS1		Geophysical anomaly	A group of linear to curvilinear weakly enhanced positive anomalies [MS1B] have been identified within LP12. These anomalies appear to form a rectilinear enclosure.	Prehistoric / Unknown	12

7.4.1.5 Of these assets, seven are clustered around the Pease Burn and the low hills overlooking the watercourse, with Canmore ID's 58717, 58718, 58719, 58720, 58721, 241407 and 360603 all located close to the southern and eastern boundaries of the Site, on ground overlooking the Pease Burn. The only exception to this is MS1, which is located in the north-west corner of the Site, in proximity to SM369 Ewieside Hill, fort. The Late Prehistoric assets within the Site are characteristic of enclosed settlement with several categorised as forts. Canmore ID 360603 records a funerary cairn, likely associated with one of these settlement sites.

7.4.1.6 Within the wider 1 km Study Area, this pattern of settlement continues, with 18 Late prehistoric settlement and funerary sites located on low hills overlooking the Pease Burn, east of the Site, or adjacent to the Heriot Water, north of the Site. Approximately, 300 m north-west of the Site is SM369 Ewieside Hill, fort, which represents the only designated prehistoric asset recorded within the 1 km Study Area. This multivallate fort is located atop Ewieside Hill at 251 m AOD and has expansive 360 views, with a particular focus to the

surrounding enclosed settlements and forts along the Heriot Water, as well as to Canmore ID 58721, a fort/enclosure located 1 km south, within the Site boundary and adjacent to the Pease Burn.

7.4.1.7 Based on the above there is considered to be a high potential for further Late Prehistoric assets to exist within the Site boundary, with any such assets likely to be located close to the northern, southern and eastern edge of the Site, close to the known watercourses of the Pease Burn and Heriot Water. Below ground remains may take the form of settlement, field systems, funerary remains. Isolated finds of stone, metal or bone might also be anticipated within areas disturbed by the plough.

Roman

7.4.1.8 There are no known Roman assets within the 1 km Study Area. The wider historic landscape records four Roman assets within 5 km of the Site, including a hoard found at Blackburn Mill. The wider landscape includes many findspots for brooches, coins, lamps, beads, and glass. Based on the above, there is considered to be a low potential for further unknown Roman assets to be found within the Site. Should such assets be present they would likely take the form of isolated findspots of ceramic or metal in areas disturbed by the plough.

Medieval

7.4.1.9 There are three assets dated to the Medieval period within the Site, two are recorded in the SBC HER data. The third relates to a geophysical anomaly identified through primary survey. There are no Medieval assets within the wider 1 km Study Area.

TABLE 7.8 MEDIEVAL ASSETS WITHIN THE SITE BOUNDARY

MAIN REFERENCE	CANMORE ID	NAME	DESCRIPTION	PERIOD	FIELDFIELD
58751	58751	Tower House, Bowshiel	The authority for the tower house is unknown. There is no trace of remains in the position indicated by the published symbol and Mr White, farmer Bowshiels, states that he has dug trenches in this position and has found nothing suggestive of remains of a building. At NT 7855 6774, a short stretch of wall adjoining a barn has no obvious relationship with any of the farm buildings. It is about 0.5 m thick and constructed of large stones, but large stones are also used in	Medieval	Bowshiel Farm

MAIN REFERENCE	CANMORE ID	NAME	DESCRIPTION	PERIOD	FIELDFIELD
			the construction of the farm buildings.		
278499	278499	Farmhouse, Bowshiel	Evidence for the former farmhouse is taken from Ponts Map of Scotland. No traces are visible on the ground.	Medieval	Bowshiel Farm 8, 19
MS2		Geophysical anomaly	Rectangular anomaly within LP15. May be associated with Medieval assets 58751 and/or 278499	Medieval / Unknown	15

7.4.1.10 These assets relate to a Medieval Tower House and farmstead, recorded on historic mapping but with no structural evidence of their presence on the Site. Bowshiel Tower House, a 16th century structure, was held by the Arnots until 1625 after which it transferred to the Nicolsons, as mentioned in a 1633 act detailing the Bowshiel lands, to a Master James Nicolson of Cockburnspath. The tower house and farmstead are located within proximity to the current farmhouse at Bowshiel.

7.4.1.11 Beyond the 1 km Study Area there are 150 Medieval heritage assets recorded within 5 km of the Site. However, the majority of these overlap with the Post Medieval period. These are mostly characterised by farmsteads and rig and furrow systems, churches, castles, burghs, and villages. A series of long cists are also recorded. The long cist as a burial practice has previously been considered as evidence for early Christian missionaries in the area or as a product of Roman influence. However, more recent developments suggest that the long cist signifies a continuation of prehistoric Iron Age funerary practice throughout the 5th century in the Eastern Lothian region, carrying on the memory of past funerary practice into a dramatically changing early Medieval landscape.

7.4.1.12 Based on the above there is predicted to be a low potential for further unknown Early Medieval assets to be present on Site. There is considered a medium potential for Later Medieval assets. Should such assets remain, they would likely take the form of structural rubble associated with the demolished farmstead (278499) or tower house, foundations (58751), associated field systems or isolated finds.

Post-Medieval

7.4.1.13 There are 11 assets ascribed to the Post-Medieval period within the 1 km Study Area. Of these four are within the Site boundary.

