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Volume 5 Proposed Development (Onshore)

Chapter 5 Terrestrial Archaeology and Cultural Heritage

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Volume 5 Chapter 5 Terrestrial Archaeology and Cultural Heritage

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Acronyms and Abbreviations

AHER	Aberdeenshire Historic Environment Record
CIA	Cumulative Impact Assessment
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
HEDBA	Historic Environment Desk-based Assessment
HEPS	Historic Environment Policy for Scotland
HES	Historic Environment Scotland
km	Kilometre
m	Metre
MLWS	Mean Low Water Spring
N/A	Not applicable
NPF4	National Planning Framework 4
OnTI	Onshore Transmission Infrastructure
OWF	Offshore Wind Farm
PPP	Permission in Principle
RCAHMS	Royal Commission on the Ancient and Historical Monuments of Scotland
RLB	Red Line Boundary
UK	United Kingdom
ZTV	Zone of Theoretical Visibility

Executive Summary

This chapter of the Onshore Environmental Impact Assessment Report (EIAR) assesses the potential effects from the Proposed Development (Onshore) on terrestrial archaeology and cultural heritage. This includes direct, indirect, cumulative and in-combination effects.

Onshore receptors sensitive to the effects of the Onshore Transmission Infrastructure (OnTI) include the known and potential historic environment resource within 500m of the OnTI and heritage assets within 5km of the Onshore Substation Site.

The following impacts were identified as requiring assessment:

- Physical impact to the known and unknown archaeological resource (including non-designated heritage assets) due to construction activities (including any enabling works etc.); and
- Impact to the cultural significance of designated heritage assets through settings impacts or alteration of the setting of a heritage asset during operation.

The assessment has taken account of embedded mitigation measures for the assessment of potential effects, including during the Proposed Development (Onshore) design process where the OnTI RLB looked to avoid direct impacts to known designated heritage assets.

Significant effects were identified as a result of indirect physical impacts to Category C Listed Millbrex Church. Following implementation of the detailed Construction Traffic Management Plan and mitigation measures contained therein no significant residual effects remain.

Whilst no significant residual effects are identified to the terrestrial archaeological resource, it is proposed to mitigate effects arising from the construction of the Proposed Development (Onshore) by the implementation of an appropriate programme of archaeological investigation and recording. Following the implementation of the proposed mitigation measures, it is anticipated that effects to terrestrial archaeology could be further reduced. For example, where an adverse minor effect was previously identified, it is anticipated that this could be reduced to a negligible effect. Overall, no significant residual effects to any of the identified receptors are identified.

5 Terrestrial Archaeology and Cultural Heritage

5.1 Introduction

5.1.1.1 This chapter of the Environmental Impact Assessment Report (EIAR) identifies the potential effects on terrestrial archaeology and cultural heritage associated with the construction, operation and decommissioning of the of the Proposed Development (Onshore) landward of Mean Low Water Spring (MLWS).

5.1.1.2 This chapter is supported by the following technical appendices:

- Volume 7E, Appendix 5-1: Historic Environment Desk-based Assessment;
- Volume 7E, Appendix 5-2: Cultural Heritage Policy Tests;
- Volume 7E, Appendix 5-3: Terrestrial Archaeology and Cultural Heritage Visualisations; and
- Volume 7E, Appendix 5-4: Setting Assessment of the Proposed Development (Offshore).

5.1.1.3 The chapter should also be read in conjunction with the following chapter and supporting appendices:

- Volume 2, Chapter 12 Seascape, Landscape and Visual Impact Assessment;
- Volume 7B, Appendix 12-3 Seascape, Landscape and Visual Impact Assessment Visualisations; and
- Volume 7B, Appendix 12-4 Seascape, Landscape and Visual Impact Assessment Visualisations (The Highland Council).

5.2 Legislation, Policy and Guidance

5.2.1.1 Volume 1, Chapter 2: Legislation and Policy of this EIAR sets out the policy and legislation associated with the Proposed Development.

5.2.1.2 Key Legislation, Policy and Guidance that specifically relate to the Terrestrial Archaeology and Cultural Heritage assessment are identified and briefly described in Table 5-1. Further detail is provided within Section 2 and Annex 2 (Legislative and Planning Framework) of the Historic Environment Desk-based Assessment (HEDBA) (Volume 7E, Appendix 5-1) and the Cultural Heritage Policy Tests Appendix (Volume 7E, Appendix 5-2).

Table 5-1: Legislation Policy and Guidance

Relevant Legislation, Policy and Guidance	Description
Legislation	
Ancient Monuments and Archaeological Areas Act 1979 (United Kingdom (UK) Parliament, 1979[1])	The Act is a law to protect the archaeological heritage of England, Scotland and Wales.
Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 (UK Parliament, 1997[2])	The Act is a law that focuses on Listed Buildings and Conservation Areas in particular.
The Historic Environment Scotland Act 2014 (Scottish Parliament, 2014[3])	The Act established Historic Environment Scotland (HES) as a new Departmental Public Body that took over the functions of Historic Scotland and the Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS).
The Planning (Listed Building Consent and Conservation Area Consent Procedure) (Scotland) Regulations 2015 (Scottish Parliament, 2015[4])	The regulations set out the framework for designating and managing conservation areas and Listed Building Consent.
Policy	
National Planning Framework 4 (NPF4) 2023 (Scottish Government, 2023[5])	The NPF4 sets out the national spatial strategy for Scotland. Policy 7 of the framework pertains to the historic environment. The intent of the policy is *"to protect and enhance historic environment assets and places, and to enable positive change as a catalyst for the regeneration of places."*
Aberdeenshire Local Plan 2023, (Aberdeenshire Council, 2023[6])	The Local Plan directs decision making on planning issues and planning applications in Aberdeenshire. Section 11 'The Historic Environment' sets out the relevant polices that aim to protect,

Relevant Legislation, Policy and Guidance	Description
	conserve and improve the historic environment. Relevant policies are HE1 Protecting Listed Buildings, Scheduled Monuments and Archaeological Sites (including other historic buildings) and HE2 Protecting historic, Cultural and Conservation Areas.
Planning Advice Note 2/2011: Planning and Archaeology (Scottish Government, 2011[7])	The advice note provides advice to planning authorities and developers on dealing with archaeological remains.
Guidance	
Managing Change in the Historic Environment: Setting (Historic Environment Scotland, 2016[8])	The guidance sets out the principles that apply to developments affecting the setting of historic assets or places, including Scheduled Monuments, Listed Buildings, sites on the Inventory of Historic Gardens and Designed Landscapes, World Heritage Sites, Conservation Areas, Historic Battlefields, Historic Marine Protected Areas and undesignated sites.
Environmental Impact Assessment Handbook: Guidance for competent authorities, consultation bodies, and others involved in the Environmental Impact Assessment process in Scotland ('the 2018 EIA Handbook') (Scottish Natural Heritage and Historic Environment Scotland, 2018[9])	The handbook is intended to provide competent authorities, statutory consultees and others involved in the EIA process with practical guidance and a ready source of information about the process.
Historic Environment Policy for Scotland (HEPS) 2019 (Historic Environment Scotland, 2019[10])	HEPS is a policy statement directing decision making that affects the historic environment. It discusses cultural significance and defines it as meaning "*aesthetic, historic, scientific or social value for past, present or future generations*."

5.3 Stakeholder Engagement

5.3.1 Overview

5.3.1.1 The Onshore Scoping Report was submitted to Aberdeenshire Council in December 2022, who then circulated the report to relevant consultees. An Onshore Scoping Opinion was received from Aberdeenshire Council on 1 February 2023, which contained a response from HES. Responses from both Aberdeenshire Council Archaeology and Built Heritage Advisors were also received. Relevant comments from the Onshore Scoping Opinion specific to Terrestrial Archaeology and Cultural Heritage are provided in Table 5-2.

5.3.1.2 A copy of the Onshore Scoping Report and Onshore Scoping Opinion can be found in Volume 7, Appendix 1 and 4 respectively.

Table 5-2: Scoping Opinion Response

Consultee	Comment	Response
Aberdeenshire Council	Detailed survey work would be required to inform the EIAR. Following analysis of the aspects of the environment which would be likely to be significantly affected, a detailed assessment of the effects themselves would be required along with mitigation measures proposed.	A walkover survey focusing on the known and potential historic environment resource and potential settings impacts was undertaken to inform the HEDBA and to establish the historic environment baseline (see Section 7 of Volume 7E, Appendix 5-1). The scope of the walkover survey was agreed in consultation with the Aberdeenshire Council Archaeology and Built Heritage Advisors and HES. The assessment of effects based on the results of the walkover survey is presented in Section 5.7, with mitigation presented in Section 5.10 of this chapter.
Aberdeenshire Council	Examples of the types of issues that should be addressed include: ▪ Cultural Heritage and Archaeology; and ▪ Proposed Mitigation Measures.	Terrestrial archaeology and cultural heritage (including built heritage) have been addressed in this chapter of the EIAR and supporting appendices (see the HEDBA, Volume 7E, Appendix 5-1). The historic environment baseline is presented in detail in the HEDBA (see Volume 7E, Appendix 5-1). Potential impacts are outlined in Section 5.7 with mitigation measures and monitoring discussed in Section 5.10 of this chapter. A summary of effects is presented in Table 5-10.
Aberdeenshire Council (Archaeology Service)	The Archaeology Service agrees with the scope of the HEDBA.	Noted.

Consultee	Comment	Response
Aberdeenshire Council (Archaeology Service)	The Archaeology Service defer to HES on the proposed buffer zones surrounding Scheduled Monuments.	Noted.
Aberdeenshire Council (Archaeology Service)	The Archaeology Service agree with the proposed approach to assessment as outlined in section 9.5 in the Scoping Report.	Noted.
Aberdeenshire Council (Built Heritage Team)	The proposed methodology set down in Chapter 9 of the EIA Scoping Report for assessing potential impacts on assets considered to be of cultural and historic significance would be deemed acceptable by the Built Heritage Team.	Noted.
Aberdeenshire Council (Built Heritage Team)	The suggested methodology should hopefully facilitate identification of the likely impact on listed buildings, conservation areas and designed landscapes within the study area during and after the construction stage.	Noted.
Aberdeenshire Council (Built Heritage Team)	An exercise that aligns with the need to determine the effect of potential development and whether mitigation measures may need to be put in place to avoid it undermining the value and significance of any nationally designated cultural asset	Noted.

