



H2Teesside Project

Preliminary Environmental Information Report

Volume III – Appendices

Appendix 17A: Cultural Heritage Desk-based Assessment

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended)





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17A.0 CULTURAL HERITAGE

17A.1 Introduction

17A.1.1 This document presents a desk-based assessment (DBA) which sets out the cultural heritage baseline conditions of the Proposed Development Site and associated Study Area. It is included as an Appendix to Chapter 17: Cultural Heritage of the Preliminary Environmental Information (PEI) Report (PEI Report, Volume I).

17A.1.2 This DBA identifies all known designated and non-designated heritage assets within a defined Study Area surrounding the Proposed Development Site to assess its archaeological potential and to identify key heritage considerations. It places the Proposed Development Site within its wider heritage context to inform the assessment of significance of cultural heritage assets. Cultural heritage in this context means the above and below-ground archaeology, built heritage, the historic landscape and any other elements which may contribute to the historic and cultural heritage of the area.

17A.1.3 This DBA is supported by the following figures which are presented in PEI Report (Volume II):

- Figure 17-1: Location of designated cultural heritage assets;
- Figure 17-2: Location of non-designated cultural heritage assets;
- Figure 17-3: Location of cultural heritage events; and
- Figure 17-4: Historic Landscape Character.

17A.2 Site and Proposed Development Description

17A.2.1 The Proposed Development and its components are described in Chapter 4: Proposed Development (PEI Report, Volume I).

17A.2.2 The Proposed Development Site and its surrounds are described in Chapter 3: Description of the Existing Environment (PEI Report, Volume III).

17A.3 Structure of this DBA

17A.3.1 This DBA is structured into the following sections:

- Section 17.4 makes reference to relevant legislation, planning policy and assessment guidance;
 - Section 17.5 presents the assessment methodology for the DBA;
 - Section 17.6 presents the cultural heritage baseline for the Proposed Development Site and Study Area, including a summary of fieldwork surveys carried out;
 - Section 17.7 presents a summary of modern disturbance based on a review of geotechnical data;
 - Section 17.8 presents notes and photographs from the site walkover survey;
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- Section 17.9 presents an assessment of the archaeological potential within the Proposed Development Site; and
- Section 17.10 sets out the next steps and actions that are required to complete the Environmental Statement (ES).

17A.4 Legislation, Planning Policy, and Guidance

17A.4.1 Legislation, policy and guidance of relevance to the cultural heritage assessment is reported in Chapter 17: Cultural Heritage (PEI Report, Volume I).

17A.5 Assessment Methodology

Study Area

17A.5.1 The Study Area has been designed to capture the historic environment baseline data correlating to the predicted impacts from the Proposed Development.

17A.5.2 The Study Area for capturing data relating to non-designated heritage assets (archaeological sites, findspots, locally listed buildings) comprises 1 km from the Proposed Development Site. This Study Area is assessed as proportionate and relevant for identifying cultural heritage assets that may be physically impacted by the Proposed Development, included buried assets outside of the Proposed Development Site that may extend into it. In addition, the Study Area provides relevant information relating to previous archaeological sites and studies that, collectively, provide a contextual baseline for the Proposed Development Site in line with the guidance set out in Chartered Institute for Archaeologists (CIfA) guidance (CIfA, 2020).

17A.5.3 The Study Area for capturing data relating to designated heritage assets (World Heritage Sites, scheduled monuments, listed buildings, conservation areas, registered parks and gardens, registered battlefields) extends to 5 km from the Proposed Development Site. The extent of this Study Area has been informed by an understanding of the area's topography and the nature of the Proposed Development. It is assessed to be appropriate for identifying assets whose setting may change because of the construction, operational, or decommissioning activities of the Proposed Development. This larger Study Area has been further informed by the preliminary Zone of Theoretical Visibility (ZTV) shown on Figure 16-5: Zone of Theoretical Visibility and Representative Viewpoint Locations (PEI Report, Volume II) and from the results of a site visit which are presented in Section 17.8 of this DBA.

Baseline Data Sources

17A.5.4 The following data sources have been reviewed as part of the preparation of the DBA:

- Tees Archaeology Historic Environment Record (HER) for information relating to non-designated heritage assets and fieldwork events
<http://www.teesarchaeology.com/projects/HER> [data received 8 February 2023];
- Redcar and Cleveland HER for information relating to non-designated heritage assets and fieldwork events Historic environment and heritage management | Redcar and Cleveland (redcar-cleveland.gov.uk) [data received 13 January 2023];