TABLE 7.9 POST-MEDIEVAL ASSETS WITHIN THE SITE BOUNDARY

MAIN REFERENCE	CANMORE ID	NAME	DESCRIPTION	PERIOD	FIELD
342727	342727	Old Quarry, Bowshiel	Old Quarries' marked on the First Edition OS map.	Post-Medieval	11, 12
342725	342725	Road, Bowshiel	Old Road marked on First Edition OS map.	Post-Medieval	16
342729	342729	Mill Dam, Bowshiel	A mill dam marked on the First Edition OS map.	Post-Medieval	18
342726	342726	Road, Bowshiel	Old Road marked on First Edition OS map.	Post-Medieval	6

7.4.1.14 Assets within the Site boundary include a pair of roads located to the south-east of the extant Bowshiel farmhouse, a mill dam to the north-west of the farmhouse and a quarry site in fields north-west of the farmhouse.

7.4.1.15 There are a further seven assets ascribed to this period found within the wider 1 km Study Area and these include further farmsteads and houses located around the Pease Burn, as well as 19th century railway infrastructure.

7.4.1.16 Beyond the 1 km Study Area, there are 112 Post-Medieval heritage assets recorded within 5 km of the Site. These are characterised by buildings, farmhouses and farmsteads, animal enclosures, roads, bridges, smithies, quarries, and mill ponds.

7.4.1.17 Assets of this period in this area represent the rapid industrial growth that took place at this time, with established farmsteads, smithies, sawmills, and quarries dominating the landscape and connecting the villages locally as well as across Scotland and the north of England.

7.4.1.18 There is considered to be a High potential for further Post-Medieval below ground remains to exist within the site boundary, but these are likely to take the form of agricultural remains and associated former field boundaries and trackways.

Modern

7.4.1.19 There are six modern assets located within the 1 km Study Area, only one of which is within the Site boundary.

TABLE 7.10 MODERN ASSETS WITHIN THE SITE BOUNDARY

MAIN REFERENCE	CANMORE ID	NAME	DESCRIPTION	PERIOD	FIELD
353679	353679	Bigchesters Aircraft	20th Century crash site. A Royal Air Force Bristol Beaufighter (serial number X7568) from 141 Squadron. It crashed at NT 791 673 on 8th May 1942 with the death of all the crew - H.B. Crouse (Royal Canadian Air Force), F W Bodfish, and C Furbank.	Modern	6, 18

7.4.1.20 A Second World War plane crash is located within the south-east corner of the Site, close to the Late Prehistoric site of Big Chesters.

7.4.1.21 The remaining five modern assets within the wider 1 km Study Area pertain to Second World War coastal defences, railway infrastructure and modern quarry sites.

7.4.1.22 There is considered to be a low potential for additional modern assets to survive within the Site, with modern activity likely having truncated any that once did.

Summary of Archaeological Potential

7.4.1.23 A summary of archaeological potential broken down by period is presented within **Table 7.11**.

TABLE 7.11 A SUMMARY OF THE SITE'S ANTICIPATED ARCHAEOLOGICAL POTENTIAL

PERIOD NAME		POTENTIAL
Early Prehistory	Palaeolithic	Negligible
	Mesolithic	Low
	Neolithic	Low
Later Prehistory	Bronze Age	High
	Iron Age	High
Romano-British	Roman	Low
Medieval	Early Medieval	Low
	Later Medieval	Medium

PERIOD NAME	POTENTIAL
Post-Medieval	High
Modern	Low

7.4.2 Setting Assessment within the 3 km Study Area

7.4.2.1 With regards to designated assets under the statutory care of HES, there are nine such assets within the Setting Study Area, as follows:

- Four Scheduled Monuments;
- One Garden and Designed Landscape (GDL); and
- Four Category A-Listed Buildings

7.4.2.2 Based on the ZTV and initial sieving exercise and consultation with HES, a single scheduled monument – SM369 Ewieside Hill Fort – has been identified as warranting detailed setting assessment, with the remaining assets sieved out.

7.4.2.3 With regards to designated assets under the statutory care of SBC, there are 13 such assets within the Setting Study Area, as follows:

- One Conservation Area; and
- 12 Listed Buildings (seven Category B and five Category C).

7.4.2.4 Based on the ZTV and initial sieving exercise, no SBC assets were considered to warrant a detailed setting assessment within the EIAR, with all assets sieved out.

7.4.3 Cumulative Development Baseline

7.4.3.1 The assessment of Cumulative Effects reviewed relevant proposed developments within 5 km of the Site, with relevant projects are listed in **Table 7.12**. Operational developments are considered part of the landscape baseline against which Setting Impacts are measured. As such, operational developments will not be considered in relation to Cumulative Effects.

TABLE 7.12 CUMULATIVE DEVELOPMENT WITHIN 5 KM OF SITE

PLANNING REFERENCE AND NAME	PLANNING DESCRIPTION	DEVELOPMENT DESCRIPTION	DISTANCE FROM DEVELOPMENT	STAGE OF DEVELOPMENT	OTHER NOTES
ECU00004815 - Springfield Solar Farm5	Construct and operate a Solar Farm with accompanying BESS, associated infrastructure, access, and landscaping	Solar Farm with a generating capacity of up to 165 MW, accompanying BESS with a generating capacity of up to 150 MW	4.5 km	In planning	N/A

7.4.4 Future Baseline

7.4.4.1 Should the Proposed Development not proceed, then the general land use and rural character of the Site would remain unchanged, beyond small scale changes associated with the operation of Bowshiel Farm.