Consultee	Comment	Response
Historic Environment Scotland	HES noted that because of the lack of detail at this stage regarding the precise location, scale and design of the proposed development, that it would not currently be able to provide detailed historic environment comments on the proposals. It did note that it would welcome further pre-application discussions to aid refinement of any cultural heritage assessment.	Further pre-application consultation was undertaken with HES based on a refined Onshore Transmission Infrastructure (OnTI) Red Line Boundary (RLB). Consultations with both Aberdeenshire Council Archaeology and Built Heritage Advisor and HES were summarised in a Historic Environment Consultation Follow Up note, as outlined in Table 5-3Table 5-3.
Historic Environment Scotland	In respect of the questions posed within Chapter 9, HES notes concern about the proposed approach to the assessment of the effects of the proposed development. Specifically, it notes that section 9.2 of the report does not include mention of the Historic Environment (Scotland) Act 2014 which defines the role of HES. The Historic Environment Policy for Scotland should also be included.	The Historic Environment (Scotland) Act 2014[3] and Historic Environment Policy for Scotland[10] have been taken into consideration in preparation of this chapter of the EIAR. They are described within this chapter in Section 5.2 above, and within Volume 7E, Appendix 5-1: Historic Environment Desk-based Assessment and Volume 7E, Appendix 5-2: Cultural Heritage Policy Tests.
Historic Environment Scotland	HES also notes regarding the carrying out EIA for cultural heritage that consideration should also be given to the Scottish Natural Heritage[i]/HES Environmental Impact Assessment Handbook as well as the Managing Change in the Historic Environment: Setting guidance, which are	The terrestrial archaeology and cultural heritage assessment has taken cognisance of both the 2018 EIA Handbook[9] and the Managing Change in the Historic Environment: Setting guidance[8]. These guidance documents and their relevance to this assessment are described within this chapter in Section 5.2 above, and within Appendix 5-1: Historic Environment

[i] Scottish Natural Heritage, now known as NatureScot.

Consultee	Comment	Response
	accepted in Scotland as guidance on standards for EIA for the historic environment.	Desk-based Assessment and Appendix 5-2: Cultural Heritage Policy Tests.
Historic Environment Scotland	HES notes that it does not agree with the characterisation of impacts on setting as 'indirect.' Impacts on the setting of a monument can have a direct effect on its cultural significance, and they are therefore direct impacts. The definition of direct and indirect impacts is discussed in the EIA Handbook at Appendix 1, Section 44.	This advice has been taken into consideration. Definitions for direct and indirect impacts, including setting impacts are presented, where relevant, in Section 5.5.4 of this chapter, based on those presented in Appendix 1 of the 2018 EIA Handbook[9].
Historic Environment Scotland	HES notes that Chapter 9 refers to 'heritage significance' as a measure of importance rather than the generally accepted 'cultural significance.'	This advice has been taken into consideration. Definitions for cultural significance are presented in Section 5.5.4 of this chapter.
Historic Environment Scotland	Impacts on the settings of designated heritage assets as well as physical impacts should be assessed within an area of up to 5km. Initially, this should be carried out using a ZTV.	A Zone of Theoretical Visibility (ZTV) based on five kilometres (km) informed the scope of the walkover survey undertaken to inform the HEDBA (Volume 7E, Appendix 5-1) and this chapter. The ZTV is included in the HEDBA (Volume 7E, Appendix 5-1). Furthermore, the scope of the walkover survey was presented in a technical note to HES. HES responded to the technical note in January 2024. The content of this is presented in Table 5-3.

Consultee	Comment	Response
Historic Environment Scotland	HES is content with the 500 metre (m) study area for the cable corridor	Noted.
Historic Environment Scotland	HES agree that a 100m buffer zone surrounding Scheduled Monuments is normally sufficient.	Noted.

5.3.1.3 Further consultation has been undertaken with Aberdeenshire Council and HES throughout the pre-application stage following the receipt of the Scoping Opinion. Table 5-3 summarises the consultation activities carried out relevant to terrestrial archaeology and cultural heritage.

Table 5-3: Stakeholder Engagement Activities

Date	Consultee and Type of Consultation	Summary
6 October 2023	HES and Aberdeenshire Council Built Heritage Advisor Online meeting	The latest iteration of the RLB (as it was understood at the time), provided an overview of the known historic environment baseline within the RLB (as per a search of the Aberdeenshire Historic Environment Record (AHER) data) and presented an overview of a 5km ZTV based on the Onshore Substation Site location, which would inform the walkover survey in terms of settings impacts. The meeting was attended by HES and the Aberdeenshire Council Built Heritage Advisor. The Archaeological Advisor was also invited, but was not able to attend the meeting.
20 November 2023	HES and Aberdeenshire Council Archaeology and Built Heritage Advisors Scope of Walkover Survey Technical Note	A technical note was shared with Aberdeenshire Council Archaeology and Built Heritage Advisors and HES in November 2023. This presented the proposed scope of the walkover survey to inform the HEDBA (Volume 7E, Appendix 5-1) and this chapter.
22 January 2024	HES Response to November 2023 technical note	Within the response to the survey technical note, HES raised two comments as follows: 1) Both direct impacts and potential indirect impacts, for example caused by vibration, should be considered in the assessment. 2) The scheduled stone circle approximately 500m north-west has intentionally been sited at the summit of a low hill approximately 5km east of the proposed development. Views to and from this monument are important elements of its significance. The ZTV shows

Date	Consultee and Type of Consultation	Summary
		intervisibility between the proposed development and the monument. The potential impact of the development should be assessed. A visualisation of the proposed development from the monument should be sufficient for Historic Environment Scotland's interests. Response: In regard to Point 1) such impacts have been considered in this chapter (see Section 5.7). In regard to Point 2) a visualisation of the Onshore Substations from the Scheduled Monument has been within Volume 7E, Appendix 5-3: Terrestrial Archaeology and Cultural Heritage Visualisations and is discussed in this chapter (see Section 5.7).
22 January 2024	Aberdeenshire Council Consultation regarding visualisations to support the Landscape and Visual Impact Assessment	As part of consultations with Aberdeenshire Council in regard the visualisations to support the Landscape and Visual Impact Assessment for the Proposed Development (Onshore), the following heritage specific viewpoints were requested. ▪ North Mains of Auchmaliddie stone circle (Scheduled Monument ref SM9392); and ▪ Cairnbanno House category B Listed Building (Listed Building ref LB16160). A site visit of both locations was undertaken where access allowed. While the North Mains of Auchmaliddie stone circle was scoped in for further assessment in this chapter, Cairnbanno House Listed Building was assessed and scoped out of further assessment as part of the technical baseline assessment presented in the HEDBA. As such, Section 7.2 of the HEDBA (Appendix 5-1) should be consulted for an assessment of the Listed Building.

Date	Consultee and Type of Consultation	Summary
		A computer generated model visualisation of the view from North Mains of Auchmaliddie stone circle was generated due to access restrictions and can be found in Volume 7E, Appendix 5-3: Terrestrial Archaeology and Cultural Heritage Visualisations.
20 March 2024	Aberdeenshire Council and HES Historic Environment Consultation Technical Note	The note summarised all consultations with Aberdeenshire Council and the HES up until February 2024. The note also presented an overview of the Scoping Opinion comments and responses to each.
18 April 2024	Aberdeenshire Council Pre-Application Advice (Built and Cultural Heritage)	**Aberdeenshire Council Pre-Application Response** In April 2024 a formal pre-application response was received from Aberdeenshire Council. The responses were divided into two separate sections 'Impact on historic environment' and 'Impact on cultural heritage'. The Built Heritage Team suggests that the proposed Onshore Export Cable Corridor to the Onshore Substation Site will not impact upon any Conservation Areas or Designed Landscapes, and that it is anticipated that the underground cable and associated infrastructure will not impact on the setting of any Listed Building. Elevation drawings of infrastructure have been requested in order to facilitate more of an informed decision. The pre-application advice also noted that a desk-based assessment supported by a walkover survey will be submitted and the results of this should inform the mitigation strategy. The response also states that in similar applications, trial trenching in areas which have been identified as archaeologically sensitive have been undertaken. It notes, mitigation areas should

Date	Consultee and Type of Consultation	Summary
		take account of the substation footprint and any necessary compound areas as well as the Cable Corridor itself. **Applicant response to Aberdeenshire Council pre-application advice** The Proposed Development (Onshore) will not impact upon any Conservation Areas or Designed Landscapes, and does not impact on the setting of any Listed Building, further detail is provided in the HEDBA within Volume 7E, Appendix 5-1. At this stage, elevation drawings of the Onshore Substations are not available and will be submitted at the detailed design stage. However, visualisations of the Onshore Substations have been produced to inform the Landscape and Visual Assessment and the assessment within this chapter and aid in putting the Onshore Substations in a wider context. These visualisations facilitate an informed decision in line with the policy. Mitigation is discussed within Section 5.10 of this chapter, and the HEDBA identifies those areas where the Landfall Site, Cable Corridor and Onshore Substation Site overlap with known assets (as these are the areas that will likely need to be targeted first). The locations of compounds are not yet identified, Section 5.10 of this chapter notes that initial mitigation should include areas where excavations will be required, including for haul roads, compounds etc.

5.4 Baseline Characterisation

5.4.1 Study Area

5.4.1.1 A study area of a 500m radius from the OnTI RLB was considered suitable to understand the known and potential archaeological resource and AHER data was obtained only for the 500m study area.

5.4.1.2 An additional study area of 5km from the Onshore Substation Site was agreed with HES for the purposes of the settings assessment.

5.4.1.3 The OnTI RLB and the terrestrial archaeology and cultural heritage study areas are illustrated in Figure 1-1 of Volume 7E, Appendix 5-1, Annex 5: Supporting Figures.

Desk Study

5.4.1.4 The following section provides a summary of the historic environment baseline. A detailed description of the historic environment baseline is presented in Section 4 of the HEDBA (Volume 7E, Appendix 5-1).

Site Specific Surveys

5.4.1.5 The HEDBA was informed by a site walkover survey undertaken between 27 November to 1 December 2023. The results of the survey are discussed in Sections 5.4.2 and 5.7 of this chapter, where relevant, however, for a detailed account of this, or for selected photographs, the HEDBA (Volume 7E, Appendix 5-1) should be consulted (see Sections 3.3, 7.2 of the HEBDA and Volume 7E, Appendix 5-1, Annex 4, Site Walkover Survey Photographs).

