



## Chapter 12: Archaeology & Cultural Heritage

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## 12 Archaeology and Cultural Heritage

### 12.1 Introduction

This report details the assessment undertaken to consider the Historic Environment in respect of the NorthConnect High Voltage Direct Current (HVDC) Cable Corridor from Fourfields Converter station, 2 miles west of Boddam, out to the UK median line (UK EEZ at 200 nautical miles) off the coast from Long Haven Bay.

In support of the baseline, an archaeological walkover survey was carried out onshore, and an archaeological report was prepared as part of the Marine Survey carried out along a 500m wide marine survey corridor (see NorthConnect – UK, Nearshore and North Sea Survey, Archaeological Report (MMT, 2017)). In addition, the unexploded ordnance (UXO) report was considered for its contribution to the baseline (6 Alpha, 2017). These works were designed to inform on the character of historic environment assets, terrestrial and marine, which may be affected, assess the significance of the anticipated impact, and thereby inform the design of the proposed HVDC Cable Corridor and any necessary mitigation strategy.

Along the HVDC Cable Corridor the appraisal established a baseline of Cultural Heritage and Archaeological assets that fall within the consented boundary and referred to as the ‘Study Area’ throughout the assessment (Figure 12.1 and 12.5). The preparation of this report has been undertaken by Rathmell Archaeology Limited (Rathmell) and informed by consultation with Aberdeenshire Council, Marine Scotland, and Historic Environment Scotland.

Within the terrestrial HVDC Cable Corridor Study Area, ten historic environment assets were identified, and none were designated for their significance. There are no nationally significant historic environment assets that will be subject to significant indirect or setting impacts from the proposed development.

Within the marine section of the HVDC Cable Corridor Study Area, six historic environment assets were identified. While none of these assets have a confirmed significance, **S16** the possible aircraft loss, in the absence of records, will be treated on a precautionary basis as a Protected Place under the Protection of Military Remains Act 1986 (i.e. there is a potential that this is a military aircraft).

There are no nationally significant historic environment assets that will be subject to significant indirect or setting impacts from the proposed development.

The Development will be compliant with the Development Plan and Planning Guidance by not generating any new significant effects.

### 12.2 Planning and Legislative Context

Scotland has been altered by a series of historic decisions about the use of our land and sea. The resultant modern land and seascape is a palimpsest of relict elements from these past uses that contribute to form our historic environment. Our work examines the local historic environment to identify the significant contributing elements (assets) to enable design developments to enhance the historic environment and avoid adverse impacts.

The UK and Scottish Governments have passed legislation for the conservation and protection of the historic environment; this legislation has generated a range of relevant designations, as summarised in Table 12.1.

Table 12.1 Relevant historic environment designations

Designation	Explanation	Environment	Importance	Responsibility
<b>Ancient Woodland</b>	Areas identified within the Inventory of Ancient Woodland based on the longevity of woodland cover.	Terrestrial	National Regional and Local	Scottish Natural Heritage
<b>Conservation Areas</b>	Areas of special architectural or historic interest can be designated as Conservation Areas, under the <i>Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997</i> .	Terrestrial	Local	Planning Authority
<b>Historic Battlefields*</b>	Battlefields included on the Inventory of Historic Battlefields giving them protection through the planning system.	Terrestrial	National	Historic Environment Scotland
<b>Historic Gardens and Designed Landscapes*</b>	Gardens and designed landscapes included on the Inventory of Gardens and Designed Landscapes giving them protection through the planning system.	Terrestrial	National	Historic Environment Scotland
<b>Listed Buildings</b>	Buildings of special architectural or historic interest protected under the <i>Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997</i> as modified by the <i>Historic Environment (Amendment)(Scotland) Act 2011</i> . Classified into (non-statutory) categories A, B and C in decreasing order of importance.	Terrestrial	National, Regional and Local	Historic Environment Scotland and Planning Authority
<b>World Heritage Sites</b>	Inscribed by UNESCO as exceptional places of 'outstanding universal value' under the <i>UNESCO World Heritage Convention</i> ratified by the UK in 1984.	Terrestrial	International	Historic Environment Scotland and Planning Authority
<b>National Scenic Area</b>	Landscapes of outstanding scenic interest, incorporating historic environment dimension, designated under <i>Planning (Scotland) Act 2006</i> . Receiving protection through the planning system	Terrestrial and Marine	National	Scottish Natural Heritage
<b>Protected Places</b>	Under <i>Protection of Military Remains Act 1986</i> .	Terrestrial and Marine	National	Ministry of Defence
<b>Scheduled Monuments</b>	Ancient monuments protected for archaeological interest under <i>Ancient Monuments and Archaeological Areas Act 1979</i> as modified by the <i>Historic Environment (Amendment)(Scotland) Act 2011</i> .	Terrestrial and Marine	National	Historic Environment Scotland
<b>Controlled Sites</b>	Under <i>Protection of Military Remains Act 1986</i> .	Marine	National	Ministry of Defence
<b>Designated Wrecks</b>	Wrecks protected for their historical, artistic, or archaeological importance under the <i>Protection of Wrecks Act 1973</i> .	Marine	National	Historic Environment Scotland
<b>Historic Maritime Protected Area</b>	The identification of Historic Marine Protected Areas was established under <i>Marine (Scotland) Act 2010</i> . These protect historic assets of national importance within the Scottish Territorial Waters (STW).	Marine	National	Historic Environment Scotland

\* these Inventories are required to be compiled and maintained under the Historic Environment (Amendment)(Scotland) Act 2011 but there is no statutory protection afforded to the so designated heritage asset.

### 12.2.1 Scottish Planning Policy

Assets without statutory protection are curated within the relevant planning system by the appropriate planning authority. Given that the current development proposal covers changes of use in both the terrestrial and marine environment, it is important to note that planning control under the Town and Country Planning (Scotland) Act 1997 and associated legislation extends to Mean Low Water Springs (MLWS).

Scottish Planning Policy 2010 deals with all aspects of the historic environment with a view to its protection, conservation, and enhancement.

*“In most cases, the historic environment (excluding archaeology) can accommodate change which is informed and sensitively managed, and can be adapted to accommodate new uses whilst retaining its special character. However, in some cases the importance of the heritage asset is such that change may be difficult or may not be possible. Decisions should be based on a clear understanding of the importance of the heritage assets.”* (Scottish Government, 2010)

Historic Environment Scotland has also issued guidance that is a material consideration through their *Managing Change in the Historic Environment* series. For archaeological assets *PAN 2/2011 Planning & Archaeology* indicates that the principle of preservation *in situ* where possible, and by record if loss cannot be avoided.

The Scottish Government in 2014 expressed their strategy towards the management of the historic environment through *Our Place In Time*. Of note in this context:

*“Any decision made in relation to the care and management of the historic environment should be informed by the best available evidence, supported by robust data. This is at the heart of all good decision making and delivery, and is core to the international community’s approach to managing the historic environment.”* (Scottish Government, 2014)

The local terrestrial planning authority, Aberdeenshire Council, delivers the Development Plan through a Local Development Plan; *Aberdeenshire Council: Aberdeenshire Local Development Plan 2012* (Aberdeenshire Council, 2012) a series of specific policies identifies the approach that should be taken to the historic environment. All the policies lie nested below Policy 13 Protecting, Improving and conserving the historic environment that identifies that:

*“Aberdeenshire Council supports the protection, improvement and conservation of the historic environment. There will be a presumption against development that would have a negative effect on the quality of these historic assets. Different parts of the historic environment require to be subject to specific guidance and controls to make sure that we maintain and improve their value”*

There are four separately published supplementary guidance :

#### **SG Historic Environment 1: Listed Buildings**

*(a) We will protect all “listed buildings” contained in the statutory list of Buildings of Special Architectural or Historic Interest for Aberdeenshire, and we will encourage their protection, maintenance, enhancement, active use and conservation.*

*(b) We will refuse planning permission and/or listed building consent for any works, including demolition, which would have a detrimental effect on their character, integrity or setting.*

*(c) We will only approve alterations or extensions to listed buildings or new development within their curtilage, subject to other policies, if:*

- *They are of the highest quality, and respect the original structure in terms of setting, scale, design and materials.*
- *The proposed development is essential to securing the best viable use of the listed building without undermining its architectural or historic character, or its setting.*

#### **SG Historic Environment 2: Conservation Areas**

*(a) We will refuse planning permission and/or conservation area consent for any development, including change of use or demolition, which would have a detrimental effect on the special character or setting of a conservation area.*

*(b) We will only approve new development wholly or partly within a conservation area, subject to other policies, if:*

- *all details are provided under cover of an application for full planning permission;*
- *the design is of the highest quality, and respects and enhances the architectural, historic and visual qualities that give rise to the designation;*
- *Any trees that contribute to the conservation areas setting and character are retained.*

#### **SG Historic Environment 3: Historic gardens and designed landscapes**

*(a) We will only approve development that would have an adverse effect on the character, structure or setting of a designated historic garden or designed landscape, subject to other policies, if:*

- *the objectives of designation and the overall integrity and character of the designated area will not be compromised; OR*
- *any significant adverse effects on the qualities for which the area has been designated are clearly outweighed by long term strategic social or economic benefits of over-riding public importance, for which no other alternative site is available.*

*(b) In either case, mitigation and appropriate measures must be taken to conserve and enhance the essential characteristics, aesthetics, archaeological, historical value and setting of the garden or the designed landscape.*

#### **SG Historic Environment 4: Archaeological sites and monuments**

*(a) We will only approve development that would have an adverse effect on a scheduled ancient monument or on any other archaeological site, including battlefields, of either national or local importance, or on their setting, subject to other policies, if:*

- *there are imperative reasons of overriding public interest, including those of a social or economic nature;*
- *there is no alternative site for the development;*
- *Where there is doubt, the applicant has provided further information, at their expense, on the nature and location of the archaeological feature(s) involved, prior to determination of the planning application.*

*(b) In any such case, the applicant must at their own expense:*

- *take satisfactory steps to mitigate adverse development impacts;*

- *when the preservation of the site in its original location is not possible, arrange for the full excavation and recording of the site in advance of development.*

### 12.2.2 Marine Planning

The 2015 National Marine Plan (Scottish Government, 2015), with regard to Cultural Heritage and Archaeology, establishes the relevant policy and will apply to both inshore and offshore waters:

#### **Gen 6 Historic environment**

*Development and use of the marine environment should protect and, where appropriate, enhance heritage assets in a manner proportionate to their significance.*

The guidance with this policy sustains a common stance the terrestrial planning system – the provision of competent information, preference for protection of assets with the need to seek to minimise and mitigate any impacts that cannot be avoided.