7.4.4.2 Based on the climate change projection scenario for the Proposed Development, as defined by HES within 'A Guide to Climate Change Impacts on Scotland's Historic Environment'[11] the future baseline environment for heritage assets is expected to be one of decreasing rainfall in summer months and wetter winters. The average yearly temperature is expected to increase with the additional energy in the atmosphere generating more erratic weather and a greater number of winter storms with both prolonged and more intense bouts of rainfall and flooding.

7.4.4.3 Based on the climate change projections, there is expected to be increased and accelerating erosion of lowland and coastal soils as a result of wind loss during dry summers and greater run off from winter storms. Climate change is likely to affect arable land with monuments and earthworks affected by increased erosion from drying and wind loss, flooding and run off. The long-term saturation of farmland may also alter the preservation of below ground remains, as well as a lengthier growing season allowing for greater disturbance from bioturbation.

7.4.4.4 Based on the climate change projections, there is expected to be increased and accelerating erosion of upland soils as a result of wind loss during dry summers and greater run off from winter storms. This is likely to affect arable land in particular. As detailed by HES within 'A

[11] HES 2019. A Guide to Cilmate Change Impacts. Available at https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=843d0c97-d3f4-4510-acd3-aadf0118bf82 [Accessed 2025.05.20]

Guide to Climate Change Impacts on Scotland's Historic Environment'[12], monuments and earthworks located in the uplands may be affected by increased erosion.

7.4.4.5 In this no change scenario, this Chapter assumes that the arable land within the Site would be subject to the ongoing effects of climate change, affected by summer drought and winter flooding. This may result in long term weathering and degradation of below ground archaeological remains currently sealed below the ploughsoil.

7.4.4.6 Outwith the Site boundary, upstanding earthworks, such as SM369 Ewieside Hill, fort, are likely to be subject to these same weathering and flooding events. SM369 is currently located on land set aside for pasture, with cattle housed in these fields. Continued saturation of the monument in winter months is likely to result in gradual damage to the upstanding elements of the fort, with cattle trampling the softened earthworks.

7.5 Embedded Mitigation

7.5.1 Primary and Tertiary Mitigation

7.5.1.1 The embedded mitigation relevant to Cultural Heritage is presented in **Table 7.13**.

[12] Historic Environment Scotland (2019) A Guide to Climate Change Impacts, available online at: https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=843d0c97-d3f4-4510-acd3-aadf0118bf82

TABLE 7.13 EMBEDDED MITIGATION

IMPACT ID	MITIGATION ID	MITIGATION	PROJECT ASPECT	PROJECT PHASE
Direct Physical Impact	Primary Mitigation	Preservation in situ of known non-designated assets has been prioritised as part of the design process, wherever possible. The use of non-intrusive foundations, suspended cabling / above ground cable trays, re-routing of any access tracks is proposed to limit ground disturbance around known assets. Where avoidance is not possible, appropriate mitigation strategies will be developed in consultation with statutory authorities.	Piling need to anchor Solar Array; Foundation Design for BESS site and control house; Fencing foundations; New access paths/tracks; Trenching for cables; Construction compound; and Any associated landscaping/site profiling.	Construction, and Decommissioning
Indirect Physical Impact	Primary Mitigation	No additional embedded mitigation beyond that set out for Direct Physical Impacts and Setting Impacts	Piling need to anchor Solar Array; Foundation Design for BESS site and control house; Fencing foundations; New access paths/tracks; Trenching for cable routes; Construction compound; and Any associated landscaping/site profiling.	Construction and Decommissioning
Setting Impacts	Primary Mitigation	Solar arrays have been repositioned within Field 12 to reduce any impact on SM369 Ewieside Hill, fort. Specifically, the infrastructure has been relocated below the 230 m AOD contour line. This design mitigation response was undertaken by the Applicant following the receipt of the Scoping Opinion provided by HES.	Above ground elements of Solar Array; Above ground elements of BESS site and control house; and Above ground fencing;	Operation and Maintenance,

IMPACT ID	MITIGATION ID	MITIGATION	PROJECT ASPECT	PROJECT PHASE
Direct Physical Impact	Tertiary Mitigation	A Written Scheme of Investigation (WSI) will be produced following submission of the EIAR. This will be agreed and issued subsequent to grant of consent. The WSI will outline the provision for further post-consent archaeological site investigation to clarify the extent of any previously unknown below ground heritage resource. The WSI will also detail provision for any mitigation works ahead or during the construction phase. The WSI will detail the requirements for Walkover Survey, Trial Trench Evaluation, Open Area Excavation and/or Watching Brief.	Piling need to anchor Solar Array; Foundation Design for BESS site and control house; Fencing foundations; New access paths/tracks; Trenching for cable routes; Construction compound; and Any associated landscaping/site profiling.	Construction, Operation and Maintenance, Decommissioning.

7.5.2 Setting Impacts and Mitigation

7.5.2.1 HES, in their Scoping Opinion and subsequent consultation undertaken during the course producing the EIAR, have recommended changes in site design and layout within Fields 12 and 13, those in closest proximity to the fort, in order to reduce Setting Impacts. Specifically, HES recommended for panels to be relocated below the 230 m AOD contour line and for the BESS compound to be relocate south from Field 12 to Field 13.