5.4.2 Baseline Description

Designated Heritage Assets

5.4.2.1 There are no designated heritage assets within the OnTI RLB.

5.4.2.2 Within the 500m study area, there are two Scheduled Monuments, 15 Listed Buildings (one Category A, 13 Category B and one Category C), one Conservation Area (Whitehills Conservation Area), and one Inventory Garden and Designed Landscape (Hatton Castle, GDL00399[ii]).

[ii] Numbers in brackets adjacent to names of heritage assets relate to the specific heritage asset reference numbers prescribed by the AHER or HES.

5.4.2.3 Within the 5km study area, there is one Scheduled Monument (North Main of Auchmaliddie, stone circle 500m south-west of (SM9392)), two Category C Listed Buildings, namely Cairnbanno House (LB16160) and Millbrex Church (LB9629) and one Inventory Garden and Designed Landscape (GDL00399) at Hatton Castle.

5.4.2.4 There are no World Heritage Sites or Battlefields within the study areas.

Non-Designated Heritage Assets

5.4.2.5 In regard to the prehistoric features within the AHER, these largely date to the Bronze Age period and represent funerary and burial practices in the form of cairns, although a cist cemetery is also noted within the OnTI RLB at Auchinbadie (NJ65SN0008). Many of the known prehistoric features have been removed and/or ploughed out according to the AHER, however, it is possible that associated as yet unknown buried features survive. Only one cairn (NJ65NE0001) lies within the bounds of the OnTI RLB, on the Hill of Tiperty within the northern half of the Onshore Export Cable Corridor (ONEC). The AHER record for this feature indicates that the 1964 Ordnance Survey (OS) recorded it as being 10m in diameter and 0.4m high, however, the asset was not observed during the walkover survey, so it no longer appears to have an above ground expression, or at least not one identified during the survey.

5.4.2.6 Many of the other prehistoric sites within the AHER pertain to cropmarks tentatively identified as being of prehistoric date based on an aerial photography analysis; three such cropmark areas fall within the OnTI RLB (NJ66NW0008, NJ66NW0006, NJ74NE0045). This means that, without investigations, their date, origin and extent is currently not understood, and it is possible that they might originate from other periods or may not be of archaeological interest.

5.4.2.7 The other most represented period of non-designated heritage assets within the AHER is the Post-medieval period, but there is also one area of medieval rig and furrow within the OnTI RLB (NJ75SE0035). The known post-medieval assets that fall within or overlap with the OnTI RLB can broadly be divided into agricultural and residential features and buildings, and remnants of industrial activity. Those belonging to the first group comprise (north to south along the OnTI RLB) Cairnhill Croft farmhouse (NJ66NW0012), Blairshinnoch farmstead (NJ66SW0006), Little Blairshinnoch croft (NJ66SW0101), Little Blairshinnoch well (NJ66SW0103), Blackhill Croft (NJ66SW0102), Todholes (a small destroyed building) (NJ66SE0136), Mallyrust mill pond (NJ65NE0057), Fountain Well (a well) (NJ65NE0080), Cairnhill Croft (different to the one mentioned above) (NJ75SE0096), Haremoss Cottages farmstead (NJ74NE0085), Backhill farmstead (NJ74NE0033), a small rectangular building at Backhill (NJ74NE0034), South Redbriggs farmstead (NJ74NE0044), Anderson's Croft (NJ84NW0049), The Moss of Swanford croft (NJ84SW0040) and East

Swanford farmstead (NJ84SW0078). In addition to these, the OnTI RLB also intersects with an individual pit and linear ditch at Burnside (NJ84NW0110) at the Onshore Substation Site.

5.4.2.8 In regard to industrial evidence, those within the OnTI RLB include the site of a destroyed quarry (NJ66SW0054), Todholes former quarry (NJ66SE0137), a corn mill known as Mill of Ryland (NJ65NE0090), the site of a destroyed quarry at Hill of Itlaw (NJ65NE89), a destroyed mill dam known as Wood of Shaws (NJ65NE0072) and a sluice and possible pond at Corsehill (NJ74NE0050).

5.4.3 Future Baseline

5.4.3.1 If the Proposed Development (Onshore) is not constructed, an assessment of the future baseline conditions has also been carried out and is described within this section.

5.4.3.2 Volume 7A, Appendix 7-1: Cumulative Impact Assessment Methodology provides details of the reasonably foreseeable project or development that are assumed to be fully built and in use by the time the Proposed Development (Onshore) construction starts from Q3 2027. The following reasonably foreseeable projects or developments are assumed to make up the future baseline of relevance to the terrestrial archaeology and cultural heritage during construction and operation and are set out in Table 5-4.

Table 5-4: Future Baseline During Construction and Operation

Planning reference	Description	Part of construction future baseline?	Part of operation future baseline?
APP/2023/2040	Denhead Solar Farm. Formation of 25MW Solar Farm, Siting of Substation, CCTV, Erection of Security Fencing, Formation of Access and Associated Infrastructure	Yes, as likely to be operational before Q3 2027.	Yes, as likely to be operational before Q3 2030/2033.
APP/2023/1454	New Deer Green Volt Offshore Wind Farm, laying of underground cables	No, as not likely to be operational before Q3 2027.	Yes, as likely to be operational before Q3 2030/2033.

Planning reference	Description	Part of construction future baseline?	Part of operation future baseline?
	and erection of substation		
Pre-application stage	Greens 400 kiloVolt (kV) Substation	No, as not likely to be operational before Q3 2027.	Yes, as likely to be operational before Q3 2030/2033.

5.4.3.3 Implementation of the reasonably foreseeable project or development at Denhead Solar Farm will result in changes to the wider landscape within 1km of the ONEC. These changes will represent an increase in the baseline level of large scale energy infrastructure within the wider area. There is a small overlap with Denhead Solar Farm and the ONEC (approximately 370m west of Inchdrewer Castle). This change will represent a small impact to an area of similar archaeological potential. This reasonably foreseeable project or development has been included as part of the future baseline and considered within this topic assessment.

5.4.3.4 Implementation of the reasonably foreseeable projects or developments of Green Volt Offshore Wind Farm Aberdeenshire and Greens 400kV Substation will result in changes to the wider landscape within 5km of the Onshore Substation Site. These changes will arise from the Green Volt substation and the Greens 400kV Substation and will represent an increase in the baseline level of large scale energy infrastructure within the wider area. These reasonably foreseeable projects or developments have been included as part of the future baseline and are considered within the cumulative assessment for this topic.

5.4.4 Data Gaps and Limitations

5.4.4.1 There have been limited previous archaeological investigations within the OnTI RLB, presumably, due to a general lack of development. This means that the potential for archaeological remains within the OnTI RLB are largely unknown and can only be implied based on the known AHER records, many of which, as stated above, have been identified by way of aerial photography analysis instead of archaeological investigations.

5.4.4.2 The western boundary of the Onshore Substation Site has been subject to some level of investigations as part of the Moray East Offshore Wind Farm (OWF) which resulted in the construction of the existing substation at New Deer just to the south of the Onshore Substation Site. However, this only provides a small glimpse into the as yet unknown archaeological resource

at the Onshore Substation Site. The investigations revealed evidence for post-medieval ditches and pits as well as undated ditches.

5.4.4.3 For further detail in regards data gaps and limitations refer to Appendix 5-1: Historic Environment Desked-based Assessment.

5.5 EIA Approach and Methodology

5.5.1 Overview

5.5.1.1 This section outlines the methodology for assessing the likely significant effects on terrestrial archaeology and cultural heritage from the construction, operation and decommissioning of the Proposed Development (Onshore).

5.5.2 Impacts Scoped in to the Assessment

5.5.2.1 The Onshore Scoping Report was submitted to Aberdeenshire Council in December 2022. The Scoping Report set out the overall approach to assessment and allowed for the refinement of the Proposed Development (Onshore) over the course of the assessment. The proposed scope of the assessment is set out in Table 5-5.

Table 5-5: Terrestrial Archaeology and Cultural Heritage Scope of Assessment

Potential Impact	Phase	Nature of Impact
Physical impact to the known and unknown archaeological resource due to construction activities (including any enabling works etc.)	Construction	Direct physical impacts, indirect physical impacts and cumulative impacts
Impact to the cultural significance of a non-designated heritage asset through physical impacts due to construction activities (including any enabling works etc.)	Construction	Direct physical impacts, indirect physical impacts and cumulative impacts
Impact to the cultural significance of a designated heritage asset through settings impacts or alteration	Operation and construction (the latter to a lesser extent as would be temporary)	Settings impacts

Potential Impact	Phase	Nature of Impact
in the setting of a heritage asset		

5.5.3 Impacts Scoped out of the Assessment

5.5.3.1 The impacts scoped out of the assessment during EIA scoping, and the justification for this, are listed in Table 5-6.

Table 5-6: Impacts Scoped Out

Potential Impact	Justification
Impacts to the archaeological resource once the Proposed Development (Onshore) is operational or during the decommissioning stage	It is anticipated that construction activities would have removed and recorded the archaeological resource, and as such, operational and decommissioning impacts do not need to be considered. This might not apply where archaeological remains have been preserved in situ during the construction works depending on the scope of the decommissioning stage in particular.
Impacts to the cultural significance of designated heritage assets during the decommissioning stage	As the landscape would be returned to its previous state following operation of the Proposed Development (Onshore), no additional impacts to designated heritage assets due to a change in their setting are anticipated.

5.5.4 Assessment Methodology

5.5.4.1 The project-wide generic approach to assessment is set out in Volume 1, Chapter 7: EIA Methodology. The assessment methodology for terrestrial archaeology and cultural heritage is consistent with that provided in the Scoping Report.

5.5.4.2 While some of the wording in the agreed methodology differs to that used in the 2018 EIA Handbook[9], the principle is the same in that it involves the following steps:

- Identifying the asset's value (sensitivity);
- Identifying the degree of change in the cultural significance of an asset resulting from the proposal (that is, the magnitude of impact);
- Identifying the frequency or duration of the impact (e.g., temporary, permanent, short term, long term etc.); and
- Identifying the likelihood of the impact occurring.

5.5.4.3 As per the 2019 HEPS[10], cultural significance "means the 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".

5.5.4.4 In general, the sensitivity/value of an asset can be categorised as Very High, High, Medium, Low or Negligible. Table 5-7 sets out the differences between these categorises, as presented in the Scoping Report.