Further, the 2010 Act, within Section 73 on Historic Marine Protected Areas (MPAs), defines a marine historic asset as any of:

- a vessel, vehicle or aircraft (or part of a vessel, vehicle or aircraft);
- the remains of a vessel, vehicle or aircraft (or a part of such remains);
- an object contained in, or formerly contained in, a vessel, vehicle or aircraft;
- a building or other structure (or a part of a building or structure);
- a cave or excavation; or
- a deposit or artefact (whether or not formerly part of a cargo of a ship) or any other thing which evidences, or groups of things which evidence, previous human activity.

In turn, the 2009 Act, in Section 54 on Marine Plans (Part 3 Marine Planning, Chapter 2) states that ‘*the cultural characteristics of the authority’s region includes a reference to characteristics of that region which are of a historic or archaeological nature*’. Further, within Section 151 on Marine Conservation Zones (Part 5 Nature Conservation, Chapter 1), recognises that ‘*“marine environmental matters” means – (a) the conservation or enhancement of ... any features of archaeological or historic interest in such areas ...*’.

### 12.3 Approach to Assessment

The works comprised a desk-based assessment supported by an inspection survey for both terrestrial and marine aspects of the assessment. The assessment focused on the proposed cable corridor for the NorthConnect Development (Figure 12.1 and Figure 12.5). For some resources where, insufficient information was available within that area, an adjacent buffer has been included within the study area to examine any sites that are in close proximity and which present the potential to inform on the resource; in particular past archaeological interventions have been considered from a larger area.

All works were conducted in keeping with the Chartered Institute for Archaeologists’ Standards and Policy Statements and Code of Conduct and Historic Environment Scotland Policy Statements.

#### 12.3.1 Objectives

The objective of the assessment was to assess the known historic environment sites and the potential for currently un-located archaeological sites within the study area for the NorthConnect Development.

The assessment was then to determine the potential impact of the development on the historic environment resource, and hence recommend a mitigation strategy to reduce any adverse impacts.



### 12.3.2 Baseline Characterisation

#### 12.3.2.1 Onshore Historical Assets

A programme of works was agreed with NorthConnect to compile an onshore baseline through a desk-based assessment and walkover survey.

Given the history of survey in the area, the gathering of baseline information was limited to a desk-based assessment which incorporated available data and a walkover inspection of the ground that will be impacted by the project. The desk-based assessment consulted resources within:

- National Collection of the Historic Environment (NCHE) (including Canmore, Maritime Canmore, the National Collection of Aerial Photography (NCAP) Scheduled Monuments and other designations);
- Aberdeenshire Council Sites and Monuments Record (known archaeological sites);
- National Library of Scotland (bibliographic records, historic Ordnance Survey and pre-Ordnance Survey mapping);
- Local museums, libraries and other archives (Old & New Statistical Accounts, local history books);
- Online resources; such as Historic Environment Scotland's PastMap; and
- Previous work associated with the NorthConnect Interconnector Station and HVAC cable route.

As part of the development of the HVDC Cable Corridor, there will not be any new permanent above ground structures or plant. Therefore, it was not necessary to consider the visual impact on any significant Archaeology & Cultural Heritage sites within or outwith the Study Area. Where the marine and onshore cables are to be joined, the 'Joint Pit' is to be constructed below ground surface and thus no permanent visual effect.

Information contained within available published and web-based sources was also consulted with the baseline compiled using a Geographic Information System package (QGIS).

The walkover survey comprised:

- classification of the archaeological sites and monuments;
- written site description;
- photographic record (digital) of all sites; and
- locating all archaeological site limits and elements by DGPS equipment (Leica GS50) allowing real-time correction to Ordnance Survey National Grid and Datum.

All works complied with the Chartered Institute for Archaeologists' Standards and Policy Statements and Code of Conduct and Historic Environment Scotland Policy Statements.

#### 12.3.2.2 Marine Historical Assets

Maritime data was incorporated in the baseline for the cable corridor that covered both inshore waters (out to 12 nautical miles being STW) and offshore waters (to the edge of the UK Exclusive Economic Waters, 200 nautical miles). The Marine Archaeological Report was carried out separately by MMT Sweden AB (see (MMT, 2017) for detailed methodology).

The MMT Sweden AB Archaeological Report (MMT, 2017) details the findings of possible archaeological interest from a combination of geophysical surveys and visual inspections along the UK Nearshore and North Sea Sections of the subsea cable corridor. The results in this report are based



upon interpretations of geophysical data as well as video inspections. The combination of Side Sonar Scan (SSS), and Multi Beam Echosounder (MBES) data collected is considered an effective method of detecting the presence of wrecks on the seabed throughout the route corridor. The Sub Bottom Profiler (SBP) and Magnetometer (MAG) data acquired may detect buried wrecks directly under the survey lines but not throughout the survey corridor. The probability of detection with these systems depends on the size of the object and their ferrous mass (magnetometer).

The UK Nearshore Survey corridor is located south of Peterhead. The survey corridor is approximately 500 m wide, and reaches approximately 4 km from the coast at Long Haven Bay. The geophysical survey was conducted in two phases. Firstly, a hull MBES survey was conducted, as close to shore as possible. Then a geophysical survey with Work Class Remotely Operated Vehicle (WROV) mounted MBES, SSS, SBP and MAG, following nine survey lines with a separation of 65 m was completed. Additional crosslines were run close to shore in order to fill gaps in the coverage resulting from the complex coastline.

The North Sea survey work included hull mounted MBES and remotely operated towed vehicle (ROTV) mounted SSS and SBP. A magnetometer was towed 10.7 m behind the ROTV. The survey included three survey lines with 125 m line spacing covering a 500 m wide corridor. Additional survey lines were run in challenging areas to widen the corridor, in order to locate the optimal conditions for cable installation. SSS range was set to 100 m for the high frequency (HF) data and 150 m range for the low frequency (LF) data. The LF data was only processed where HF data was not available (nadir and wing lines (WL) outer range).

Consequent to the Marine Survey, a desk based unexploded ordnance (UXO) threat and risk assessment study for the project in order to support the proposed cable installation operations was undertaken (6 Alpha, 2017).

### 12.3.3 The Significance of Potential Impacts

The criteria published in *Scottish Planning Policy* and the *Local Development Plan* have been used to determine the importance / sensitivity of historic environment assets. This remains compliant with the National Marine Plan. The main thresholds of importance / sensitivity are recognised as International, National, Regional, Local and Other. The importance of designated assets is detailed in Table 12.2; undesignated assets are assessed against the published criteria. Typically, these assets will fall within Regional or Local importance, but where there is no substantive significance then they may be assessed as being of Other importance / sensitivity.

**Table 12.2 Definitions of sensitivity of historic environment assets**

Sensitivity	Site Types
International/ National	World Heritage Sites National Scenic Areas Designated Wrecks, Protected Places & Controlled Sites Historic Maritime Protected Areas Scheduled Monuments Category A Listed Buildings Inventory Gardens and Designed Landscapes Inventory Battlefields Assets that are of national or international importance, either architectural or historic, or fine, little-altered examples of some particular period, style or building type (inc. Ancient Woodland).

Sensitivity	Site Types
Regional	Archaeological sites and areas of distinctive regional importance Category B Listed Buildings Non-Inventory Gardens and Designed Landscapes identified in Development Plan Assets that are major examples of some period, style or building type, which may have been somewhat altered (inc. Ancient Woodland).
Local	Conservation Areas Archaeological sites and areas of local importance Category C Listed Buildings Assets that are lesser examples of any period, style or building type, whether as originally constructed or as a result of subsequent alteration (inc. Ancient Woodland).
Other	Assets without statutory protection and with less than local importance such as findspots with no known remains Unlisted Buildings and townscapes of some historic or architectural interest

The type of effects and impacts from the development on historic environment resources are divided into the following categories:

**Direct:** where there will be a physical, typically irreversible, effect on an asset. Direct effects may be caused by a range of activities associated with the construction and operation of proposed development. Construction activities may include ground-disturbing excavations for foundations, cable trenches, access roads, extraction, installation of anchorages and foreshore reclamation. In addition, other disturbance from processes, such as vehicle movement and soil or overburden bunding, may produce irreversible effects upon historic environment assets; and

**Indirect:** where the asset may be affected as a consequence of the development occurring in a manner that may be either irreversible or temporary. Indirect effects may relate to the new development reducing views to or from historic environment assets with important landscape settings, or may result from increased noise or vibration, or the initiation of processes such as erosive scour from the operation of marine structures or may cause increased fragmentation of the historic landscape and the loss of connection between its component parts. Such effects are likely to occur during the construction phase of the development and persist through the operational phase.

Potential effects, direct and indirect, have been considered in terms of their longevity, reversibility, and nature, which allowed the magnitude of effect to be determined. Magnitudes of impact are assessed in the categories major, moderate, minor and negligible, and are described in Table 12.3.

**Table 12.3 Criteria for classifying Magnitude of Impact**

Magnitude of Impact	Criteria
Major	Fundamental change to the specific environmental conditions assessed resulting in temporary or permanent change to the character or setting.
Moderate	Detectable change to the specific environmental conditions assessed resulting in non-fundamental temporary or permanent change and partial alteration of character or setting.
Minor	Detectable but minor change to the specific environmental conditions assessed and does not affect the condition of the receptor materially.
Negligible	No perceptible change to the specific environmental conditions assessed.