7.5.2.2 The Applicant has acknowledged the concerns of HES and has repositioned panels below the 230 m AOD contour line. The BESS location has been moved to the south-west corner of Field 13. In its current location the BESS compound is located on the 215m – 220 m AOD contour line. This infrastructure has a maximum height of 13 m. As such, the infrastructure would not exceed the maximum height of the surrounding panels within Field 12 and is broadly compliant with HES rationale for removing panels below the 230 m contour line. It is felt that moving the BESS compound south into Field 14 would risk introducing additional infrastructure into key local views, north - to south between SM369 and the non-designated fort (Canmore ID58721) within Field 14. In addition, Field 14 contains sub surface remains associated with this non-designated fort identified during the geophysical survey of the field. Siting the BESS compound within Field 14 risks generating Direct Physical Impacts to these associated remains that could otherwise be avoided. Mitigation relating to Setting Impacts is detailed within **Table 7.8**. Mitigation relating to Direct/Indirect Physical Impacts is detailed within **Table 7.8** and **Section 7.5**.

7.5.3 Alternate Foundation Design

7.5.3.1 The heritage baseline has identified locally important but substantive archaeological remains within Fields 6 and 18, containing Late Prehistoric enclosed settlement, forts and a cairn. The relevant assets within these fields are:

- Canmore ID 58717 - Chesters, Bowshiel;
- Canmore ID 58718 – Enclosure, Bowshiel;
- Canmore ID 58720 – Little Chester, Bowshiel;
- Canmore ID 360603 – The Ring Cairn; and
- Geophysics anomaly MS1 – enclosure ditch associated with Big Chesters fort.

7.5.3.2 Additional Post-Medieval and Modern remains are also recorded within these fields, inclusive of a Second World War aeroplane crash.

7.5.3.3 It is proposed that Direct Physical Impacts upon these assets within Fields 6 and 18 is avoided via:

- The use of non-intrusive foundations, such as concrete or ballast bases;
- The use of suspended cabling / above ground cable trays, as opposed to buried cabling, negating the need for cable trenching;
- Re-routing of any access tracks or other infrastructure to avoid these areas; and

- The installation of the above non-intrusive infrastructure, and (at point of decommission) its removal, in accordance with a sensitive installation and decommissioning strategy.

7.5.3.4 The above solutions should be applied across the footprints of the aforementioned remains and should extend to a suitable distance around them to ensure their efficacy. Any such strategy would be approved by the Archaeological Officer in advance.

7.5.3.5 In areas of steep incline within Fields 6 and 18, the use of such a strategy may not be possible without a preparatory excavation into the slope. However, such areas are not anticipated to be co-incident with the archaeological remains identified above.

7.5.4 Additional Commitments

7.5.4.1 NPF4 (specifically Policy 7, relating to Archaeology and Cultural Heritage) states that 'Where there is potential for non-designated buried archaeological remains to exist below a site, developers will provide an evaluation of the archaeological resource at an early stage so that planning authorities can assess impacts.'

7.5.4.2 Primary survey to date has included walkover survey and geophysical survey of the Proposed Development, to supplement the desk-based assessment of the Sites potential. It is proposed that any further archaeological site investigation work be undertaken as a condition of development consent.

7.5.4.3 Tertiary mitigation will take the form of a further program of archaeological works, undertaken post consent as a condition of consent. The scope of these works will be detailed within a WSI submitted to SBC for approval prior to any construction or ground disturbance is undertaken within the Site boundary. Details of a programme of archaeological works proportionate to the significance of effect and potential of the Site is provided below:

- Walkover survey: An appointed archaeological contractor will undertake a walkover survey along the final and fixed positions of all site infrastructure and within land 50 m surrounding this infrastructure. The aim of this work is to identify any previously unrecorded heritage assets that may be impacted by the Proposed Development and to afford an opportunity for micro siting infrastructure to avoid these impacts or to agree suitable mitigation with SBC should avoidance not be possible.

- Metal Detecting Survey: An appointed archaeological contactor will conduct a metal detecting survey within Fields 18, 6, and 5. The works are intended to recover material which may help inform the function and chronology or a cluster of prehistoric assets around High Chesters fort. Prior to any such survey, DIO archaeologists will be consulted to comply with the Protection of Military Remains, Act 1986.

- Targeted Trial Trench Evaluation: An appointed archaeological contactor will carry out, where feasible, a program of trial trench evaluation across the Site, with trenching limited to portions of the Site where ground disturbance will occur. The aim of this survey is to further assess the below ground potential for archaeological remains across the Site as well as to ground truth the results of the geophysical survey and, where desired by SBC, to further explore the character, age and preservation of known assets.

7.5.4.4 These initial works will inform the need and scope of additional archaeological works such as Targeted Open Area Excavation and / or Watching Brief.

7.5.4.5 Prior to any intrusive archaeological works being undertaken within 100m of the WWII crash site, or ahead of any construction activities that may break ground within 100 m of the WWII crash site recorded on Site, a licenced under POMRA86 would need to be issued by the MOD.

7.6 Assessment of Potential Effects

7.6.1 Potential Construction Effects

Direct Physical Impacts

7.6.1.1 Direct Physical Impacts are only likely to occur because of construction activities within the footprint of the Proposed Development. Direct Physical Impacts would be permanent.