Table 5-7: Sensitivity/Value of Heritage Assets

Sensitivity /Value	Description
Very High	World Heritage Sites and non-designated heritage assets of equivalent heritage significance of international importance and directly associated with a World Heritage Site.
High	Scheduled Monuments, Category A Listed Buildings, Inventory Battlefields, Inventory Gardens and Designed Landscapes, and non-designated assets of equivalent heritage significance that are considered to be potentially nationally important
Medium	Category B and C Listed Buildings, regionally important archaeological features and areas (as defined in the AHER). Conservation Areas, which are considered regionally important
Low	Sites and features noted as locally important in the AHER. Other, non-designated features of cultural heritage significance
Negligible	Badly preserved; damaged or very common archaeological features; buildings of little or no value at local or other scale

5.5.4.0 The assignment of a magnitude of change (or magnitude of impact) is based on professional judgement and takes into account the nature of the change, whether elements contributing to significance are affected, and the proportion of the feature affected (see Table 5-8).

Table 5-8: Magnitude of Change

Magnitude of Change	Description
High	*Adverse* Total loss of or major physical damage to or significant alteration to a site, building or other feature. Substantial change (for example loss of dominance, intrusion on key view or sightline) to the setting of a designated heritage asset or other feature recognised to be of national importance, which may lead to a major reduction in the contribution of that setting to the heritage significance of the asset so that the asset loses cultural significance, and a major reduction in the ability to experience and/or appreciate that heritage significance. *Beneficial* Large scale or major improvement to a site, building or other feature. Substantial change (for example re-establishment of dominance, key view of sightline) to the setting of a designated heritage asset or other feature to be recognised to be of national importance, which may lead to a major improvement in the contribution of that setting to the cultural significance of the asset, and major improvement to the ability to experience and/or appreciate that cultural significance.
Medium	*Adverse* Loss of or major physical damage to or significant alteration to a site, building or other feature. Change (for example loss of dominance, intrusion on key view or sightline) to the setting of a designated heritage asset or other feature recognised to be of national importance, which may lead to a reduction in the contribution of that setting to the heritage significance of the asset so that the asset loses heritage significance, and a major reduction in the ability to experience and/or appreciate that cultural significance. *Beneficial* Improvement to a site, building or other feature. Change (for example re-establishment of dominance, key view of sightline) to the setting of a designated heritage asset or other feature to be recognised to be of national importance, which may

Magnitude of Change	Description
	lead to an improvement in the contribution of that setting to the cultural significance of the asset, and major improvement to the ability to experience and/or appreciate that cultural significance.
Low	*Adverse* Minor damage or alteration to a site, building or other feature. Minor change in setting (e.g., above historic skylines or in designed vistas) of monuments, Listed Buildings, sites and other features, which may lead to a small reduction in the contribution the setting makes to the cultural significance of the heritage asset, and limited loss of cultural significance. Limited change in or reduction of the ability to experience or appreciate the cultural significance of an asset. *Beneficial* Minor improvement to a site, building or other feature. Minor beneficial change in setting (e.g., above historic skylines or in designed vistas) of monuments, Listed Buildings, sites and other features, which may lead to a small improvement in the contribution the setting makes to the cultural significance of the heritage asset. Limited improvement in the ability to experience or appreciate the cultural significance of an asset.
Negligible	No physical effect, either adverse or beneficial. Slight or no change in setting (either adverse or beneficial), with no or very limited change in the contribution that setting makes to the cultural significance of the asset. No or minimal change in the ability to experience or appreciate the cultural significance of the asset.

5.5.4.1 As presented in Appendix 1 of the 2018 EIA Handbook[9] the different types of impact are generally defined as follows:

- Direct physical impacts: these occur where the physical fabric of the asset is removed or damaged as a direct result of the proposal, e.g. removal of archaeological remains as a result of excavation or ground disturbance. Such impacts will generally result from the construction phase and will be permanent;

- Indirect physical impacts: these occur where the fabric is lost or preserved as a result of the proposal even though the asset does not lie within the redline boundary/footprint of the proposal. Examples include damage to walls as a result of vibration and the degradation of waterlogged deposits as a result of dewatering. Such impacts may result at any stage of development and are likely to be permanent;
- Setting impacts: these are generally direct and 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 directly 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 and air pollution, or historical relationships that do not relate entirely to intervisibility, such as historic patterns of land use and related historic features. Also, setting impacts may occur indirectly, e.g. as a result in changes in traffic. Such impacts may occur at any stage of a proposal's lifespan and may be permanent, reversible or temporary; and
- Cumulative impacts: 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 proposal itself or between the impacts of other projects, or additive impacts resulting from incremental changes caused by the proposal together with other projects already in the planning system or allocated in a Local Development Plan.

5.5.4.2 As indicated in the above, effects can be temporary or permanent, short term or long term and in some cases, but not all, are reversible. For example, archaeological remains once removed cannot be reinstated.

5.5.4.3 The final significance of effects score is calculated by way of measuring the magnitude of change against the sensitivity/value of the heritage asset as presented in Table 5-9. Any effects of a negligible to minor nature are considered to be 'not significant' in terms of EIA, while moderate to major effects are classed as 'significant'.

Table 5-9: Significance matrix used to assign significance of effect

Significance of Effect		Sensitivity/Value of Heritage Asset				
		Negligible	Low	Medium	High	Very High
Magnitude of Impact	Negligible	Negligible (Not Significant)	Negligible (Not Significant)	Negligible (Not Significant)	Negligible (Not Significant)	Negligible (Not Significant)
	Low	Negligible (Not Significant)	Negligible (Not Significant)	Minor (Not Significant)	Minor (Not Significant)	Minor (Not Significant)
	Medium	Negligible (Not Significant)	Minor (Not Significant)	Moderate (Significant)	Moderate (Significant)	Moderate (Significant)
	High	Not Significant	Minor (Not Significant)	Moderate (Significant)	Major (Significant)	Major (Significant)

5.5.5 Approach to Cumulative Effects

5.5.5.1 The Cumulative Impact Assessment (CIA) assesses the impact associated with the Proposed Development (Onshore) together with other relevant plans, projects and activities. Cumulative effects are therefore the combined effect of the Proposed Development (Onshore) in combination with the effects from a number of different projects, on the same receptor or resource.

5.5.5.2 The approach to the CIA for terrestrial archaeology and cultural heritage follows the process outlined in Volume 1, Chapter 7: EIA Methodology.

5.5.5.3 The list of relevant developments for inclusion within the CIA is outlined in Volume 7A, Appendix 7-1: Cumulative Impact Assessment Methodology.

5.5.5.4 Developments located within the different study areas as outlined in Section 5.4.1 of this chapter (500m from the OnTI RLB and 5km from the Onshore Substation Site) have been considered in this chapter due to the potential to result in a cumulative effect. Developments which are either operational or in the decommissioning stage are considered to be part of the baseline and are not considered within the assessment.

5.5.6 Embedded Mitigation

5.5.6.1 Where possible, mitigation measures will be embedded into the design of the Proposed Development (Onshore).

5.5.6.2 Where embedded mitigation measures have been developed into the design of the Proposed Development (Onshore) with specific regard to terrestrial archaeology and cultural heritage, these are described in Table 5-10. The impact assessment presented in Sections 5.7 to 5.11 takes into account this embedded mitigation.

Table 5-10: Embedded Mitigation

Code	Mitigation Measure	Securing Mechanism
M-42	OnTI RLB which avoids direct impact on Scheduled Monuments and Inventory Gardens and Designed Landscapes (and other designated structures therein).	The OnTI RLB as presented within this EIAR and consented through the Planning Permission in Principle (PPP) application for the Proposed Development (Onshore).
M-79	Implementation of mitigation planting around the Onshore Substations including native hedgerows, and native deciduous and mixed native woodland planting for screening. Some planting to be implemented in advance of the start of construction activity and some at the end of construction of Phases 1 and 2.	Route design / Design Principles and planting undertaken in accordance with landscape mitigation proposals outlined within the EIAR, secured via PPP condition which requires a Landscape Management Plan to be provided at Approval of Matters Specified in Condition stage.

5.6 Key Parameters for Assessment

5.6.1.1 Volume 1, Chapter 4: Proposed Development (Onshore) Description details the parameters of the Proposed Development (Onshore) using the Rochdale Envelope approach. This section identifies those parameters during construction, operation and decommissioning relevant to potential impacts on terrestrial archaeology and cultural heritage.

5.6.1.2 The worst case assumptions with regard to Terrestrial Archaeology and Cultural Heritage are summarised in Table 5-11.

5.6.2 Proposed Development (Onshore) Phasing

5.6.2.1 As described in Volume 1, Chapter 5: Proposed Development Phasing, three possible construction programme scenarios have been identified for the Proposed Development (Onshore).

5.6.2.2 The worst case assumptions with regard to the consideration of construction scenarios are also summarised in Table 5-11.

5.6.2.3 The assessment of impacts presented in this chapter considers a combination of scenarios, that is, the sequential scenario with regards to the Landfalls Site and ONEC construction works (due to its longer construction window), and the enabling scenario, with regards to the construction works for the Onshore Substation (as assuming there is no gap period this would results in a six and a half year duration providing less time for mitigation planting to establish).

5.6.2.4 In terms of terrestrial archaeology only, it is assumed that the differing scenarios would unlikely change the level of harm to archaeological remains as there would be no change in the spatial extent of the RLB for either scenario.

5.6.2.5 The above is considered to be the most suitable approach and is based on the following assumptions and clarifications:

- The effects of the construction of the Landfalls and ONEC are largely associated with construction and not operation due to their buried nature (i.e., land will be reinstated and there will be no associated above ground infrastructure remaining).

5.6.2.6 The enabling scenario is considered the worst case scenario, with regards to the Onshore Substation Site construction works as, assuming there is no gap period between phase 1 and phase 2 of construction, it would result in a six and a half year duration of construction works. This is shorter than under the sequential scenario (with a gap) and provides less time for mitigation planting to establish.