The assessment of significance of predicted effects and impacts was undertaken using two key criteria: importance / sensitivity of the asset and the magnitude of the anticipated impact. Table 12.4 combines these criteria to provide an assessment of the level of significance of effect. All adverse direct and indirect impacts resulting in Moderate or Major Effects are considered to be significant in terms of the EIA Regulations.

**Table 12.4 Matrix for Assessing Significance of Effect**

Magnitude of Impact	Sensitivity			
	International and National	Regional	Local	Other
Major	Major	Moderate	Minor	Insignificant
Moderate	Moderate	Moderate	Minor	Insignificant
Minor	Minor	Minor	Insignificant	Insignificant
Negligible	Insignificant	Insignificant	Insignificant	Insignificant

#### 12.3.4 Identification and Assessment of Mitigation

Where direct effects are identified that have not been designed out, mitigation will be proposed where there is both a magnitude of change greater than negligible and a reasonable potential for the enhancement of our comprehension of the historic environment. Mitigation will be framed to be in keeping with planning guidance, the Development Plan, the policies of the Chartered Institute for Archaeologists and relevant best practice.

For indirect effects that are identified that have not been designed out there is no credible potential to further mitigate the impact.

#### 12.3.5 Assessment of Residual Impacts

The resource being considered, the Cultural Heritage and Archaeology, by its nature is a static and non-renewable resource. Hence the original assessment of the Project for direct and indirect permanent impacts will remain sound post-mitigation and hence this assessment will be sustained as the residual impact.

Where mitigation has been detailed, typically for construction related direct effects, this mitigation usually orientates to the recovery, interpretation and dissemination of knowledge about the compromised historic environment assets. Some of this knowledge may be embodied in physical object (artefacts) that are retained. While the mitigation has ensured that the potential knowledge inherent within those compromised sites has been realised and retained, compliant with the principles of the Local Development Plan and National Marine Plan, this does not fundamentally alter the loss of a non-renewable resource.

#### 12.3.6 Limitations of the Assessment

The absence of large scale and systematic archaeological fieldwork within the Study Area has a consequence on the comprehensiveness and comparability of the archaeological record for any individual piece of ground. The archaeological record is effectively a composite of antiquarian and archaeological interest through time (whether stimulated by academic or commercial drivers) and as such is piecemeal, fragmentary and partial (both spatially and temporally). This process of compilation will inevitably perpetuate information gaps and erroneous information that cannot be confidently

identified.

The studies to compile the baseline information will have resolved many of the information gaps. However, there is always the potential for additional, unidentified sites to be present.

## 12.4 Baseline information on the Historic Environment

Presented within this section is a narrative description of the known Cultural Heritage and Archaeological conditions within the Study Area. Historic environment assets are identified with a site number (e.g. S4) with a detailed listing of data relating to them is presented in Table 12.6 (onshore) and Table 12.7 (marine), with their locations shown in Figure 12.1 and Figure 12.5 respectively.

### 12.4.1 Designated Assets

The assessment identified no specific assets within the onshore or marine portion of the study area that were protected for their cultural heritage or archaeological merit under any historic environment designation (see Table 12.1). The possible aircraft loss **S16**, in the absence of records, will be treated on a precautionary basis as a Protected Place under the Protection of Military Remains Act 1986.

### 12.4.2 Previous Archaeological Studies

A broad range of studies have been undertaken across the study area to develop the established Historic Environment Record. Some are studies that have significantly enhanced the record on a national or regional scale, often driven by a thematic issue. In terms of specific studies within the onshore section, as part of the wider project connected with the location of the Converter Station and HVAC Cable Corridor, a desk-based assessment and linked walkover survey have been carried out (Klemen, 2015).

Of particular relevance to the marine section was the RCAHMS's *Project Adair*; this has sought to reconcile the continually updated database of wrecks and other obstructions held by the UK Hydrographic Office (UKHO) with their Canmore database. A number of the marine assets identified within NorthConnect's study area derive from this UKHO data and also the Whittaker database (2011) of all known marine losses.

The introduction of large volumes of marine data from multiple sources that cover the same historical events has potentially generated duplication of data that has yet to be consolidated within the record. Also note that the UKHO legacy effect weights away from smaller vessels, particularly wooden ones, as these are harder to detect with marine geophysics and are less likely to present a significant navigational hazard (WA Coastal & Marine, 2012).

### 12.4.3 Prehistoric Landscapes

There is no evidence for specific known heritage sites from the prehistoric period, though there would have been substantive occupation and land use within the study area that covers the HVDC Cable Corridor.

Given the marine nature of much of the cable corridor, it should be recognised that humans have occupied the UK Continental Shelf at various points in our past for over 700,000 years. A range of Palaeolithic stone artefacts as well as Pleistocene faunal remains have been recovered in the North Sea. A significant body of cumulative evidence shows that there are submerged prehistoric landscapes across wide areas of the UK continental shelf (WA Coastal & Marine, 2012). Many of the discoveries of this evidence have derived from seabed development.

The potential for the survival of cultural heritage within the study area (both terrestrial and marine) will be determined by various physical factors, processes and topography.

#### 12.4.4 The Early Historic, Medieval and Later Periods

The earliest name given to Peterhead is Keith Inch which it retained until 1593 when it obtained a charter as a burgh. The Study Area lies within the parish of Peterhead with Peter-Ugie, Petri Promontorium and Petri Polis also other derivatives that are found on associated charters (Donald, 1834-45: 344 Moss, 1791-99: 385). The estate of the Earls of Marischall included the parish of Peterhead and had one of their residences at Boddam Castle.

Both the Old (1791-99) and New (1834-45) Statistical Accounts provide a detailed insight into the economic and social state of the parish. With particular reference to the topographic feature of Stirling Hill that forms the southern extent of Peterhead Parish and has an abundance of fine granite. Moss (1791-99: 558) refers to this abundance and quality of the granite having been used for numerous buildings in Peterhead while Donald (1834-45: 331) highlights it being taken down to the Isle of Sheppey in Kent to be used in the construction of the naval dockyards at Sheerness.

The earliest mappings depicting the area of Boddam are Robert Gordon's *Aberdeen, Banff, Murrey to Inverness: [and] Fra the North Water to Ross* (1640) and Joan Blaeu's *Description of the two shyres Aberdene and Banf, with such contreys and provinces as are Comprehended un* (1654), itself a re-depiction of Gordon's survey. Both surveys label Boddam (spelt 'Boddom') and the larger settlement of Peterhead to the north with the inland area in which the Study Area is located as hills (not shown).

It is not until Roy's *Military Survey of Scotland* (1747-52) (Figure 12.2a) depicts an open landscape with Stirling Hill (labelled as Sterling Brae) the only significant topographic feature labelled. Roy also depicts the coastal topographic feature of Longhaven and the area of the later quarry (**S2**), and also provides the current spelling. However, he also depicts a settlement of at least nine structures and it is most likely the labelling refers to this settlement. This area falls outwith the boundary of the HVDC Cable Corridor.

There are four clachans depicted by Roy and located to the northwest of the Longhaven settlement and what is the area of Longhaven Quarry (**S2**). Due to inaccuracies in the survey it is difficult to be conclusive if they are located within the study area for the HDVC Cable Corridor. It is possible that parts may have been subsumed into existing farmsteads or that if they have totally disappeared and nothing survives.

Both John Thomson's (1832) *Northern part of Aberdeen and Banff Shires* (not shown) and Alexander Gibb's (1858) *Map of the north eastern districts of Aberdeenshire* (not shown) do not depict either the settlement that Roy labels as Longhaven or the four clachans.

With the *25-inch 1<sup>st</sup> edition Ordnance Survey* (1868) the landscape has become enclosed and resembles the current layout of the landscape with the Fourfields site clearly distinguishable as are the fields forming the lower southern portion of the proposed cable corridor (Figures 12.2b & 12.3a).

Gibb's (1858) survey (not shown) is the first to depict and label the current farmstead called Longhaven and located to the north of the A90 with the *25-inch 1<sup>st</sup> edition Ordnance Survey* (1872) (Figure 12.3a) also depicting its presence. This is the first survey to depict the farmstead at Sandfordhill (**S10**) (HER ID: NK14SW0069) (Figure 12.2b) and formed by two rectangular buildings and a small enclosure to the south. The north-south aligned turf and stone boundary wall (**S9**) of Sandfordhill South is also depicted (Figure 12.2b). This is currently sited to the east of Stirling Hill Radar Station and forms the upper northwest edge of the study area and the consented boundary for the HVDC Cable Corridor. The 1<sup>st</sup>

edition survey is also the first time that the salmon house at Heathery Haven (**S1**) (Figure 12.3a) is depicted.

With the 25-inch 2<sup>nd</sup> edition *Ordnance Survey* (1901) (Figures 12.2b & 12.3a) a number of the heritage assets are depicted for the first time. A second structure and aligned roughly east-west and to the south of the previous structure is depicted at Heathery Haven (**S1**) and maybe related to activity associated with the Salmon House (Figure 12.4a). Due to its close proximity to the Salmon House, this structure has been incorporated into the area of **S1**.

An unroofed structure (**S4**) to the east of Heathery Haven is also depicted. Longhaven Quarry (**S2**) is depicted and a working quarry at this point. It is possible that the structure of (**S4**) is associated with quarrying activity at **S2** as similar structures are noted at Stirling Hill Quarry.




The structure called Longhaven for the purposes of the assessment (**S6**) and the two wells called Long Haven (**S7**) and Longhaven Mains (**S8**) for the purposes of the assessment are also both first depicted. A major feature is the presence of the southwest-northeast running Boddam Branch of the Great North of Scotland Railway (**S5**) that cuts through the study area for a short section from NK 1168 4023 to NK 1198 4046.