7.6.1.2 The heritage baseline has identified 16 non-designated assets within the Site boundary, consisting of 14 assets identified within the SBC HER data and two further assets identified through geophysical survey. These assets date from the Later Prehistoric period through to the Modern period and are located within Fields 5, 6, 8, 11, 12, 14, 15, 16, 18 and 19.

7.6.1.3 **Table 7.14** lists the known assets by Field.

7.6.1.4 As a result of site constraints, beyond cultural heritage, no panels are located within Fields 5 and 15 and there is not predicted to be any ground disturbance within this field associated with the Proposed Development.

7.6.1.5 No panels are located immediately around the extant Bowshiel Farm and there is not predicted to be any ground disturbance within and around the farmhouse and farmyard associated with the Proposed Development.

7.6.1.6 Embedded mitigation, in the form of amended foundation design and the micro siting of access tracks, as discussed in **Section 7.5** would avoid Direct Physical Impacts to heritage assets within Fields 6 and 18.

7.6.1.7 Solar panels have been removed from the north-west corner of Field 12, below the 230 m ADO contour line, thus avoiding Direct Physical Impacts to MS1.

TABLE 7.14 HERITAGE ASSETS LOCATED BY FIELD

FIELD	MAIN REFERENCE	NAME	DESCRIPTION	PERIOD	PREDICTED IMPACT
5	58719	Ferny Knowe, Enclosure	Fort / Enclosure.	Late Prehistoric	None
6	58717	Big Chesters, Bowshiel	Fort / Settlement / Linear Earthwork.	Late Prehistoric	None
6	58718	Enclosure, Bowshiel	Enclosure.	Late Prehistoric	None

FIELD	MAIN REFERENCE	NAME	DESCRIPTION	PERIOD	PREDICTED IMPACT
6	360603	The Ring, Cairn	Cairn.	Late Prehistoric	None
6	58720	Little Chester, Bowshiel	Fort/Settlement.	Late Prehistoric	None
6	342726	Road, Bowshiel	Old Road marked on First Edition OS map.	Post-Medieval	None
6	353679	Bigchesters Aircraft	20th Century crash site. A Royal Air Force Bristol Beaufighter (serial number X7568) from 141 Squadron. It crashed at NT 791 673 on 8th May 1942 with the death of all the crew - H.B. Crouse (Royal Canadian Air Force), F W Bodfish, and C Furbank.	Modern	None
8	278499	Farmhouse, Bowshiel	Evidence for the former farmhouse is taken from Ponts Map of Scotland. No traces are visible on the ground.	Medieval	Yes
11	342727	Old Quarry, Bowshiel	Old Quarries' marked on the First Edition OS map.	Post-Medieval	None
12	MS1	Geophysical anomaly	A group of linear to curvilinear weakly enhanced positive anomalies	Prehistoric / Unknown	None
12	342727	Old Quarry, Bowshiel	Old Quarries' marked on the First Edition OS map.	Post-Medieval	None
14	58721	Enclosure, Bowshiel	Fort/Enclosure.	Late Prehistoric	None
15	MS2	Geophysical anomaly	Rectangular anomaly within LP15. May be associated with Medieval assets 58751 and/or 278499	Medieval / Unknown	None
15	342729	Mill Dam, Bowshiel	A mill dam marked on the First Edition OS map.	Post-Medieval	None

FIELD	MAIN REFERENCE	NAME	DESCRIPTION	PERIOD	PREDICTED IMPACT
16	241407	Ring Ditch, Bowshiel	This ring-ditch, measuring about 12m in diameter within a ditch about 2m wide, has been recorded as cropmarks.	Late Prehistoric	Yes
16	342725	Road, Bowshiel	Old Road marked on First Edition OS map.	Post-Medieval	None
18	58717	Big Chesters, Bowshiel	Fort/Settlement/Linear Earthwork.	Late Prehistoric	None
18	58718	Enclosure, Bowshiel	Enclosure.	Late Prehistoric	None
18	353679	Bigchesters Aircraft	20th Century crash site. A Royal Air Force Bristol Beaufighter.	Modern	None
19	278499	Farmhouse, Bowhshiel	Evidence for the former farmhouse is taken from Ponts Map of Scotland. No traces are visible on the ground.	Medieval	None
Bowshiel Farm	58751	Tower House, Bowhshiel	A site visit has investigated the asset and has found nothing suggestive of remains of a building. At NT 7855 6774, a short stretch of wall adjoining a barn has no obvious relationship with any of the farm buildings. It is about 0.5m thick and constructed of large stones, but large stones are also used in the construction of the farm buildings.	Medieval	None

7.6.1.8 Following implementation of the embedded mitigation measures outlined within **Section 7.5** there are two known non-designated assets considered to be at risk of Direct Physical Impact during construction. These assets are listed in **Table 7.15**.

TABLE 7.15 HERITAGE ASSETS PREDICTED TO UNDERGO DIRECT PHYSICAL IMPACT

FIELD	MAIN REFERENCE	NAME	DESCRIPTION	PERIOD	NGR
8	278499	Farmhouse, Bowhshiel	Evidence for the former farmhouse is taken from Ponts Map of Scotland. No traces are visible on the ground.	Medieval	378584, 667768
16	241407	Ring Ditch, Bowshiel	This ring-ditch, measuring about 12m in diameter within a ditch about 2 m wide, has been recorded as cropmarks.	Late Prehistoric	378285, 667533

7.6.1.9 Without suitable mitigation, construction of the solar array, cable trenching and the installation of access track have the potential to disturb both low value assets. The degree of disturbance is uncertain but is not likely to result in the complete loss of these assets, with piling from the solar array and the cutting of cable trenches predicted to impact sections of the below ground remains. This construction activity is predicted to generate slight to moderate impacts, resulting in a minor adverse effect. This would be **Not Significant** in the context of EIA regulations.