Table 5-11: Worst Case Assessment Scenario Considered for Each Impact as Part of the Assessment of Likely Significant Effects

Potential Impact	Assessment Parameter	Explanation
Construction		
Physical impact to the known and unknown archaeological resource (including non-designated heritage assets) due to construction activities (including any enabling works etc.) Impact to the cultural significance of a designated heritage asset through settings impacts or alteration in the setting of a heritage asset	Onshore export cable length between Transition Joint Bay at the Landfall Site and the Onshore Substation Site: 37km (approximately). Four cable trenches, each containing a single duct holding three cables in trefoil formation. 4m wide cable trenches. 7.5m separation between trefoils in each pair of circuits. 20m separation between each pair of circuits. 100m working corridor width. 7 year construction window (Q3, 2027 to Q4 2033) Removal of landscape elements within the Onshore Export Cable Route during the 7 year construction window comprising agricultural land, hedgerow, tree groups, and woodland. Reinstatement of hedgerow and replacement of tree groups, and woodland within the Onshore Export Cable Route during two periods of six to twelve months from Q3 2030 to Q4 2033 and starting in Q1 2033. Two Onshore Grid Connection Cable Circuits to connect the Onshore Substations to the	These parameters represent the maximum potential alteration to the physical elements of the landscape (the worst case design parameters) and the ensuing worst case consideration of potential setting effects of the Onshore Export Cable Route during construction.

Potential Impact	Assessment Parameter	Explanation
	Grid Connection Point at the existing New Deer Substation (for Phase 1), located within an Onshore Grid Connection Cable Route (i.e., the working corridor) of up to 100m wide. Trenchless installation where the Onshore Export Cable Route crosses the Moray East onshore export cable, Class A roads and adjoining drains, protected woodlands, major watercourses and Water Framework Directive Waterbodies.	
Operation		
Impact to the cultural significance of designated heritage assets through settings impacts or alteration of the setting of a heritage asset	Operation of structures within a spatial envelope with a maximum 250m width, 400m length and 15m height above the finished floor level 108.75m above ordnance datum and associated access track earthworks, sustainable drainage system (SuDS) and mitigation planting beyond this area. There may also be a surplus of soil following the completion of the earthworks.	These parameters represent the maximum potential alteration to the physical elements of the landscape (the worst case design parameters) and the ensuing consideration of the worst case potential setting effects of the Onshore Substations during operation. Section 5.7 assumes, as a worst case scenario, there is no screening due to soil mounding, as there is insufficient information available about the quantity of soil or where it would be placed, at this stage.

5.7 Potential Effects

5.7.1 Construction

5.7.1.1 The following section includes an assessment of the potential direct physical impacts to known and unknown archaeological remains, and the indirect physical impacts and setting impacts as a result of construction activities. The official AHER references for non-designated heritage assets are used where required. These are typically prefixed with 'NJ'.

Partial or complete loss of known archaeological remains relating to the prehistoric funerary landscape and settlement evidence or other land management features related to the period

Description of asset

5.7.1.2 The HEDBA shows that the 500m study area forms part of a wider network of prehistoric funerary practices with some limited evidence of settlement activity and land management. Identified settlement and land management evidence likely relates to the communities that established this funerary landscape, however, it is currently not possible to draw direct correlations between these due to limited actual dating evidence.

5.7.1.3 The OnTI RLB intersects with known prehistoric activity five times: at the Landfall Site (NJ66NW0006); to the south of Inchdrewer Castle (NJ65NE0001); Greenlaw (NJ65NE0009, NJ65NE0008); and at South Redbriggs (NJ74NE0045). Broadly, these assets comprise cairns (NJ65NE0001), a cist cemetery (NJ65NE0008), the findspot of a pebble polisher (NJ65NE0009) and the sites of cropmarks suggesting linear and/or circular features and enclosures as identified via aerial photography analysis (NJ66NW0006).

5.7.1.4 Based on the AHER data, where dating evidence was recovered, assets were dated to the Bronze Age, however, most of the assets carry a more generic 'prehistoric' date.

5.7.1.5 While it is possible that the cairn and cemetery site have already at least somewhat been investigated, it is understood that the cropmark sites have not yet undergone any investigations meaning that their true potential is not currently understood.

5.7.1.6 No above ground evidence of the cairn or cemetery were observed during the course of the site walkover survey that informed the HEDBA.

Cultural significance of asset

5.7.1.7 The cultural significance of the known prehistoric assets present within the OnTI RLB is largely shaped by their archaeological interest (which feeds into their scientific value) and communal/social value. Their archaeological interest will mainly be defined by their potential to yield evidence about the construction and use of the funerary landscape, of any settlements (should any settlements exist) and of land management, while their communal/social value will be tied to understanding the wider prehistoric landscape and linked to the communities that constructed and made use of these funerary sites in particular.

Setting and contribution to cultural significance

5.7.1.8 As the nature of the possible features contained within the cropmark areas is currently not understood (although they likely relate to settlement evidence or to more general land management evidence), their setting cannot be determined. The funerary remains, however, are considered to have a setting that is likely twofold, with their immediate setting being informed by their location and surroundings, and their wider setting that may incorporate a wider funerary landscape.

5.7.1.9 As the construction works will return the landscape to its prior state once installed, it is considered that there will be no settings impacts as part of the construction phase.

Assessment of effects

5.7.1.10 Depending on where the Onshore Export Cable route will be sited within the ONEC, there is potential for the partial truncation, and in some lesser cases even the complete loss of the above prehistoric assets. Based on the indicative extents of the assets as indicated by the AHER, it is, however, unlikely that the complete loss of a known non-designated heritage asset will be required. However, it must be noted that associated construction activities, such as enabling works, compound set up etc. also have the potential to impact these assets, and as such, this might require further consideration once the details of this become known at detailed design.

5.7.1.11 It must be noted that the cultural significance of the identified cropmark sites is currently not understood as they have not been investigated. While it is possible that they relate to settlement and/or land management features from the prehistoric period, they may equally relate to another period or may not be archaeological in origin.

5.7.1.12 Based on the data gathered from the AHER, the sensitivity/value of the prehistoric remains is likely low to medium. Assuming the worst-case scenario of complete loss of an asset during construction, there would likely be a high magnitude of impact, thereby resulting in an overall moderate to minor effect which would be significant (in the case of a moderate effect) or not significant (in the case of a minor effect) in EIA terms. The moderate effect would apply where the sensitivity of an asset is found to be medium, while the minor effect would apply where the sensitivity is low.

Partial or complete loss of known archaeological remains relating to the post-medieval agricultural landscape

Description of asset

5.7.1.13 The HEDBA identified the presence of various assets of post-medieval date within the 500m study area, and there are 23 instances where the OnTI RLB directly intersects with known assets of that date including: at the Landfall Site (NJ66NW0012); within the ONEC at Boyndie (NJ66SW0054); at land approximately 1km to the west, south-west and south of Inchdrewer Castle (NJ66SW0006, NJ66SW0101, NJ66SW0103, NJ66SW0102, NJ66SE0136, NJ66SE0137, NJ65NE0057, NJ65NE0080); to the south of the Hill of Brackans (NJ75SE0096); to the west of the A97 (NJ65NE0057); at the Burn of Stonieley (NJ65NE0090); to the south of the Burn of Brydock and south-west of the B9121 (NJ65NE0089); to the west of the River Deveron (NJ65NE0072); to the south-east of Little Idoch (NJ74NE0085); to the north-west of Howe of Teuchar (NJ74NE0033, NJ74NE0034); at South Redbriggs (NJ74NE0044); to the south of Muirtack (NJ84NW0049); and within the proposed Onshore Substation Site (NJ84SW0040, NJ84NW0110, NJ84SW0078).

5.7.1.14 The above assets broadly denote the sites of quarries (NJ66SW0054, NJ66SE0137), mills (NJ65NE0072, NJ65NE0090), cottages (NJ74NE0085), evidence of post-medieval activity, including, for example, ditches and pits (NJ84NW0110) and the sites of former buildings and associated features (such as wells), mostly farmsteads, some of which still survive to this day (NJ66NW0012, NJ66SW0006, NJ66SW0101, NJ66SW0103, NJ66SW0102, NJ66SE0136, NJ65NE0080, NJ75SE0096, NJ74NE0085, NJ65NE0089, NJ74NE0033, NJ74NE0034, NJ74NE0044, NJ84SW0040, NJ84NW0049, NJ84SW0078). The location of these assets can be seen in Figure 1-2 within Volume 7E, Appendix 5-1, Annex 5: Supporting Figures.

5.7.1.15 Overall, these assets show how agricultural practices developed, spread out and started to change the wider landscape stretching from the coast to the Onshore Substation Site. Considering known medieval activity appears less prolific, it is assumed that it was not until the post-medieval period that agricultural practices really started to transform the landscape.

Cultural significance of asset

5.7.1.16 The cultural significance of the known post-medieval assets it largely shaped by their archaeological interest (which feeds into their scientific value) and historic values. Their archaeological interest will mainly be defined by their potential to yield evidence about post-medieval agricultural and land management practices, while the historic value will be tied to understanding the wider post-medieval landscape, communities, settlements and individual farmsteads that started to be formed during this period.

Setting and contribution to cultural significance

5.7.1.17 With the exception of the ditches and pits (NJ84NW0110) at the Onshore Substation Site and the quarry sites (NJ66SW0054, NJ66SE0137) which have been investigated and therefore likely removed, the other post-medieval assets likely have a setting that contributes to their cultural significance. The setting of such assets will likely be limited to their immediate surroundings, for example, their private gardens or former farm complexes, or their wider setting, which likely comprise surrounding agricultural fields. As the construction works will return the landscape to its prior state once infrastructure is installed, it is considered that there will be only temporary settings impacts as part of the construction phase.

Assessment of effects

5.7.1.18 Depending on where the Onshore Export Cable route will be sited within the ONEC, there is potential for the partial truncation, and in some lesser cases even the complete loss of the above post-medieval assets. Based on the indicative extents of the assets as indicated by the AHER, it is unlikely that the complete loss of a known non-designated heritage asset will be required. However, it must be noted that associated construction activities, such as enabling works, compound set up etc. also have the potential to impact these assets, and as such, this might require further consideration once the details of this become known at detailed design.

5.7.1.19 Based on the data gathered by the AHER, the sensitivity/value of the post-medieval remains is likely to be low. Assuming the worst case scenario of complete loss of an asset during construction, there would likely be a high magnitude of impact, thereby resulting in an overall minor effect, which would not be significant in EIA terms.

Partial or complete loss of as yet unknown archaeological remains

Description of asset

5.7.1.20 The HEDBA shows that there is known activity dating from at least the Prehistoric, Medieval and Post-medieval periods within the OnTI RLB, with a prevalence for prehistoric and post-medieval assets. Due to this, it is considered that there is potential for as yet unknown archaeological remains to be present within the OnTI RLB, whether these are associated with known assets or not. However, this does not preclude the presence of archaeological remains from other periods to be present within the OnTI RLB.