The disused railway (**S5**) was part of a 24 km single track branch line running from the Formatine & Buchan Railway at Ellon to Boddam. Opening in August 1897 the branch carried freight (predominantly from local quarries) and passenger traffic. To the immediate southwest of the Study Area was the site of Longhaven Station (NK 1153 4010) which had an associated small goods siding immediately to the southeast. The branch line remained in use until 1932 when it was closed to passengers due to lack of traffic. Subsequently it was closed to freight in 1945 and then dismantled in 1950.






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**Table 12.6: Onshore Historic Environment Assets within the Study Area**





Site	Name	NGR Ref:	UID, Designation & Description	Period	Image from Site Inspection
<b>S1</b>	Heathery Haven	NK 1204 4007	<b>Canmore ID 75962</b> ; The remains of a Salmon House (top image) are situated at the head of the cliffs overlooking Heathery Haven. It is depicted as roofed (and noted as a 'Salmon House') on the 1 <sup>st</sup> edition of the OS 6-inch map (1872), which also shows a path dropping down to the beach below. On the 2 <sup>nd</sup> edition 6-inch map (1901) a second structure aligned E-W (bottom image), is depicted to the south and close to the Salmon House previously depicted. The second structure is first depicted on the 2 <sup>nd</sup> edition ordnance Survey (1901).	Post-medieval	
<b>S2</b>	Longhaven Quarry	NK 1200 4014	<b>AHER ID NK14SW0015</b> ; Disused quarry. Distinctive Peterhead pink granite was quarried from here for monumental and building purposes. The quarry was closed but subsequently re-opened c.1986 on a small scale, using a non-explosive carbon dioxide blasting method to extract the granite. Now disused and water filled.	Modern	
<b>S3</b>	Longhaven (bay)	NK 1208 4042	<b>AHER ID NK14SW0044</b> ; During WWII a boat carrying iron ore was run aground here deliberately after a bomb attack in order to save the cargo.	Modern	



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Site	Name	NGR Ref:	UID, Designation & Description	Period	Image from Site Inspection
S4	Heathery Haven	NK 1209 4008	<b>No designation;</b> Roofed structure: depicted on the 2 <sup>nd</sup> edition OS survey. Sited to the east of the Salmon House. The structure is depicted as unroofed in the OS mapping. The current roofing is a later edition.	Modern	
S5	Boddam Branch, Great North of Scotland Railway	NK 1169 4023 to NK 1198 4046	<b>No designation;</b> The disused railway running from NK 1168 4023 to NK 1198 4046 is a section of the former Boddam Branch of the Great North of Scotland Railway; a 24 km single track branch line running from the Formatine & Buchan Railway at Ellon to Boddam. Opened in August 1897 the branch carried freight (predominantly from local quarries) and passenger traffic. Longhaven Station NK1153 4010 formed part of the disused branch line as did the goods siding to the southeast of the station.	Post-medieval	
S6	Long Haven	NK 1187 4037	<b>No designation;</b> Unroofed structure: depicted and labelled on the 2 <sup>nd</sup> edition OS survey.	Post-medieval	

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Site	Name	NGR Ref:	UID, Designation & Description	Period	Image from Site Inspection
<b>S7</b>	Long Haven	NK 1184 4038	<b>No designation</b> ; Well: depicted and labelled on the 2 <sup>nd</sup> edition OS survey.	Post-medieval	
<b>S8</b>	Longhaven Mains	NK 1195 4051	<b>No designation</b> ; Well: depicted and labelled on the 2 <sup>nd</sup> edition OS survey.	Post-medieval	
<b>S9</b>	Sandfordhill South	NK 1165 4111 to NK 1161 40652	<b>No Designation</b> ; A stone and turf boundary wall running north-south and depicted on the first edition of the OS 6-inch map (Aberdeenshire, 1872)	Post-medieval	
<b>S10</b>	Sandford Hill	NK 1170 4117	AHER ID NK14SW0069; Site of a farmstead depicted on OS 1st and 2nd edition OS maps, which show 2 rectangular buildings with a small enclosure to the south.	Post-medieval	

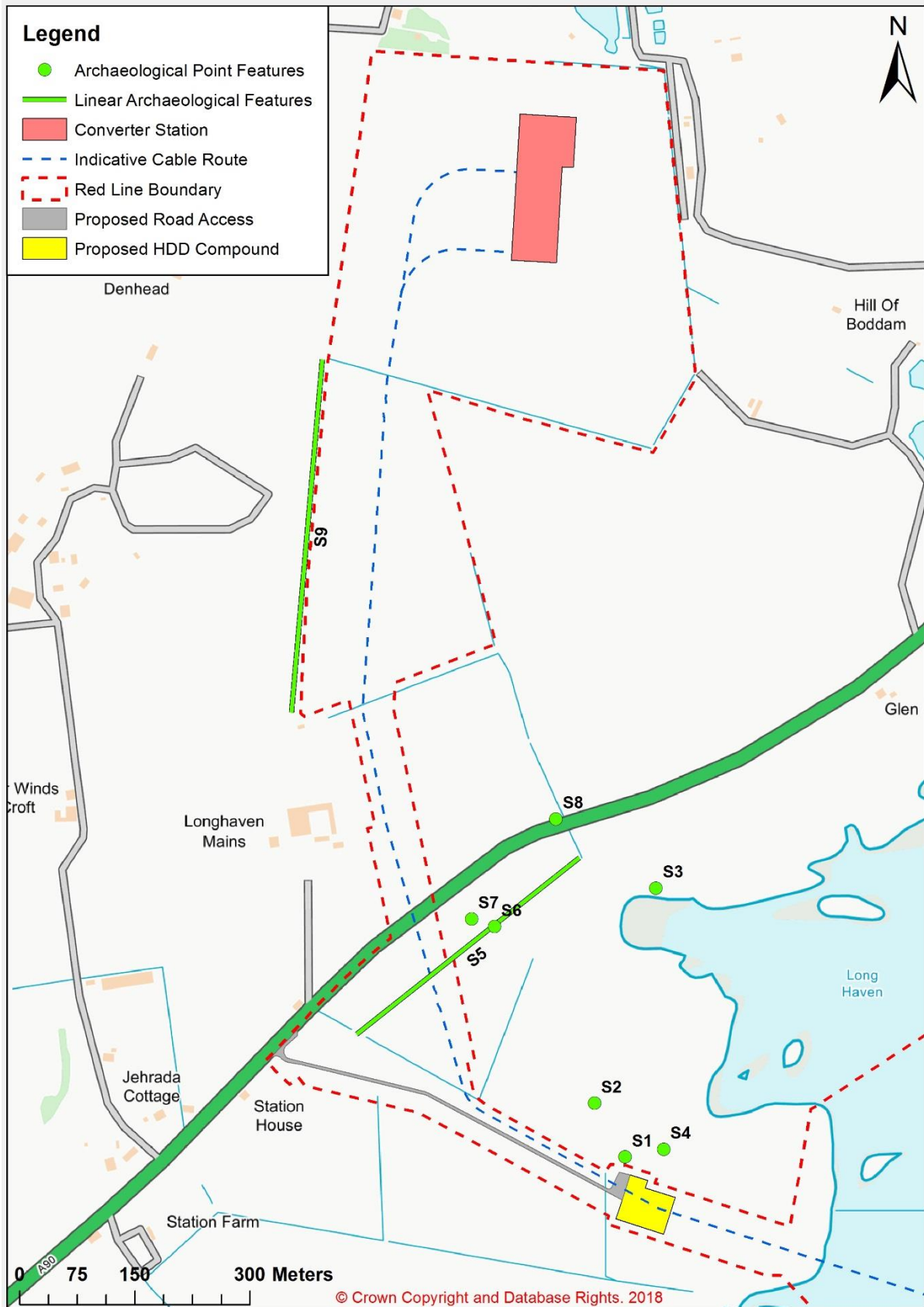


Figure 12.1 Onshore Archaeological features of interest.



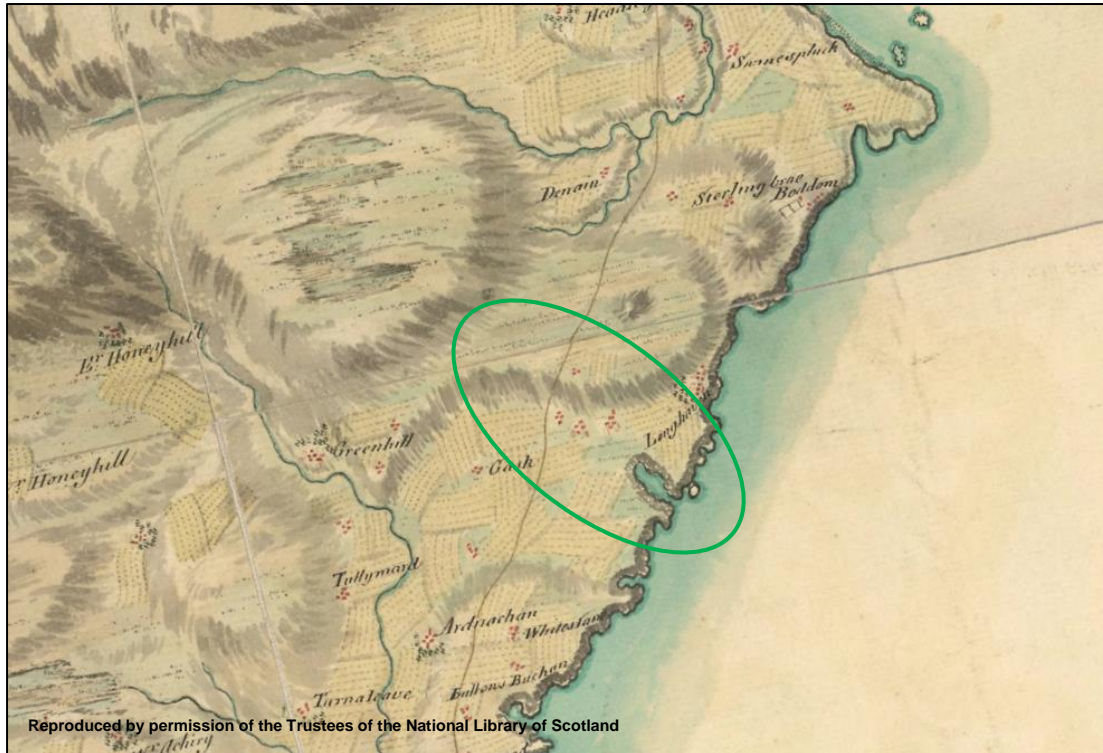


Figure 12.2a: Extract from Roy's *Military Survey of Scotland* (1747-52). Green circle study area.