7.6.1.10 All other non-designated assets are sufficiently remote from the construction footprint to avoid any Direct Physical Impact.

7.6.1.11 In relation to currently unrecorded assets within the site boundary, the heritage baseline has identified a high potential for further unknown Late Prehistoric assets and Post-Medieval assets to be present within the site boundary. There is considered to be a medium potential for Later Medieval assets. The potential for all other periods is considered low or negligible.

7.6.1.12 In relation to Late Prehistoric assets, any such assets would likely be located close to the northern, southern and eastern edges of the Site, close to the known watercourses of the Pease Burn and Heriot Water. Below ground remains may take the form of settlement, field systems, funerary remains or isolated finds of stone, metal or bone.

7.6.1.13 In relation to Post-Medieval assets, there is the potential for remains across the Site, these are likely to take the form of agricultural remains and associated former field boundaries and trackways.

7.6.1.14 In relation to Later Medieval assets there is a medium potential for further heritage assets be present on Site. Should such assets remain, they would likely take the form of structural rubble associated with the demolished farmstead (278499) or tower house, foundations (58751), associated field systems or isolated finds.

7.6.1.15 Any Late Prehistoric, Later Medieval and/or Post-Medieval assets within the Site would most likely be of local importance and of low value. However, the existence, location, state of preservation and importance of any such unknown assets cannot be confirmed prior to further archaeological site investigation.

7.6.1.16 Without suitable mitigation in place there is the potential for the truncation/loss of low value assets within areas of the Site subject to high levels of ground disturbance, such as the BESS compound and construction compound. At worst, this might result in a substantial magnitude of impact and a moderate adverse effect, which might be considered Significant in EIA terms; in such an instance, professional judgment would be used to determine whether any such effects were significant or not.

7.6.1.17 In areas of the site that would be subject to a lesser degree of ground disturbance, such as the piling locations, the impacts would likely be of a lower order, resulting in some truncation of parts of any below ground remains, but also a material level of preservation of those remains. This construction activity is predicted to generate slight to moderate impacts, resulting in a **minor adverse effect**, which would not be **Not Significant** in terms of the EIA regulations.

Indirect Physical Impacts

7.6.1.18 Indirect Physical Impacts are only likely to occur as a result of ground vibration associated with plant movement, groundworks for the foundation of the BESS site, the cutting of cable trenches, any topsoil stripping and earth movement and the installation of solar panels through piling or placement of concrete feet/ballast blocks. Indirect Physical Impacts would be permanent.

7.6.1.19 No Indirect Physical Impacts are predicted to assets within the Site or within the 1 km Study Area. Impacts to heritage assets during construction will be limited to Direct Physical Impacts, with Indirect Physical Impacts resulting from ground vibration predicted to be negligible, with no effect on nearby heritage assets. Effects would be **Not Significant** in the context of EIA regulations.

Setting Impacts

7.6.1.20 Construction activities are short-term in nature and therefore have only a temporary impact to setting which would not result in a significant effect to cultural significance. As such, setting impacts are discussed in terms of Operational Effects in **Section 7.6.2** below.

7.6.2 Potential Operational Effects

Direct Physical Impacts

7.6.2.1 As the footprint of the Proposed Development will not increase from the construction footprint during its operational lifetime, there are no additional Direct Physical Impacts during the operational and maintenance phase of the Proposed Development beyond those considered during construction.

Indirect Physical Impacts

7.6.2.2 Should repair and maintenance during the operational lifetime of the Proposed Development require additional groundworks and the introduction of heavy plant to site, then the 12 non-designated assets identified within **Table 7.14** may be subject to a negligible degree of ongoing Indirect Physical Impact.

7.6.2.3 Without suitable mitigation, impacts and effects would be as described above.

Setting Impacts

7.6.2.4 **Volume 3: Technical Appendices 7.2** Sieving Exercise identified a single designated asset, SM369 Ewieside Hill, fort, for further detailed assessment. Setting Impacts will exist throughout the operational lifetime of the Proposed Development, but will be fully reversible, following decommissioning and the return of the Site to farmland.

Description of the Asset

7.6.2.5 SM369 comprises a likely late prehistoric fort/settlement located on the eastern summit of Ewieside Hill (251 m AOD). The fort survives within pasture fields as a circular Multi Vallette earthwork with three rows of banks and ditch. The southern third of the monument has been lost to truncation, either through agricultural activity or excavation. The remaining sections of the earthworks are well preserved. The fort measures c. 100 m in diameter, with a historic entrance on the north-west side of the earthwork. A modern gap in the ditches on the north-east side is likely modern.

7.6.2.6 As a Scheduled Monument the asset is considered to be of national importance. The cultural significance of the monument derives from its historic and scientific (archaeological) value, specifically its potential to contribute to an understanding of prehistoric settlement in upland zones within south-east Scotland.