5.7.1.21 Based on the known AHER data, it is considered that, as a minimum, there is potential for at least further prehistoric funerary and settlement evidence, and as yet unknown remains related to the post-medieval agricultural landscape (including evidence of ploughing trends, farming practices, previous structures including buildings) to be present within the OnTI RLB.

Cultural significance of asset

5.7.1.22 The cultural significance of any as yet unknown remains would likely mainly be derived from their archaeological interest (which feeds into their scientific value), although they may also hold some communal/social value depending on their condition, extent and survival. As such, the cultural significance of such assets cannot currently be calibrated.

Setting and contribution to cultural significance

5.7.1.23 Should any as yet unknown buried archaeological remains be encountered within the OnTI RLB, it is likely that their cultural significance would primarily be informed by their archaeological value. This does, however, depend on their condition, extent and survival.

5.7.1.24 Setting can make a contribution to cultural significance to buried archaeological remains, for example, the denuded remains of a cairn may form part of the setting of a cairn group, however, some archaeological remains may not have a setting aside from the location where they were found.

Assessment of effects

5.7.1.25 Construction within the OnTI RLB has the potential to partially truncate or completely remove archaeological remains. As the sensitivity/value of any as yet buried archaeological remains is not known, the final effects cannot be accurately determined, however, based on the assumption that they may be of similar value to the known historic environment resource separately assessed as part of the previous two receptors, it is assumed that their sensitivity/value would likely be low to medium. With the potential for a high magnitude of impact assuming the total loss of a heritage asset based on the worst-case scenario, the overall effect of the

construction activities is considered to likely lead to a moderate to minor effect, which would be considered significant (in the case of moderate effect) or not significant (in the case of a minor effect) in EIA terms. The moderate effect would apply where the sensitivity of an asset is found to be medium, while the minor effect would apply where the sensitivity is low.

5.7.1.26 The assessment assumes that the archaeology encountered would be of no more than local value and broadly be in line with the archaeology that is already known to exist within the 500m study area. Should archaeological remains of higher value be encountered that are extensive, rare within the area or would contribute to our understanding of archaeology on a larger level (for example, regional level), the assessment may no longer apply, and the appropriate steps would need to be reviewed at the mitigation and construction stage (depending on when such archaeology is encountered) and discussed with Aberdeenshire Council's Archaeology Team.

Indirect physical and setting impacts to Category C listed Millbrex Church

Description of asset

5.7.1.27 The church is situated approximately 1.5km south-west of the Onshore Substation Site along a small country lane surrounded by agricultural fields. Based on the site visit undertaken as part of the HEDBA (Volume 7E, Appendix 5-1) the asset does not appear to be in use by the local community.

5.7.1.28 The church was designed in the late 19th century by local Aberdeenshire architects John Bridgeford Pirie and Arthur Clyne. It is constructed of red stugged ashlar. The principal elevation features a circular spirelet which forms an interesting design feature.

5.7.1.29 The church is bordered by its associated churchyard to the south and east which is encased by a low stone wall. A lane borders it to the west. Trees border it to the north.

Cultural significance of asset

5.7.1.30 The cultural significance of the church is mainly derived from its aesthetic/architectural, historic and communal values.

5.7.1.31 While the building appears to have undergone various phases of repair over time and does have broken and/or boarded up windows, its original form, design and use can still be understood.

5.7.1.32 The church retains attractive features such as the circular spirelet and the rose window (at west elevation) which add to its overall gothic style and contribute to its aesthetic/architectural value.

5.7.1.33 The historic value is largely due to its association with the architects Pirie and Clyne, whose work was noted as being some of the most original and idiosyncratic work in 19th century Scotland. They primarily worked in Aberdeen and its surrounding area and concentrated on churches, however, they also designed public buildings in Aberdeen.

5.7.1.34 The communal value arguably makes the least contribution to the cultural significance, especially as it currently does not seem to contribute to the community as an active church. However, it would have been a key building in the community when it was constructed and actively formed part of the religious community.

Setting and contribution to cultural significance

5.7.1.35 The church is sited off a lane within a wider agricultural landscape. Based on its orientation, its principal elevation would have faced the fields to its west. The two-storey height and the spirelet would have once marked it as a prominent building within the landscape, however, this is now somewhat obscured by the surrounding trees. Nevertheless, the church is still a noticeable structure.

5.7.1.36 The churchyard within which it is sited forms its immediate setting, while the wider agricultural landscape within which it is sited forms part of its wider setting. This wider setting extends beyond the fields immediately surrounding it and broadly includes the surrounding farmsteads and residences for which it would have been built.

5.7.1.37 The agricultural backdrop surrounding the assets does make some limited contribution to the cultural significance of the asset as it allows understanding of the need for a church within such a remote rural landscape to bring together the largely scattered and isolated community. However, this is considered to make a limited contribution only as the aesthetic/architectural value of the church are considered to make the largest contribution to its cultural significance, and these can best be appreciated upon close inspection of the building and the churchyard.

Assessment of effects

5.7.1.38 It should be noted that the stone wall defining the churchyard is set immediately adjacent to the lane, while the church itself is set back approximately 2m from the lane (behind the stone wall). Nevertheless, as the stone wall forms part of the church and also defines its immediate setting, it is considered curtilage listed. Therefore, any impact to the stone wall would likely be treated the same as impact to the Category C listed church.

5.7.1.39 Construction traffic routing will be confirmed at detailed design, however, there is currently no expectation that this route will be used. Nevertheless should this route be used, it is considered that there is potential for indirect physical impacts from vibration to the church on account of the potential use of the lane adjacent to it for construction activities (i.e., construction vehicle movement to and from the Onshore Substation Site).

5.7.1.40 Similarly, there is also potential for temporary setting impacts to the church during construction. These would mainly arise from the temporary increase in noise and visual change caused by construction traffic travelling along the lane just outside of its immediate setting (that is, the churchyard) and within its wider agricultural setting. While such change would be temporary and could be mitigated, they would nevertheless partially change our experience of an otherwise more tranquil environment surrounding the church. While this would not necessarily prohibit our ability to understand the cultural significance of the asset, it might affect our appreciation of the current tranquil surroundings created by the churchyard set within a wider agricultural landscape which typically appears to experience a low level of traffic movement.

5.7.1.41 As construction traffic routing has not yet been confirmed using the precautionary principle an assessment has been undertaken on the potential impact on this asset during construction. An indirect physical impact upon an asset of medium value (as per information presented in Table 5-7), is considered to be of high in magnitude (in a worst-case scenario), resulting in an effect assessed as moderate in significance before the application of any mitigation. This is significant in EIA terms.

5.7.1.42 Based on the assumption that a temporary change to the setting of the church, an asset of medium value, by way of visual change and a noise increase in an otherwise tranquil environment will lead to a low magnitude of change, the overall effect of the construction activities is considered to likely lead to a minor effect which would be considered not significant in EIA terms.

5.7.2 Operation

5.7.2.1 This chapter assesses the operational impacts in relation to the Onshore Substations only as the other onshore elements of the Proposed Development (Onshore) will be buried and as such it is not anticipated that operational impacts would arise. The operational impacts are considered as long term, despite them being reversible upon decommissioning of the Proposed Development (Onshore).

5.7.2.2 Based on the assessment presented in the HEDBA (Appendix 5-1), the scheduled stone circle at Auchmalladie (SM9392) and the Category C Listed Building Millbrex Church (LB9629) have been scoped in for assessment in this chapter.

5.7.2.3 The following sections draw on the assessment presented in the HEDBA, and as such, the following should be read in conjunction with the full assessment presented in Sections 7.3 and 7.4 of the HEDBA (Volume 7E, Appendix 5-1).

Settings impact to North Main of Auchmaliddie Stone Circle (SM9392)

Description of asset

5.7.2.4 The stone circle represents the remains of a recumbent stone circle of which only two stones survive. It is located close to the edge of the 5km study area, approximately 4.7km to the east of the Onshore Substation Site.

5.7.2.0 The recumbent stone measures approximately 3m x 1.8m x 0.7m, and the possible west flanker, which is now fallen, measures approximately 2.5m x 1.3m x 0.7m. The stones are white quartz. Even though only the recumbent stone and the fallen west flanker survive (should that identification be accurate), it is possible that there would have once been more stones (for example, at least an east flanker) which would have likely been positioned upright, in addition to a stone circle surrounding those. Traditionally, in recumbent stone circles, a slab laid on its side would have been flanked by two taller stones which would have likely been surrounded by a circle of stones. The original intention of such monuments is unknown, but it is generally accepted that these would have formed communal or even seasonal ritual centres which were sometimes re-used for burial purposes (mostly cremations) (Aberdeenshire Council, n.a[11]).

5.7.2.1 The stone circle sits adjacent to a hedgerow separating agricultural fields. It has limited above ground presence and is not visible from the public road to the east or from the access points into the field based on the results of the site walkover survey.

5.7.2.2 Even though the road to the east slopes north to south which facilitates some views of the field within which the stone circle is located, the stones themselves do not come into view when travelling along the road in a north to south direction, presumably due to their limited above ground expression. While it is a possibility that it might have once been regarded or seen as a landmark, especially when it was complete, its current condition and surroundings preclude this from being the case today.

Cultural significance of asset

5.7.2.3 The cultural significance of the Scheduled Monument is predominantly derived from its archaeological interest (which feeds into its scientific value), and communal/social value.

5.7.2.4 The archaeological interest specifically relates to the potential for associated, surviving archaeological remains. While there is no above ground evidence of other stones that might have once formed part of the

stone circle, there is potential that buried evidence survives, especially in regard to the locations of other stones once forming part of the monument. This is presumed to be one of the reasons as to why the scheduled area includes a 30m diameter surrounding the surviving stones. This interest does not rely on views towards or from the wider landscape and instead focuses on the area of and immediately surrounding the surviving stones.

5.7.2.5 The archaeological interest and communal/social value of the monument are also tied to the monument's position within a group of recumbent stone circles which are unique to the north-east of Scotland. The monument's archaeological interest is also derived from its ability to provide important information about the prehistoric ritual activity within this area; particularly due to the materials used in the construction of the monument which is unusual for monuments of this type.

5.7.2.6 In terms of its communal/social value, this is mainly tied to the value this stone circle would have had for the community that constructed it (as communal value can also be applied to people in the past, in this case, the community that originally created the stone circle). The monument might have also held communal/social value for later communities, however, there is currently no evidence for this.