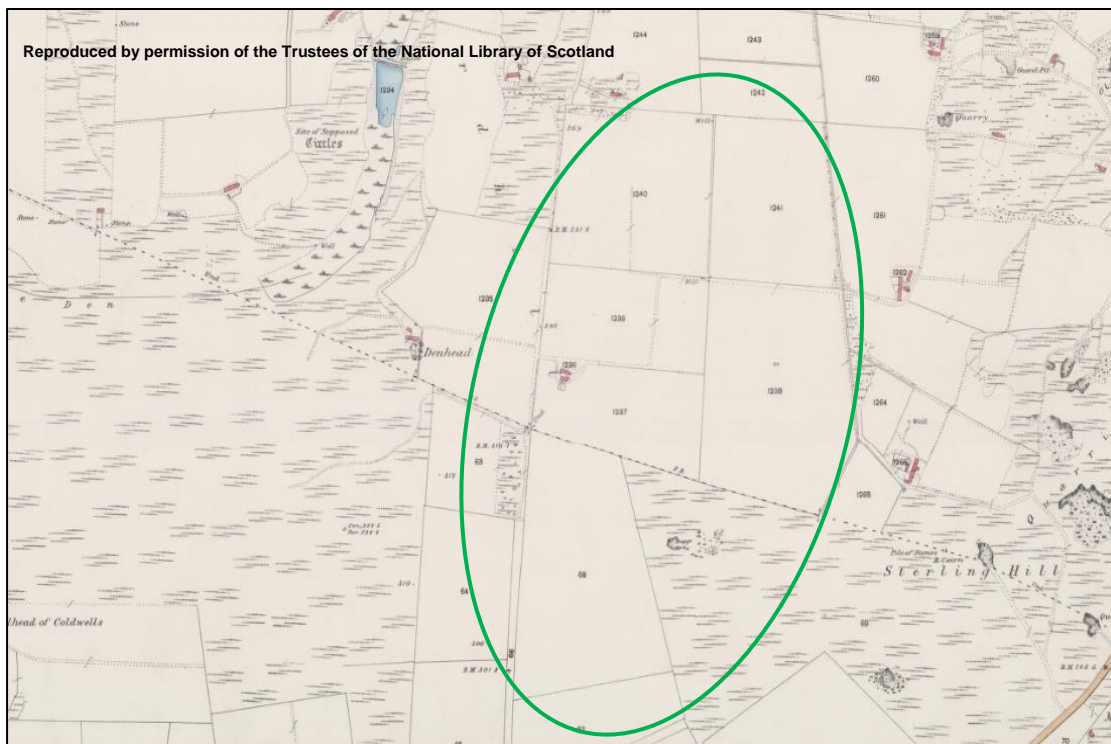


Figure 12.2b: Extract from 25-inch 1<sup>st</sup> edition Ordnance Survey (1868), north area of the HVDC Cable Corridor. Green circle denotes the study area.

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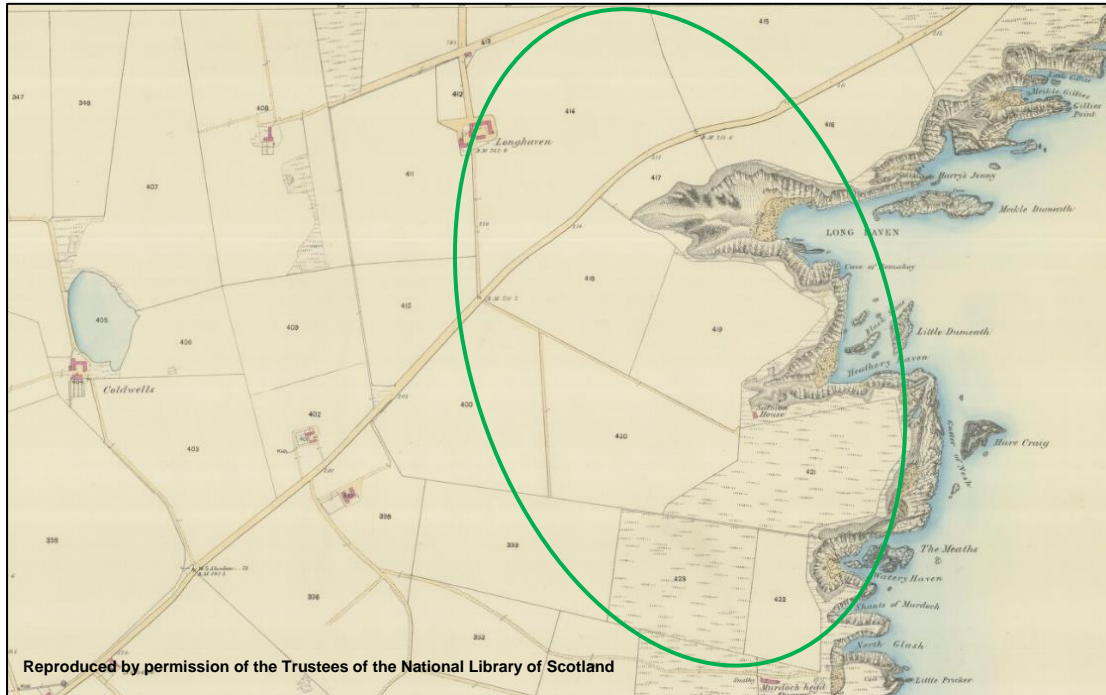


Figure 12.3a: Extract from 25-inch 1<sup>st</sup> edition Ordnance Survey (1868), south area of the HVDC Cable Corridor. Green circle denotes the study area.

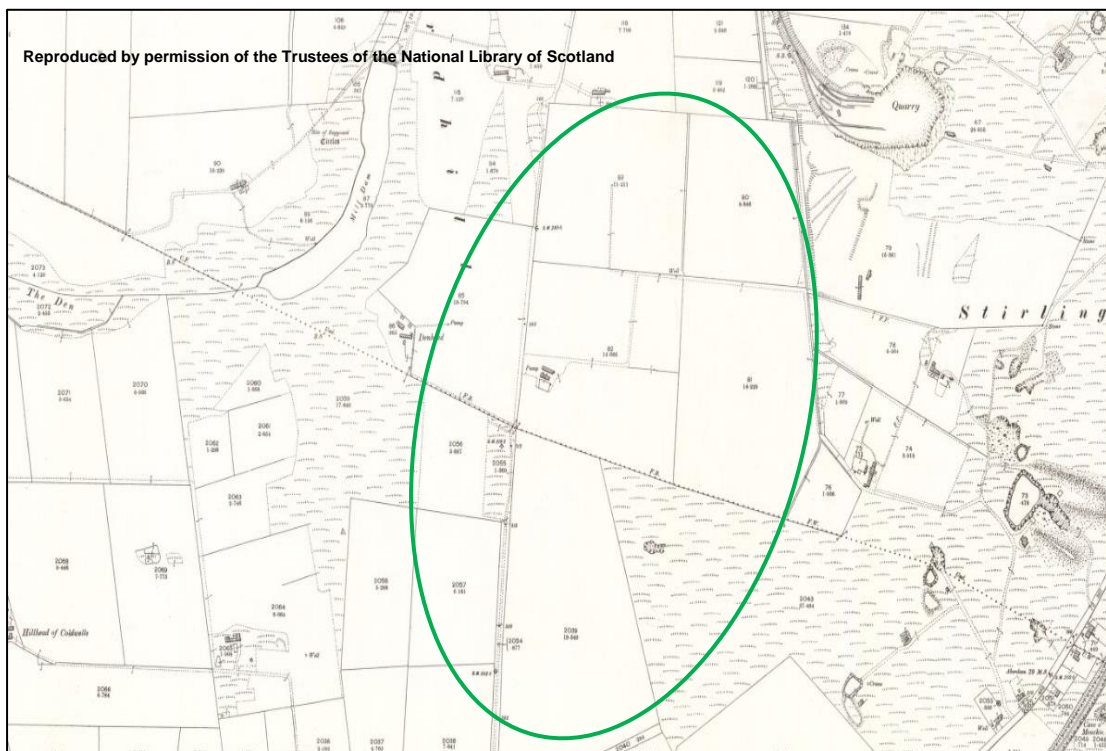


Figure 12.3b: Extract from 25-inch 2<sup>nd</sup> edition Ordnance Survey (1901), north area of the HVDC