Setting of the Asset

7.6.2.7 The asset is located on Ewieside Hill, from which 360-degree views are possible. Local views take in the valley of the Heriot Water to the north with lowland farmland beyond and the coastline further north still. To the east and south is upland pasture between 180 m AOD and 250 m AOD. To the east the upland pasture descends steeply into a valley containing the Pease Burn and the current A1 carriageway, with the uplands of Penmanshiel Wood beyond. To the south is an east to west aligned length of the Pease Burn with upland farmland beyond. To the west are Ecclaw Hill (278 m AOD) and Paits Hill (264 m AOD).

7.6.2.8 Distance views take in the coast to the north and the Lammermuir Hills to the south and south-east. The fort sits within a landscape that contains a large volume of prehistoric settlement, funerary and ritual sites. A series of non-designated settlement sites and cairns is located within the valleys and low foothills around the Heriot Water and Pease Burn, with prehistoric sites lying in proximity to these watercourses.

7.6.2.9 Approximately 1 km south of SM369 is a non-designated fort lying on the summit of a low hillock, beside the Pease Burn. A series of non-designated late prehistoric settlement sites are located to the south-east within the Site boundary, sited on the east facing slope overlooking the Pease Burn valley. More distantly, a series of scheduled upland settlements and forts are located within the Lammermuir Hills to the south and south-east, with clusters of assets around Horseley Hill (262 m AOD) and Cockburn Law (325 m AOD). Between the Lammermuir Hills and the coast, in the rich agricultural belt to the north-west of the fort, a series of scheduled lowland enclosures and settlements are recorded west of Dunglass.

7.6.2.10 Those aspects of the asset's setting that contribute to its cultural significance, and the ability to understand, appreciate and experience it, are:

- Ewieside Hill, on the eastern summit of which the asset is located, which influenced the siting of the asset and which enabled its defensive function;

- the aforementioned local non-designated assets in and around the Heriot Water and Pease Burn valleys, which formed an intelligible aspect of the asset's wider settlement landscape;

- the uplands of the Lammermuir Hills and their associated upland forts and settlements, visible in long distance views, particularly those to the south and south-east, which also formed an intelligible aspect of the asset's wider settlement landscape.

- a non-designated fort 1 km south of the asset, beside the Pease Burn, with which the asset is likely to have been associated;

- the coastline, which is visible in long distance northerly views from the asset, and which would have formed a strategic and economic focus for the fort's inhabitants; and

- views towards the asset from the south, including from the associated non-designated fort described above, and from other locations to the south, which cross the Pease Burn to capture views of the fort on the summit of Ewieside Hill.

7.6.2.11 The baseline conditions of the landscape surrounding the asset have changed substantially since the time of its construction, with change including the felling of woodland, land division and enclosure during the Medieval, Post-Medieval and modern periods. Despite this, the land surrounding the fort has retained much of its rural upland character and remains largely free of conspicuous modern infrastructure; the nearest pylon arrays are located 2.5 km to the west, running north to south between Ecclaw Hill and Paits Hill. A pair of wind turbines are located in the lowland zone, 1.8 km to the north-west of the fort. Additional turbines are located 3.25 km west of the fort, to the north of Paits Hill. The closest operational wind farms are located south and east of the fort within the uplands of the Lammermuir Hills and Penmanshiel Moor respectively, 3 km and 4k m from the fort.

7.6.2.12 Overall, the asset continues to derive some of its cultural significance, and the ability to understand, appreciate and experience it, from those contributing aspects of its setting identified above.

Development Impact

7.6.2.13 The monument is a high value asset sensitive to change to the immediate rural environs around Ewieside Hill, and the introduction of any infrastructure that would obstruct local and long-distance views between the fort and associated prehistoric assets. The introduction of any infrastructure that would obscure views from the fort to the coast and to the Lammermuir Hills would also have the potential to have an adverse impact.

7.6.2.14 The Proposed Development would introduce new infrastructure into farmland circa 300 m south-east of the fort. The Proposed Development would be visible in local views to and from the fort and in wider landscape views towards the fort from the uplands to the south and south-east.

7.6.2.15 Whilst the Proposed Development would be visible, the presence of the infrastructure would not disrupt those key contributing aspects of the asset's setting that contribute to its cultural significance and to the ability to understand, appreciate and understand it. Notably, views from the fort towards the associated prehistoric assets in and around the Heriot Water

valley and the Pease Burn valley, and the legibility of the asset's relationship to those features would be preserved. Following the removal of any infrastructure associated with the Proposed Development from local views to the south and towards the adjacent non-designated fort, these views, and the intelligibility of the associated relationships within those views, would also be preserved, as would those wider views from the fort towards the coast to the north and those towards the Lammermuir Hills.

7.6.2.16 Views towards the fort from the assets in and around the Heriot Water to the north would be unaffected. Views towards the fort from the south-east and east, and from the associated prehistoric assets around the Pease Burn, would be altered by the inclusion of the infrastructure between the assets (located at c. 180 m AOD) and the fort (located at c. 250m AOD). While the asset would remain visible from these non-designated assets, the presence of the panels and infrastructure within proximity to Ewieside Hill would reduce to some degree the sense of dominance of the fort, as it would in views from the non-designated fort to the south, and in other views from the surrounding uplands.

7.6.2.17 The proximity of the infrastructure to the fort might, for some visitors, detract from the experience of visiting the monument, thought the extent to which it might detract from the experience of the monument cannot be readily quantified.