Setting and contribution to cultural significance

5.7.2.7 The stone circle sits within an agricultural field (adjacent to a field access track) on a high point within the landscape (at approximately 150m ordnance Datum). Beyond the field, the stone circle is situated within a largely undulating agricultural landscape which is characterised by multiple hills creating ridges and valleys.

5.7.2.8 While it is assumed that the stone circle forms part of a wider network of prehistoric monuments, no other known assets of a similar nature are present within the 5km study area, however, as the monument sits on the edge of the study area, it is possible that other associated assets are located to its north-east, east and south-east.

5.7.2.9 The location of the stone circle at the top of the hill contributes to understanding its archaeological interest which feeds into its scientific value and its communal/social value. As with many prehistoric sites, it is generally assumed that this higher point was deliberately chosen so that the monument could be visible from the surrounding landscape. It is also assumed that views across the wider landscape from here would have also been important to the community that built it, however, this is not known (but generally widely accepted).

5.7.2.10 However, it must be noted that the nature of the landscape within which the stone circle was originally constructed is currently not understood, therefore, it is unclear whether it might have specifically been placed to be seen from a distance, or whether it might have, for example, sat within a wooded landscape. Should the latter have been the case, it is also possible

that the area surrounding it was cleared at a later stage in order to make the stone circle more prominent, but again, this is not known. Should it have intentionally been placed in an open landscape to facilitate long distance views towards other contemporary monuments or to the settlement(s) that had built it, then such visual relationships would have contributed to its understanding and appreciation. Based on the known historic environment baseline within the 5km study area, there do not appear to be any such associated monuments or settlement sites.

5.7.2.11 The wider agricultural background surrounding the asset adds little to the cultural significance of the asset. While it is likely that views from the asset across the wider landscape were indeed important, the content of those views, unless directly linking this monument to another, is arguably less important.

Assessment of effects

5.7.2.12 The Onshore Substations form a new addition to the wider agricultural setting and may be visible from the location of the stone circle, especially in views to the west. However, the ability to appreciate the location of the stone circle within this wider landscape will not be affected by this addition. Currently, the condition of the stone circle means that it no longer serves as significant landmark, if it was ever intended to be seen and experienced as one considering that it is a recumbent stone circle.

5.7.2.13 When travelling north to south along the publicly accessible road adjacent to the Scheduled Monument, views of the wider landscape open up more generally to the south, south-east and south, but there is no ability to see the Onshore Substations together with the stone circle from this location.

5.7.2.14 The assessment of the potential effect on the setting of the stone circle has taken into account the wider landscape setting within which it sits. Although it was not possible to visit the specific location (due to access constraints), the assessment presented here has been informed by site visits throughout the wider locality. This has enabled a good appreciation of how the circle's topographic location relates to the wider landscape, so that the circle can be understood within the modern landscape and how that relates to the wider archaeological background. This has enabled a thorough understanding of its setting. In order to provide further visual context, and to ensure the accuracy of the assessment, a computer-generated model providing a visualisation from the circle was produced, as described below.

5.7.2.15 A computer generated visualisation was produced in May 2024 (further discussed below, see Volume 7E, Appendix 5-3: Terrestrial Archaeology and Cultural Heritage Visualisations) to illustrate visibility from the stone circle's position. This demonstrates there will be views towards the Onshore Substations from the stone circle. However, the Onshore Substations will occupy only a limited arc of the overall view available from

the circle. It is considered that views from the stone circle will be mainly directed to the south, south-east and south-west, given the circle's location on the southern/south-eastern slope of the hill on which its sits (that is, away from the Onshore Substations).

5.7.2.16 The computer generated visualisation provides a 90-degree and a 53.3-degree view from the stone circle towards the Onshore Substation Site. The 90-degree visualisation presents a view with the maximum design parameters and illustrative layout of the Onshore Substations at Year 1 of Operation. This suggests that, while the Onshore Substations would have a limited presence in long views from the Scheduled Monument, they would not impede or block any views towards the wider landscape to the west of the stone circle. The 53.3-degree view presents a narrower view, but otherwise also confirms this. While the degree views are useful in identifying views towards the Onshore Substations from the stone circle, it must be noted that, in general, views from the asset are generally open in all directions. Due to the nature of the computer generated image, the visualisations provide a contextual and modelled view only and do not include the presence of any existing hedgerows, treelines, residences or otherwise modern infrastructure already present within the landscape (such as New Deer substation, pylons, wind turbines etc) and as such can be seen to represent a worst case scenario. Such existing structures could already provide some level of screening from the stone circle, but if not, it is considered that the Onshore Substations would be experienced as a new structure immediately adjacent to an existing New Deer Substation which is already connected to a wider network of large electricity pylons that stretch across the wider landscape.

5.7.2.17 Overall, the sensitivity/value of the Scheduled Monument is considered to be high. It is considered that while development at the Onshore Substation Site as proposed would at least in part be visible in views west from the stone circle, the addition of the Onshore Substations in would not lead to harm or adversely impact the archaeological interest of the asset which feeds into its scientific value. Neither would it harm the ability to appreciate this value, or indeed its communal/social value, both of which comprise its cultural significance.

5.7.2.18 Furthermore, based on the designated heritage asset data by HES, there are no other designated prehistoric assets within the 5km study area to the west of the scheduled stone circle, meaning that there are no other assets of a similar nature or period which could be linked to the Scheduled Monument and which are present within the backdrop beyond the Onshore Substation Site. Even if such assets are present beyond the 5km study area and are visible in long distance views from the Scheduled Monument, the visualisations indicate that the Onshore Substations do not prevent or impede views towards the hills beyond it, and they would likely be on the slopes of those hills where such assets would be located. Furthermore,

there also do not appear to be other designated prehistoric assets that could be contemporary with the stone circle within a wider 5km backdrop from the stone circle itself.

5.7.2.19 Taken the above into account the ability to appreciate the asset within a largely rural environment will be unaffected by the limited presence of the Onshore Substations in views to the west. The ability to understand the archaeological interest, that is, the scientific value, or is communal/social value is unaffected. Notwithstanding a small visual change, the integrity of the setting of the stone circle as it contributes to understanding the monument and its significance is therefore also unaffected.

Based on the above, the magnitude of impact is considered to be negligible, upon an asset of high sensitivity/value, thereby leading to a negligible effect, which is considered not significant in EIA terms.

Settings impact to Category C listed Millbrex Church

Description of asset

5.7.2.20 As described in 5.7.1.27, the church is situated approximately 1.5km south-west of the Onshore Substation Site along a small country lane surrounded by agricultural fields and enclosed by its associated churchyard. Cultural significance of asset

5.7.2.21 The cultural significance of the church is mainly derived from its aesthetic/architectural, historic and communal values. These mainly focus on its design, association with architects Pirie and Clyne and use as a local church for a largely scattered community.

Setting and contribution to cultural significance

5.7.2.22 As previously described, the church is sited off a lane within a wider agricultural landscape with its principal elevation facing the fields to its west. The church is a noticeable structure in the landscape and is surrounded by its associated churchyard forming its immediate setting. Outside of this, the wider agricultural landscape within which it is sited forms part of its wider setting.

5.7.2.23 As set out in 5.7.1.37, the agricultural backdrop does make some limited contribution to the cultural significance of the church, however, this is considered to be limited.

Assessment of effects

5.7.2.24 Based on the site walkover survey, the Onshore Substation Site will be visible in long distance glimpsed views from the north elevation of the church and from within at least the north-eastern corner of the associated churchyard. Despite this, it is not considered that the Proposed Development (Onshore) at the Onshore Substation Site will lead to any setting impacts which could in turn harm the cultural significance of the asset. The existing New Deer Substation and Moray East OWF Substation

are already visible within long distance views of the church, and even these structures are only glimpsed due to the undulating landscape and some intervening vegetation and trees.

5.7.2.25 Furthermore, considering that trees have specifically been planted along the north elevation of the church and within the associated churchyard, it is assumed that views outwards from the church were not specifically designed to be made. Instead, views across the agricultural landscape are largely incidental based on the slightly elevated position of the church. Indeed, it would have likely been more important for the church to be seen and easily recognisable to act as a local marker, as opposed to being able to see the landscape from the church. The trees at the church are mainly planted in a linear pattern, indicating at least some level of deliberate ornamental planting.

5.7.2.26 Overall, the sensitivity/value of the Listed Building is considered to be medium. Development at the Onshore Substation Site would extend the existing substations within the wider landscape, however, due to the undulating landscape and intervening vegetation and trees, this would unlikely be a noticeable change and would therefore not change the setting of the listed church in such a way as to negatively impact the cultural significance of the Listed Building. Therefore, the magnitude of impact is considered to be negligible, which based upon an asset of medium sensitivity/value would thereby lead to a negligible effect, which is considered not significant in EIA terms.

5.7.3 Decommissioning

5.7.3.1 As presented in Section 5.5.3, it is not anticipated that there would be any additional effects to the historic environment resource due to the decommissioning stage of the Proposed Development (Onshore) and this has been scoped out of assessment.

5.8 Cumulative Effects

5.8.1 Overview

5.8.1.1 The list of developments identified for assessing cumulative effects is presented in Volume 7A, Appendix 7-1: Cumulative Impact Assessment Methodology. In Table 5-12 the potential for cumulative effects with each of these developments is examined, and an assessment of the cumulative effects presented where appropriate.