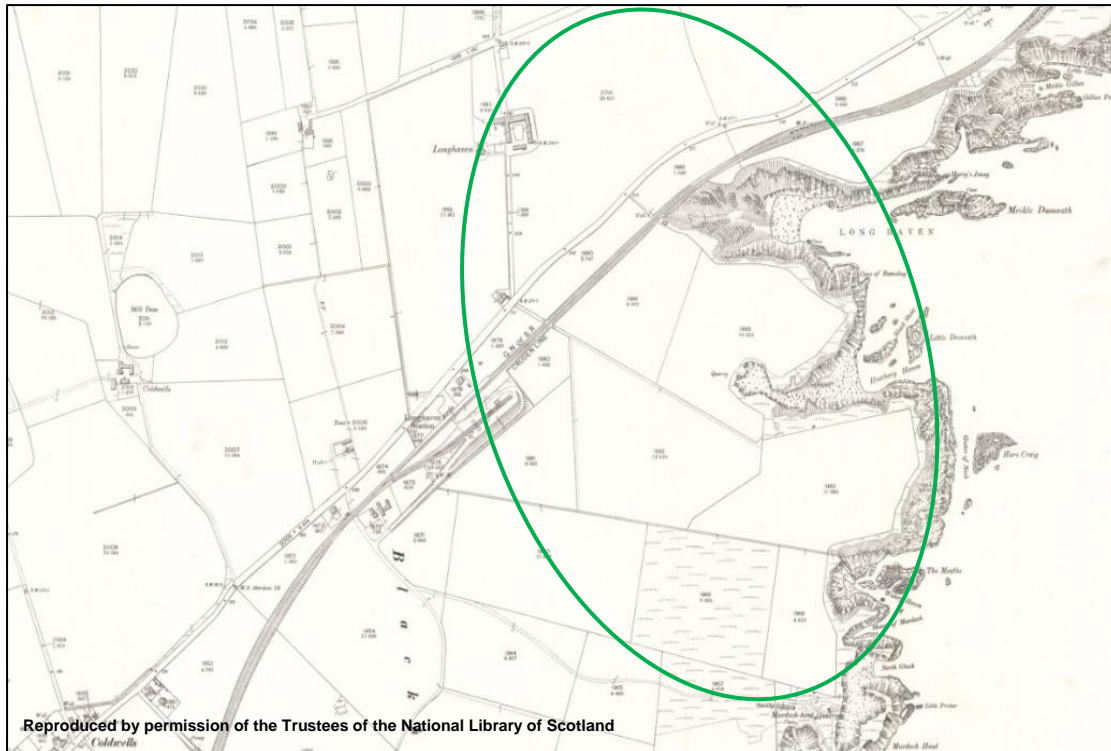


Figure 12.4a: Extract from 25-inch 2<sup>nd</sup> edition Ordnance Survey (1901), south area of the HVDC

The 2<sup>nd</sup> edition Ordnance Survey (1901) (Figure 12.4a) depicts the form of this section of the branch line while in use. In sequence from southwest-northeast the branch is a single track line initially in a cutting for the first 220m, at NK 1185 4037 it transitions from cutting to a slight embankment which continues for the next 140m to NK 1197 4045 where the next stretch of cutting commences as the branch leaves the study area. There is no indication of any additional railway infrastructure on this section. A trackway is depicted falling to the point of transition from cutting to embankment at NK 1185 4037 where there is an informal crossing point.

The site of Longhaven Bay (**S3**) is recorded as a ship wreck from World War II and therefore would not be depicted on any mapping.

#### 12.4.5 Walkover Survey

A preliminary inspection survey was carried out on a section of disused railway (**S5**) that the NorthConnect HVDC cables need to cross for early assessment. Site inspection was undertaken on 14<sup>th</sup> September 2017. An inspection survey encompassing the full onshore study area was undertaken on the 20<sup>th</sup> November 2017 in cloudy, breezy conditions. This was to assist in the characterisation of surviving upstanding archaeological remains (Figure 12.1). No new unrecorded sites were recorded.

The assessment area was found to be generally undulating rough pasture on unimproved ground and field boundaries within the study area took the form of dry stone dykes and timber post and wire fences.

The two structures at Heathery Haven **S1** were covered in dense vegetation but their outlines were visible. The structure depicted on the 1<sup>st</sup> edition Ordnance survey (1872) and labelled as 'Salmon House' (Figure 12.3a) is rectangular in form and orientated roughly northwest-southeast and measured approximately 4m by 7m. Located 5m to the south is another rectangular turf and stone



structure orientated roughly east-west, measuring approximately 5m by 14m and adjoins onto a current stone field boundary wall and is first depicted on the 2<sup>nd</sup> edition Ordnance survey (1901).

The area of Longhaven Quarry **S2** is clearly visible although there are no signs of any associated quarry equipment/furniture. However, the small rectangular structure of **S4** Heathery Haven, is possibly a powder hut associated with the quarry. Constructed of pink granite with a concrete roof the structure measures 2m by 3m and is aligned east-west.

It was not able to access the area of Longhaven Bay **S3** due to no clear access route and Health and Safety concerns. From a raised viewpoint it was not possible to observe any obvious remains associated with the cargo ship deliberately run aground in World War II. It is possible that they were either removed soon after the incident or if left *in situ* natural forces have removed any sign of the vessel.

Site inspection at the disused railway line **S5** confirmed that the mapped character reflects the modern landform. No *in situ* track was noted. The cutting, embankment and track bed were covered by turf with the track bed appearing a consistent 3m breadth and the cuttings were up to 8m broad and 3m deep. The trackway falling to the informal crossing was readily identifiable as a banked linear feature that rose to meet the level of the track bed. Longhaven Station was predominantly outwith the Study Area but inspection noted the survival of the terraced landform of the good sidings to the southeast of the main railway line, though covered by gorse. The modern field boundary to the northeast of this landform maintaining the boundary mapped on the 2<sup>nd</sup> edition Ordnance Survey (1901).

Within the general Study Area isolated cast iron fence posts were noted that may relate to the fencing of the branch line in the late 19<sup>th</sup> century. Further, numerous *ex situ* timber sleepers were recognised, typically reused in post-and-wire fences as either gateposts or straining posts. No other railway furniture was noted.

Site inspection of Long Haven, **S6** demonstrated that its location is behind a timber post and wire fence as well as a turf and stone field boundary wall. Due to strong winds closer inspection was not possible and also there is signage that notes the unstable condition of the structure.

The mapped well of site **S7**; Long Haven is located just to the west of **S6**. However, the well has been infilled and vegetation cover makes the exact site difficult to be conclusively located, but a stone filled hollow is the possible location. A similar stone filled hollow was recorded at the well site of Longhaven Mains **S8**. The exact location was difficult to conclude and may fall just outwith the study area.

The stone and turf field boundary of **S9** Sandfordhill South is clearly visible running in a north-south alignment up to the southeast corner of 'Fourfields' and the overall location of the converter station.

The former farmstead of Sandfordhill **S10** on the 1<sup>st</sup> and 2<sup>nd</sup> editions Ordnance Survey (1872 & 1901) depicts two rectangular buildings with a small enclosure on the southern side. The present condition is a large grass covered mound.

## 12.4.6 Maritime Losses

### 12.4.6.1 Scottish Territorial Waters Survey Corridor

There are a series of records relating to maritime losses identified by the Marine Survey (see Tables 25 and 27 within MMT, 2017) within STW Survey Corridor. The marine archaeology report (MMT, 2017) recognised that historic records of loss can embody considerable uncertainty in terms of



location and duplicate entries can be generated in different archives. Two confirmed wrecks were located within this portion of the survey corridor, the Cairnavon **S11** and the Egenaes **S12**.

The wreck **S11** was located slightly north of the 500m survey corridor and was provisionally identified as the mixed cargo motor vessel Cairnavon, lost in 1925 (see Table 12.7 and Figure 12.5). The second wreck was concluded to be linked to two records related to a single loss, that of the fishing vessel the Egenaes **S12** in March 1917 (MB-1000 within MMT,2017) based on the commonality of information. The location of this wreck was confirmed by inspection with both metal and wooden debris observed (see Table 12.7 and Figure 12.5).

When commenting on the wrecks identified by the Marine Survey (**S11** and **S12** within inshore waters and the offshore wrecks noted below) MMT(2017) stressed that detected wrecks were surrounded by a debris field of varying size and complexity. The full extent of these debris fields may not be apparent from the SSS and MBES data due to sediment cover.

#### 12.4.6.2 UK Exclusive Economic Zone Offshore Survey Corridor

Within the Offshore Survey Corridor (from the STW limit, to the limit of the UK Exclusive Economic Zone (UK EEZ)) a further four historic environment assets were confirmed. Two (**S13** and **S14**) were interpreted as debris of uncertain origin and date, but anthropic in character. The wreck of a second 20th century fishing vessel (**S15**) was located. This wreck was identified by the fishing representative as the M/V Margareta Nyborg, a Danish fishing vessel.

At a fourth location (**S16**) both debris (including an anchor) and wreckage (including thin riveted metal) were identified. The character of the wreckage is such that it may derive from an aircraft. Given that there is no record of a loss at this location, a precautionary approach should be adopted and the potential for this location to be the remains of a military aircraft loss considered. On this basis, unless further information is forthcoming, this site should be treated as if it were a Protected Place under the terms of the Protection of Military Remains Act 1986.

#### 12.4.1 Methane Gas expulsion

A consideration during the installation and working period of the offshore cable corridor is the occurrence of methane expulsion from the sea bed. The cause and effect are not fully understood but North Sea surveys have produced a high coincidence of wrecks sitting at the centre of depressions formed by escaping gas. Sonar surveys in an area called 'Witch Ground' approximately 150km northeast from Aberdeen demonstrated a sea bed peppered with pockmarks from escaping gas.

The Marine Survey (Figures 13 & 18 within MMT,2017) demonstrates numerous features potentially associated with escaping methane gas from seabed sediments. It also noticeable that two historic environment assets **S15** and **S16** have a close correlation with a surrounding depression that correspond to the wrecks hitting the seabed with the impact disrupting the integrity of the sediments and releasing a pocket of methane gas.

#### 12.4.2 Unexploded Ordnance (UXO)

No anomalies or records were noted during the Marine Survey that were interpreted as potentially historic unexploded ordnance from historic conflict (MMT,2017). However, this report noted that due to the limitations of the single towed magnetometer system a further survey for UXO was appropriate.