7.6.2.18 Setting Impacts would chiefly arise from the infrastructure proposed for Fields 12 and 13, southeast of Ewieside Hill. Within Field 12, this has been partly mitigated by design, chiefly the removal of any infrastructure from above the 230 m AOD contour, better preserving the sense of dominance of the asset and maintaining a clear line of site towards the fort.

7.6.2.19 Overall, based on the above assessment, a slight magnitude of impact is predicted to the asset's cultural significance and to the ability to experience it, resulting in a moderate adverse effect This is considered **Not Significant** in the context of EIA regulations.

7.6.3 Potential Decommissioning Effects

Direct Physical Impacts

7.6.3.1 As the footprint of the Proposed Development will not increase from the construction footprint during its operational lifetime, there are no additional Direct Physical Impacts during the decommissioning phase of the Proposed Development beyond those considered during construction.

Indirect Physical Impacts

7.6.3.2 Decommissioning of the Proposed Development will require additional groundworks and the introduction of heavy plant to site. As such, the 12 non-designated assets identified within **Table 7.14** may be subject to a negligible, degree of ongoing Indirect Physical Impacts.

Setting Impacts

7.6.3.3 Decommissioning activities are short-term in nature and therefore have only a temporary impact to setting. Setting Impacts associated with the decommissioning stage are of a

lower magnitude of impact than those discussed within the Operational Effects and would not be significant in terms of EIA regulations.

7.6.3.4 Ultimately, decommissioning and removal of the infrastructure would return the site to its pre-construction baseline, negating the Operation Phase Setting Impact and having an overall beneficial effect, including in relation to the scheduled fort on Ewieside Hill.

7.7 Cumulative Effects

7.7.1 Cumulative Projects

7.7.1.1 All heritage assets with a predicted minor adverse effect, or greater, resulting from Setting Impacts associated with the Proposed Development, were considered for cumulative/in-combination Setting Impacts with other schemes. Heritage assets with negligible adverse effects resulting from Setting Impacts associated with the Proposed Development were not considered.

7.7.1.2 In relation to solar projects, ECU00004815 - Springfield Solar Farm is located nearly 5 km from the Site and is not predicted to have overlapping Setting Impacts with the Proposed Development. As such, this scheme will not be discussed further within this Chapter.

7.8 Mitigation and Residual Effects

7.8.1 Proposed Mitigation: Direct and Indirect Physical Impacts

7.8.1.1 Embedded mitigation, as detailed within **Section 7.5**, **Table 7.13** outlines a series of primary and tertiary mitigation measures intended to reduce the effect of Direct Physical Impacts generated across the lifetime of the Proposed Development, to a level where the potential for significant adverse effects is removed.

7.8.1.2 The Applicant is not proposing further mitigation at this time.

7.8.2 Proposed Mitigation: Setting Impacts

7.8.2.1 Setting Impacts are predicted to generate a moderate, adverse effects, which are not significant in the context of EIA regulations, to a single high value asset, SM369 Ewieside Hill, fort.

7.8.2.2 In relation to Setting Impacts Primary mitigation has taken the form of mitigation by design within Fields 12 and 13.

7.8.2.3 The Applicant is not proposing any further mitigation at this time.

7.8.3 Offsetting Adverse Effects

7.8.3.1 Whilst it is not possible to mitigate Setting Impacts, it is possible to offset some of the adverse effects through a program of archaeological works intended to achieve public benefit and social value.

7.8.3.2 Adverse effects relating to Setting derive from the introduction of new infrastructure into the rural uplands around SM369 Ewieside Hill, fort. The fort itself is located within pasture used to graze cattle. It is subject to seasonal drying and winter flooding and the trample from animals, resulting in the slow erosion of the upstanding earthworks. As such, it is proposed as part of the package of mitigation measures outlined in **Section 7.9**, the fort will be recorded using either laser scanning or photogrammetry, with the intention of providing a condition baseline against which any damage to the earthworks can be measured and also to allow for the dissemination of information about these assets digitally, through archiving this data with the Archaeology Data Service.

7.8.4 Residual Effects

7.8.4.1 Following the implementation of the mitigation strategy outlined above, Residual Effects are limited to the identified Setting Impact. The Proposed Development is predicted to result in a slight impact to SM369 Ewieside Hill, fort, resulting in a moderate adverse effect, which is considered **Not Significant** in the context of EIA regulations.

7.8.4.2 Setting Impacts will persist throughout the lifetime of the Development but will be fully reversible following decommissioning.

7.9 Conclusions

7.9.1 Summary of Effects

7.9.1.1 Direct, Indirect, Setting and Cumulative Impacts upon Cultural Heritage assets have all been considered. Assuming the implementation of Tertiary Mitigation measures outlined above, the Proposed Development is not predicted to generate any significant Direct or Indirect Physical impacts during construction.

7.9.1.2 Moderate adverse effects have been identified to the cultural significance of SM369 Ewieside Hill, fort, as a result of Setting Impacts. These effects would be not significant in the context of EIA regulations. Setting Impacts will persist throughout the lifetime of the Proposed Development but will be fully reversible following decommissioning.

7.9.1.3 Cumulative Effects relating to Setting Impacts are not predicted to be significant in the context of EIA regulations, with no change to the predicted magnitude of impact to SM369 resulting from the Proposed Development in isolation.

7.9.1.4 Overall, and following the implementation of mitigation, as outlined, residual effects would be limited to those resulting from change to the Setting Impacts identified above. These impacts, and effects would be fully reversed following decommissioning.