Table 5-12: Terrestrial Archaeology and Cultural Heritage Cumulative Effects

Development	Potential for significant cumulative effects	Comments
Green Volt Offshore Wind Farm, laying of underground cables and erection of substation APP/2023/1454 (the Green Volt Application)	Yes	The Green Volt application entails the construction of an OWF with an associated cable corridor and substation site located to the south of the existing substation at New Deer. Part of the redline boundary of this development lies immediately adjacent to the Onshore Substation Site and will therefore be located within an area of similar archaeological potential surrounding the Onshore Substation Site. This development will also add to the overall substation and industrial context already present at the location.
Greens 400kV Substation / located at Site 13 Greens (Scottish and Southern Electricity Network) Pre-application stage (the Greens Application) No existing planning reference	Yes	As it is currently understood, the Greens Application entails the construction of a new substation approximately 2km north-west to New Deer. There is currently an insufficient level of technical detail in order to produce a thorough assessment in regard to terrestrial archaeology and cultural heritage, and as such the potential effect to archaeology and cultural heritage cannot accurately be predicated at this stage. However, it is anticipated that this may lead to the wider truncation or removal of the archaeological resource in the area of the Onshore Substation Site (based on the possibility of an overlap with this scheme) and may even lead to setting impacts to designated heritage assets, based on the assumption that the scheme may be operational prior

Development	Potential for significant cumulative effects	Comments
		to the completion of the Proposed Development (Onshore).
Stromar Offshore Wind Farm Onshore Infrastructure Stromar Offshore Wind Farm Limited Pre-application stage (the Stromar Application)	Yes	As it is currently understood, the Stromar Application entails the construction of an OWF and associated onshore cable corridor and substation. While landfall is anticipated at Fraserburgh approximately 30km east of the Proposed Development (Onshore) Landfall Site, the cable route and the substation site are currently not known. Based on the indicative Stromar OWF RLB as presented in the EIA Scoping Report (Stromar, December 2023[12]), it is likely that the cable corridor and the substation site will fall into the 5km study area surrounding the Onshore Substation Site.
Beauly to Blackhillock to New Deer to Peterhead 400kv Connection Pre-application stage (herein after referred to as the Beauly Application)	Unknown	As it is currently understood, the application is for a new double circuit steel structure 400 kV OHL between Beauly, Blackhillock, New Deer and Peterhead, approximately 194km in length and overlaps with the OnTI RLB.

5.8.1.2 In regard to the Green Volt Application, the potential for significant cumulative effects is currently considered to be unlikely. As mentioned in Table 5-12, the proposed redline boundary for application lies immediately adjacent to the Onshore Substation Site, and there is potential that the respective developments may encounter, and thus truncate, similar archaeological remains. Based on the results of the HEDBA (Appendix 5-1), the area of the Onshore Substation Site has potential to encounter at least prehistoric and post-medieval remains, and additional development adjacent to the Onshore Substation Site may therefore uncover similar remains, or may even be directly associated with those found at the

Onshore Substation Site (should archaeology be recovered here). However, this is currently unknown.

5.8.1.3 In regard to the substation element of the Green Volt Application, the development is intended to be operational by Q4 2027 and will therefore form part of the future baseline during operation of the Proposed Development (Onshore). Based on its current anticipated location, the Green Volt substation would likely be seen as part of the wider substation complex within the area. Assuming that it follows similar parameters in terms of massing and height, this addition would unlikely lead to significant cumulative effects to those designated heritage assets within the wider 5 km study area as it would be seen as part of the wider modern substation complex which, although it lies in long distance backdrop views from designated heritage assets such as the listed Millbrex Church of the North Mains of Auchmaliddie, does not currently make a meaningful contribution to the cultural significance of these assets.

5.8.1.4 It is currently assumed that the Greens Application will likely be operational ahead of the Proposed Development (Onshore) and that it will be located approximately 2km to the north-west of the Onshore Substation Site, in close proximity to Cuminestown which currently just falls within the 5km study area. Volume 5, Chapter 4: Landscape and Visual suggests that there is little intervisibility between the Greens site and the Onshore Substation Site, mostly on account of tree cover at Burnside. However, it is possible both the Greens site and the Onshore Substation Site would be visible from assets located on higher grounds within the 5km study area, such as the North Mains of Auchmaliddie. However, even if this were the case, it is unlikely that long distance views of two substations approximately 2km apart within the wider agricultural backdrop would adversely impact the cultural significance of this asset.

5.8.1.5 While the archaeological resource at the Greens site might be similar to that in the OnTI RLB, this is currently unknown, and given the distance between the sites, it is unlikely that remains would be directly related, even if they originate from the same period. Based on the information known at this stage, it is unlikely that there would be significant cumulative effects.

5.8.1.6 There is little existing information about the Stromar Application, but is assumed that the related substation would be located somewhere within the vicinity of the Greens substation. In the absence of further details, it is therefore assumed that the Stromar Application would have similar cumulative effects as the Greens site.

5.8.1.7 In regard to the Beauly Application, there is currently insufficient technical information available to be able to complete a thorough cumulative assessment in regard to this scheme, especially as only the possible route corridor has been made public at the time of writing, and not the final route alignment and location of towers. However, the following provides a high level overview based on the overall redline boundary of the route.

5.8.1.8 The project will overlap with the OnTI RLB and it is anticipated that a similar archaeological resource as found in within the OnTI RLB (should this contain archaeology) be encountered, leading to an overall depletion of the archaeological resource as a result of both the Beauly Application and the Proposed Development (Onshore). However, this is dependent on there being archaeology within the OnTI RLB.

5.8.1.9 The Beauly Application towers will extend from the west to the Greens Application substation before receding into the distance in the east. Volume 5, Chapter 4: Landscape and Visual suggests the intervening landform will limit nearby visibility. Vegetation will partially screen parts of the towers which will pierce the skyline in places. However, it is possible both the Beauly Application and the Onshore Substation Site would be visible from assets located on higher grounds within the 5km study area, such as the North Mains of Auchmaliddie Scheduled Monument (SM9392). However, even if this were the case, it is unlikely that long distance views within the wider agricultural backdrop would adversely impact the cultural significance of this asset and thus therefore unlikely to generate significant effects.

5.9 In-combination Effects

5.9.1.1 In-combination impacts may occur through the inter-relationship with another EIAR topic that may lead to different or greater environmental effects than in isolation.

5.9.1.2 There is also the potential for in-combination impacts resulting from onshore and offshore works. These are identified within Volume 6, Chapter 5: Intertidal Assessment and are therefore not repeated here.

5.9.1.3 It is considered that there would be no in-combination effects resulting from effects between Proposed Development (Onshore) works.

5.10 Mitigation Measures and Monitoring

5.10.1.1 To mitigate effects arising from the construction of the Proposed Development (Onshore) to terrestrial archaeology it is proposed to implement an appropriate programme of archaeological investigation and recording.

5.10.1.2 It must be noted that, while archaeological investigations are inherently destructive, such as, for example, trial trench evaluations, they are a useful tool in understanding the archaeological potential and/or baseline of an area. Archaeological watching briefs during construction activities are another useful tool, however, they often do not allow consideration of the wider archaeological resource.

5.10.1.3 The scope and extent of any mitigation measures to be undertaken as part of the Proposed Development (Onshore) would need to be agreed with the Archaeology Officer advising Aberdeenshire Council. Such works would need to be set out within a Written Scheme of Investigation which would need approval from the Archaeology Officer prior to commencement of the works.

5.10.1.4 In the first instance, it is likely that mitigation would focus on determining the archaeological potential of the prehistoric cropmarks to evaluate whether these are indeed of archaeological origin or not, and on the other areas where the OnTI RLB intersects with known non-designated heritage assets. To be able to appropriate target the potential risk areas, it is considered that initial mitigation would be beneficial once there is more clarity on the location of the route and areas which would likely require some level of excavation (such as, for the haul roads, compound set up etc.).

5.10.1.5 Furthermore, should ground investigation works be required, archaeological monitoring of these, or at the very least, a review of the results could provide further context on deposits that could be of archaeological interest.

5.10.1.6 Should trial trench evaluations form part of the agreed mitigation works, it must be noted that, depending on their results, further mitigation might need to be agreed which could lead to preservation in situ or possibly further excavations.

5.10.1.7 In addition to the above, there may also be the need to mitigate the potential effects arising from construction activities in relation to construction traffic to and from the Onshore Substation Site should construction traffic use a lane adjacent to the listed Millbrex Church. Mitigation measures would lessen the anticipated potential indirect physical impacts.

5.10.1.8 The scope of likely mitigation measures would be informed by the confirmed use of the lane as a construction traffic route at detailed design and the level of construction traffic that would utilise the route. It is anticipated that mitigation measures could be informed by the undertaking of a vibration assessment to understand the potential impact to the asset. Mitigation measures could include limiting the use of the lane adjacent to the church as a construction route, providing a limit on the weight of construction vehicles utilising the route, and/or restrictions in regards the type of construction vehicles utilising the route. Mitigation measures would be set out within the detailed Construction Traffic Management Plan if required.

5.10.1.9 Based on the operation assessment presented above, there would unlikely be any requirement for mitigation to mitigate effects arising from the operation of the Proposed Development (Onshore) as those effects have been assessed as negligible. Should any of the assessments of significance change as the Proposed Development (Onshore) progresses, this would need to be revisited.

5.11 Residual Effects

5.11.1.1 Following the implementation of the proposed mitigation measures, it is anticipated that effects to terrestrial archaeology could be reduced. For example, where an adverse minor effect was previously identified, it is anticipated that this could be reduced to a negligible effect.

5.11.1.2 The residual effect on the church as a result of possible indirect physical impacts could likely be reduced to minor or negligible on agreement of required mitigation measures identified at detailed design and included within the CTMP should this lane require to be used as a construction traffic route. No significant effects for the purpose of the regulations are anticipated after the application of mitigation.

5.11.1.3 As no significant effects have been predicted on account of setting impacts to the identified Scheduled Monument and Listed Building due to the operation phase, no residual effects are anticipated.

5.12 Summary of Effects

5.12.1.1 Table 5-13 presents a summary of the significance effects assessed within this EIAR in relation to terrestrial archaeology and cultural heritage, any mitigation required, and the residual effects are provided.

Table 5-13: Summary of Effects

Impact	Magnitude	Sensitivity of Receptor	Significance	Mitigation Measures	Residual Effect
Construction					
Partial or complete loss of known archaeological remains relating to the prehistoric funerary landscape and potential settlement evidence or other land management features related to the period	High	Low to medium	Moderate (significant) to Minor (not significant)	Archaeological investigations, preservation in situ	Minor to Negligible (not significant)
Partial or complete loss of known archaeological remains relating to the post-medieval agricultural landscape and practices	High	Low	Minor (not significant)	As above	Negligible (not significant)

Impact	Magnitude	Sensitivity of Receptor	Significance	Mitigation Measures	Residual Effect
Partial or complete loss of as yet unknown archaeological remains	High	Low to medium	Moderate (significant) to Minor (not significant)	As above	Minor to Negligible (not significant)
Setting impacts to Category C listed Millbrex Church	Low	Medium	Minor (not significant)	Implementation of CTMP	Minor to Negligible (not significant)
Indirect physical impacts to Category C listed Millbrex Church	High	Medium	Moderate (significant)	Implementation of CTMP.	Minor (not significant)
Operation					
Setting impacts to scheduled stone circle		High	Negligible (not significant)	N/A	Negligible (not significant)
Setting impacts to listed Millbrex Church		Medium	Negligible (not significant)	N/A	Negligible (not significant)

5.13 References

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