A subsequent desk based Unexploded Ordnance threat and risk assessment study (6 Alpha, 2017) did not identify any known UXO assets within the study area. However, it was concluded that there is a

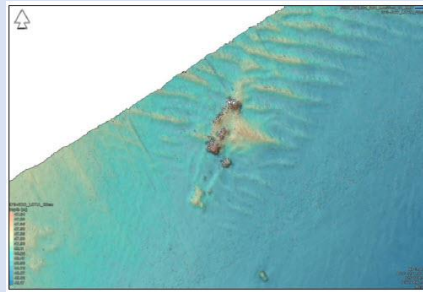

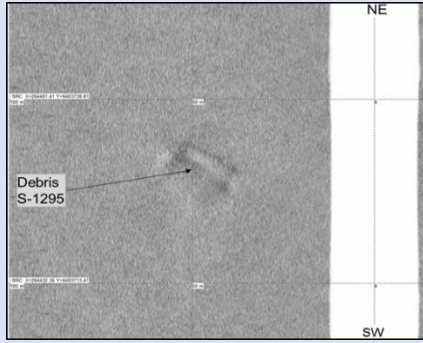
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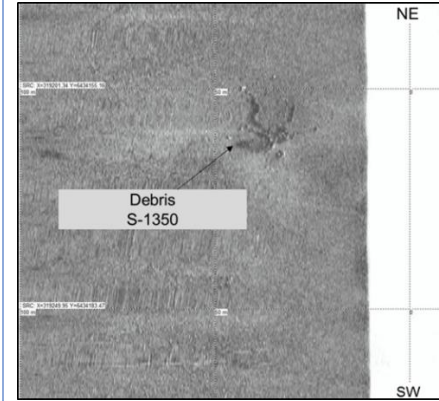


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low probability of encountering UXO in UK Nearshore Waters; with low to high probability of UXO being encountered off shore.

Given that the debris **S16** has, on a precautionary basis, been identified as the potential remains of a military aircraft it should further be considered that there is the potential for UXO associated with this site.

Table 12.7: Marine Historic Environment Assets within the Study Area

Site	MMT ID	Latitude	Longitude	UID, Designation & Description	Period	Image from Site Inspection
S11	S-0354	57° 28.109' N	001° 47.993' W	Canmore: 101835; No Designation: Wreck  Wreck measuring 33.5 m by 7.4 m with 2 m elevation. Provisionally correlates to <b>Cairnavon</b> – a steel motor vessel carrying a mixed cargo of coke and general goods lost 1th November 1925.	20 <sup>th</sup> Century	
S12	MB-1000	57° 33.643' N	001° 32.336' W	Canmore: 101866; No Designation: Wreck  Wreck measuring 36.2 m by 11.5 m with 3 m elevation having an orientation 010/190°, seabed depth 84m. Correlates to the <b>Egenaes</b> - sunk on 22 March 1917, torpedoed by German U-boat SM UC-17. The vessel was lost approximately 10 miles East of Peterhead. Registration: Norwegian. Weight: 399 tons.	20 <sup>th</sup> Century	
S13	S-1295	57° 42.811' N	000° 57.252' E	No HER UID; No Designation: Debris  Regularly shaped rectangular object (considered debris), 15.0 m long by 5.6 m wide. The contact was not visually inspected. The regular shape suggests it is anthropic.	Unknown	

Site	MMT ID	Latitude	Longitude	UID, Designation & Description	Period	Image from Site Inspection
S14	S-1350	58° 0.744' N	000° 3.638' E	No HER UID; No Designation: Debris  An irregularly shaped area of suspected debris 13.1 m long and 3.7 m wide located in a small depression. There are a number of small points around the contact, which may be part of a debris field.	Unknown	
S15	S-1499	58° 13.616' N	000° 40.388' E	No HER UID; No Designation: Wreck  Wreck measuring 19.3 m by 14.6 m with elevation of 2.7 m. Surrounded by depressions that may correlate with associated items of debris. Correlates to the <b>M/V Margareta Nyborg</b> , a Danish fishing vessel.	20 <sup>th</sup> Century	
S16	S-1515	58° 13.465' N	000° 40.892' E	No HER UID; Protected Place (precautionary); Wreck/Aeroplane (?)  Possible wreck located in a depression. Contact measures 30.4 m by 28.8 m and has an elevation of 1.1 m above the surrounding seabed. Surrounded by depressions that may correlate with associated items of debris. Inspection showed presence of thin riveted metal giving potential some of contact may be airplane wreckage. Note that if a military airframe, potential for UXO.	20 <sup>th</sup> Century	

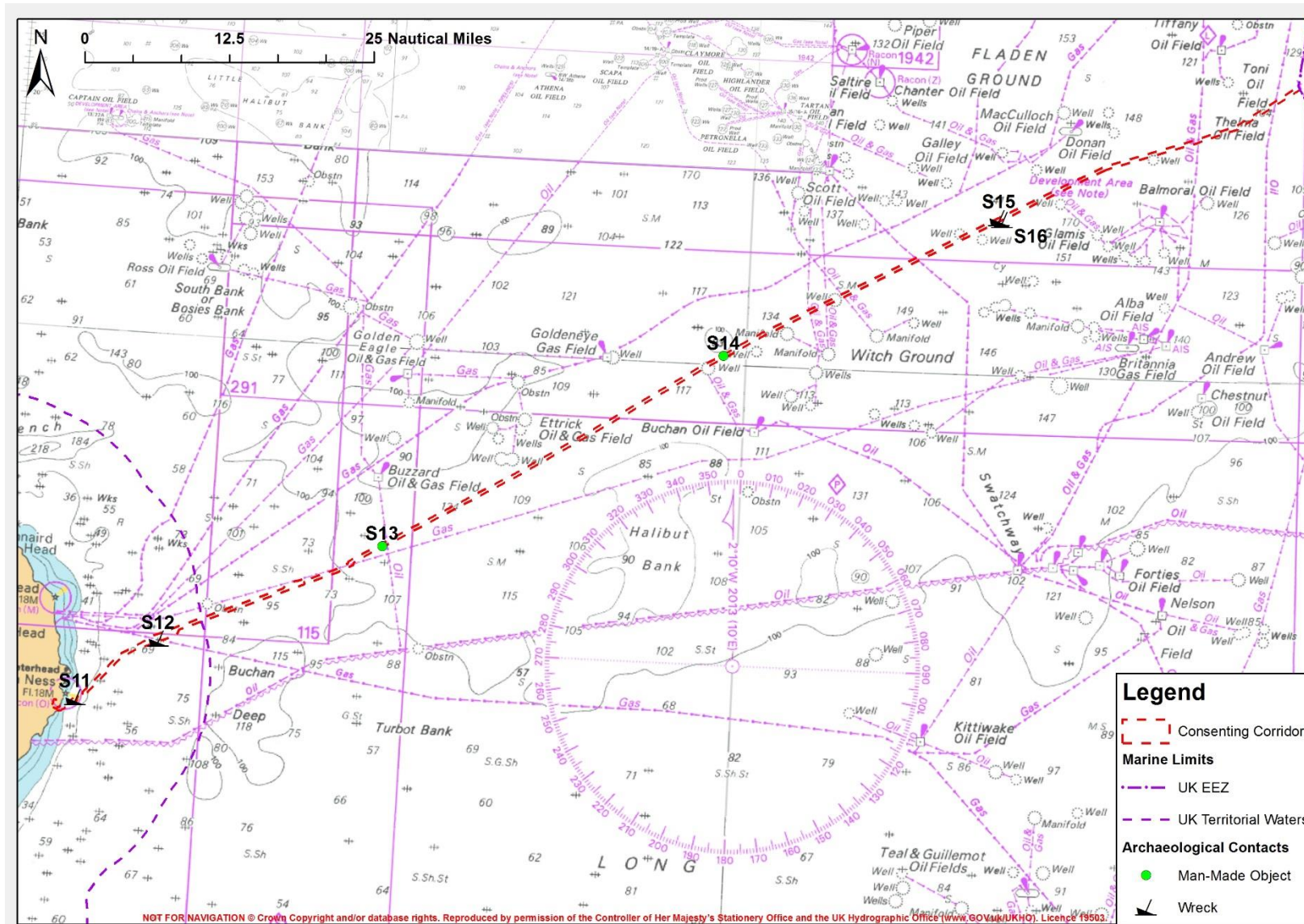


Figure 12.5 Archaeological features of interest in the marine environment



### 12.4.3 Sensitivity of Historic Environment Assets

Ascribing sensitivity to the sites identified within the Cable Corridor Study Area has followed the criteria detailed above and are presented in Table 12.2. In the absence of any formally designated sites within the Cable Corridor Study Area the ascription was based on the known origin and potential importance of these sites as identified by the baseline studies.

Minor features in the environment such as wells, quarries, debris, former sites of wrecks have been ascribed an 'Other sensitivity' (i.e.: below Local) as they have little potential to contribute to the historic environment in terms of either landscape presence or embodied information.

Upstanding historic structures (such as **S4** and **S6**) make a contribution to the landscape and have embodied information in terms of their architectural history, they are also commonly associated with subsurface remains. As such they are ascribed Local sensitivity. In a similar manner, the former site of a farmstead (**S10**) is considered to be with subsurface remains that warrant the same sensitivity.

The three 20<sup>th</sup> century wrecks of the fishing vessels (**S12** and **S15**) and the mixed cargo motor vessel (**S11**) are small, discrete assets that through the process of loss provide heritage links to both families and coastal communities as well as informing on both conflict (for **S12**) and the working of fisheries. On this basis they are ascribed a Regional sensitivity.

The Boddam Branch of the railway (**S5**) within the study area is substantially a cutting, while the goods sidings at Longhaven Station retain a more complex terraced landform. Overall this site is an element of a long, linear site that relates to 19<sup>th</sup> century expansion of the rail network. On this group value, this is ascribed a Regional sensitivity.

The wreck that incorporates possible aircraft fragments (**S16**) because of the unrecorded nature of this loss and the potential for this to be a military loss is ascribed a National sensitivity.

## 12.5 Impact Assessment

### 12.5.1 Potential Direct Impacts of the Proposed Development

#### 12.5.1.1 Onshore Survey Corridor

Within the onshore portion of the HVDC Cable Corridor the baseline identified ten historic environment assets. None of the assets were designated or nationally important. The HVDC cable corridor and associated construction impacts are to be located so there are no potential direct impacts to nine of the assets within the historic environment.

Only one asset, the Railway **S5**, has the potential for direct impacts as this site cannot be avoided. The design has been altered to carry the cables under the asset by the use of horizontal directional drilling (removing this as an adverse impact). An adverse impact may result from any fencing associated with the wayleave and will result from forming the access track adjacent to Longhaven Station. The potential for the former will be minimal given that the track bed has not been lifted and this is an engineered surface. The latter will result in change to this section of the railway line during the construction of the road. Overall this remaining direct adverse effect is considered to have an impact magnitude of **minor**, producing a **minor** effect which is **non-significant**.

#### 12.5.1.2 Scottish Territorial Waters Survey Corridor

Within STW the baseline identified two historic environment assets. The design of the cable corridor is on the basis of a construction exclusion zone of 50m from the physical boundary of the debris/wreck assets. The marine cable team will ensure all subsea operations remain outwith this exclusion zone so there are no potential direct impacts to the asset.

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There remains an uncertainty about the presence of currently unknown historic environment assets within the construction corridor. The baseline has been informed by studies that have sought to suppress this uncertainty, however there remains a residual potential that additional unknown sites may be present.

### 12.5.1.3 UK Exclusive Economic Zone Survey Corridor

Within the offshore element of the study area the baseline identified four historic environment assets. None of the assets were formally designated, however the site of the possible aircraft loss **S16** should be treated on a precautionary basis as a Protected Place under the Protection of Military Remains Act 1986 due to the absence of records for this asset.

The design of the cable corridor is on the basis of a construction exclusion zone of 50m from the physical boundary of the four debris/wreck assets. The marine cable team will ensure all subsea operations remain outwith this exclusion zone so there are no potential direct impacts to the four assets.

There remains an uncertainty about the presence of currently unknown historic environment assets within the construction corridor. The baseline has been informed by studies that have sought to suppress this uncertainty, however there remains a residual potential that additional unknown sites may be present.

### 12.5.2 Potential Indirect Impacts of the Proposed Development

Visual or setting impacts can only impinge upon onshore assets. The character of the development is that the vast bulk of the new structures created, once the construction phase has been completed, are beneath the ground with the original topography restored. As such the minor landscape alterations have been assessed to only have the potential to generate significant visual impacts in relation to nationally sensitive historic environment assets within the Cable Corridor Study Area. There are no such assets present and hence we assess that there are no potential significant indirect impacts from the proposed development.



### 12.5.3 Summary of Potential Impacts Onshore and Marine Historic Assets.

Table 12.8 provides a summary of the assessment of potential impacts on both inshore and marine historical assets.

**Table 12.8: Sensitivity of Historic Environment Assets and Direct Effects within the Study Area**

Site	Name	Description	Cable Corridor	Sensitivity	Magnitude Effect	Significance
<b>S1</b>	Heathery Haven	Salmon House	Onshore	Regional	Nil	
<b>S2</b>	Longhaven Quarry	Quarry	Onshore	Other	Nil	
<b>S3</b>	Longhaven (bay)	Wreck (beached)	Onshore	Other	Nil	
<b>S4</b>	Heathery Haven	Structure	Onshore	Local	Nil	
<b>S5</b>	Boddam Branch, Great North of Scotland Railway	Railway	Onshore	Regional	Minor	Minor, non-significant
<b>S6</b>	Long Haven	Structure	Onshore	Local	Nil	
<b>S7</b>	Long Haven	Well	Onshore	Other	Nil	
<b>S8</b>	Longhaven Mains	Well	Onshore	Other	Nil	
<b>S9</b>	Sandfordhill South	Wall	Onshore	Other	Nil	
<b>S10</b>	Sandford Hill	Farmstead (site of)	Onshore	Local	Nil	
<b>S11</b>	S-0354	Motor Vessel Cairnavon	STW	Regional	Nil	
<b>S12</b>	MB-1000	Fishing Vessel Egenaes	STW	Regional	Nil	
<b>S13</b>	S-1295	Debris	UK Offshore Waters	Other	Nil	
<b>S14</b>	S-1350	Debris	UK Offshore Waters	Other	Nil	
<b>S15</b>	S-1499	Fishing Vessel M/V Margareta Nyborg,	UK Offshore Waters	Regional	Nil	
<b>S16</b>	S-1515	Possible Aircraft	UK Offshore Waters	National	Nil	

### 12.6 Mitigation Measures

A programme of works to be implemented will mitigate the potential adverse impacts from the proposed development.

The design of the works has already been flexed to ensure the retention and integrity of the Boddam Branch, Great North of Scotland Railway (**S5**) from the installation of the cable. To ensure the competent suppression of impact at this point, any vehicular movement to access the working area for Joint Pit 1 and the HDD site to the south of the railway will be from the southwest, off the temporary access track after it has crossed the railway.

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The temporary watermain and access track will cross the railway at a point where it is in a shallow cutting. An archaeological watching brief will be undertaken to monitor ground breaking works associated with forming these temporary structures across the railway and wherever feasible the existing engineered surfaces will be retained and overlain by the new temporary structure. On the conclusion of the works, the original landform of the railway cutting will be restored to maintain the integrity of the linearity of the monument.

The onshore groundworks have the potential to disturb or expose significant archaeological material, should such material be present at locations currently unknown. An archaeological watching brief will be undertaken to monitor shallow ground breaking works as they are undertaken to ensure any archaeologically significant material is identified prior to loss. Appropriate and proportionate further stages of on-site mitigation (excavation and recording), technical reporting and subsequent analysis will be undertaken to ensure the appropriate treatment of this material.

The marine works (STW and UKEEZ) have the potential to disturb or expose significant archaeological material, should such material be present at locations currently unknown.

A Protocol for Archaeological Discovery will be put in place for such unexpected or incidental finds, compliant with *Protocol for Archaeological Discoveries* (The Crown Estate, 2014). A retained archaeologist will be appointed who will liaise between the Project Manager, Nominated Contact and the Implementation Service to ensure the smooth delivery of the protocol. These roles will be defined within the Protocol.

### 12.7 Residual Impacts

There are no identified significant direct or indirect impacts on the historic environment assets with mitigation designed to respond to unexpected discoveries. Hence there remain no residual impacts anticipated from the operational phase of the development on the terrestrial or maritime assets.

### 12.8 Cumulative Effects

Cumulative effects on the historic environment are when an increased severity of effect is anticipated as a consequence of considering the development in conjunction with other developments that are likely to occur in the foreseeable future.

For the Onshore section of the cable corridor the ability to generate cumulative effects will, because of the fundamental character of the project, be limited to those relating to direct impacts from consented or prospective development proposals. As such these developments need to be in close proximity to the cable corridor or impact the same historic environment sites. A review on this basis has identified only one relevant development:

- APP/2015/1121 Site At Four Fields Boddam - 1.4 GW Interconnector Converter Station and High Voltage Alternating Current (HVAC) Cable Connection to Peterhead Power Station

This development is the NorthConnect Interconnector Converter Station and HVAC Cable Corridor that the HVDC cable arrives into at the northern end of its onshore route. The converter station at the Four Fields site does not impact in common with the HVDC Cable Project on any historic environment sites. Hence, there would be no cumulative effect in conjunction with this development.

For the Marine section of the cable corridor (both STW and Offshore) the HVDC cable will not cause any direct effects on known historic environment sites. Hence there is no potential for cumulative effects.

### **12.9 Summary**

This assessment undertaken has considered both the onshore and marine historic environment as an element of the Environmental Impact Assessment, in respect of the installation and operation of the NorthConnect HVDC Cabling.

Within the onshore element of the HVDC Cable Corridor only one historic environment asset; **S5** the Boddam Branch, Great North of Scotland Railway, has the potential for direct impacts from the forming of the temporary access track and watermain but these are not considered to be significant. Mitigation will be put in place for this asset to ensure disturbance of the site is minimised.

There is a potential for the presence of currently unknown historic environment assets within both the onshore and marine corridor. Mitigation measures have been embedded within the project to ensure any discoveries are dealt with appropriately (Tables 12.9 & 12.10).

This project meets the planning guidance on the treatment of the historic environment and will not result in a significant adverse impact on this resource. This project is compliant with the historic environment aspects of the Development Plan.

Table 12.9: Summary of Onshore Cultural Heritage and Archaeology Effects

Nature of Impact	Receptor Sensitivity	Impact Magnitude	Significance of Effect	Mitigation Summary	Residual Impact Magnitude	Residual Significance of Effect	Assessment of Residual Effects
Construction							
<b>Visual effects of works on cultural and archaeological heritage sites.</b>	Other-Regional	Temporary – Minor	Insignificant - Minor	Not Required	Temporary – Minor	Insignificant - Minor	Not Significant
<b>Physical disturbance of historic railway S5</b>	Regional	Minor	Minor	Archaeological monitoring of forming access track and watermain. Restoration of railway landform after works.	Insignificant	Insignificant	Not Significant
<b>Disturbance of unknown buried archaeological artefacts.</b>	Local	Moderate	Minor	Archaeological monitoring of shallow groundworks.	Moderate	Minor	Not Significant
Operational							
<b>Change in Character of cultural and archaeological heritage sites</b>	Other-Regional	Nil	Nil	Not Required	Nil	Nil	Not Significant

Table 12.10: Summary of Marine Cultural Heritage and Archaeology Effects

Nature of Impact	Receptor Sensitivity	Impact Magnitude	Significance of Effect	Mitigation Summary	Residual Impact Magnitude	Residual Significance of Effect	Assessment of Residual Effects
Construction							
<b>Disturbance of unknown buried archaeological artefacts.</b>	Local	Moderate	Minor	Archaeological protocol for discoveries.	Moderate	Minor	Not Significant
Operational							
<b>Change in Character of cultural and archaeological heritage sites</b>	Other-National	Nil	Nil	Not Required	Nil	Nil	Not Significant

## 12.10 References

### 12.10.1 Documentary

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### 12.10.2 Cartographic

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