- National Heritage List for England (NHLE) for designated heritage assets datasets available from <https://historicengland.org.uk/listing/the-list/data-downloads/> [accessed 10 February 2023];
- Existing heritage assessment reports undertaken for other development proposals, including those to support Net Zero Teesside DCO;
- Defence of Britain Database archive available from <https://archaeologydataservice.ac.uk/archives/view/dob/download.cfm> [accessed 7 February 2023];
- Ordnance Survey historic mapping data from the National Library of Scotland <https://www.nls.uk/> and tithe maps from The Genealogist <https://www.thegenealogist.co.uk/tithe/>;
- National Collection of Aerial Photographs for aerial photographs <https://ncap.org.uk/>;
- Cambridge Air Photos, University of Cambridge <https://www.cambridgeairphotos.com/areas/redcar+and+cleveland/page3.html>;
- the results of previous geotechnical site investigations, as referenced in the Groundsure Report presented in Appendix 10A: Geology, Hydrogeology and Land Contamination Desk Based Summary Report (PEI Report, Volume III);
- local authority data including conservation area appraisals and buildings on the local list from Redcar and Cleveland, Hartlepool, Stockton-on-Tees and Middlesbrough Borough Councils' websites; and
- online sources, including British Geological Survey (BGS) for geological data (BGS Maps Portal, available from: <https://webapps.bgs.ac.uk/data/MapsPortal/>).

Site walkover

- 17A.5.5 A site walkover and visual assessment of heritage assets within some parts of the Proposed Development Site and Study Area was undertaken in April 2023. The results of the walkover, including photographs and observations relating to the setting and character of heritage assets, is set out in Section 17.8 of this DBA.
- 17A.5.6 The aims of the site walkover were to:
- identify known and previously unknown heritage assets within the Site and Study Area, including non-designated buildings of heritage interest not recorded on the HER;
 - identify and describe the experience and setting of heritage assets within the Site and Study Area;
 - gain an understanding of the importance of long-range views for some heritage assets and an appreciation of how views change as the viewer moves through the landscape; and
 - identify the location and extent of modern ground disturbance and previous construction impacts.

Assessing Heritage Significance in the DBA

- 17A.5.7 Historic England has published a series of Good Practice Advice (GPA) of which those of most relevance to this appraisal are GPA2 *Managing Significance in Decision-taking*, GPA3 *The Setting of Heritage Assets* (Second Edition) and *Advice Note 12: Statements of Heritage Significance*.
- 17A.5.8 GPA2 emphasises the importance of having a knowledge and understanding of the significance of heritage assets likely to be affected by the development and that the "*first step for all applicants is to understand the significance of any affected heritage asset and, if relevant the contribution of its setting to its significance*" (paragraph 4). Early knowledge of this information is also useful to a local planning authority in pre-application engagement with an applicant and ultimately in decision making (paragraph 7).
- 17A.5.9 GPA3 provides detail on the setting of heritage assets and provides general advice on understanding setting, and how it may contribute to the significance of heritage assets and allow that significance to be appreciated. The document also provides advice on how views contribute to setting. Paragraph 8 of the advice note confirms that the extent of the setting, as defined in the National Planning Policy Framework (NPPF), is not fixed and may change as the asset and its surroundings evolve. Paragraph 9 states that although the setting is not itself a heritage asset, nor a heritage designation, land comprising a setting may itself be designated.
- 17A.5.10 GPA3 also provides a broad approach to assessing the impact of a proposed development on the setting of heritage assets, and outlines a series of steps that can be applied proportionately to the complexity of the case:
- Step 1 is to identify the heritage assets and their settings which have the potential to be impacted;
 - Step 2 comprises assessing the degree to which these settings make a contribution to the significance of the heritage assets, or allow significance to be appreciated;
 - Step 3 is to assess the effects of a proposed development on that significance or allow significance to be appreciated;
 - Step 4 comprises exploring ways to maximise enhancement and avoid or minimise harm; and
 - Step 5 should be making and documenting the decision and monitoring the outcomes.
- 17A.5.11 Advice Note 12 outlines a recommended approach to assessing the significance of heritage assets in line with the requirements of NPPF. It includes a suggested reporting structure for a 'Statement of Heritage Significance', as well as guidance on creating a statement that is proportionate to the asset's significance (its heritage value) and the potential degree of impact of a proposed development.

17A.5.12 The Advice Note also offers an interpretation of the various forms of heritage interest that an asset can possess, based on the terms provided in the NPPF Glossary (Annex 2: Glossary) as follows:

- Archaeological Interest – there will be archaeological interest in a heritage asset if it holds, or has the potential to hold, evidence of past human activity worthy of expert investigation at some point;
- Architectural and Artistic Interest – these are interests in the design or general aesthetics of a place. They can arise from conscious design or fortuitously from the way the heritage asset has evolved. More specifically, architectural interest is an interest in the art or science of the design, construction, craftsmanship and decoration of buildings and structures of all types. Artistic interest is an interest in other human creative skills, such as sculpture; and
- Historic Interest – an interest in past lives and events (including pre-historic). Heritage assets can illustrate or be associated with them. Heritage assets with historic interest not only provide a material record of our nation's history but can also provide meaning for communities derived from their collective experience of a place and can symbolise wider values such as faith and cultural identity.

17A.5.13 The significance of potential heritage assets is also based on regional research resource assessments and research frameworks as well as thematic and period-specific publications.

Assessing Archaeological Potential

17A.5.14 The potential for an area of the Proposed Development Site to contain previously undiscovered archaeological remains is rated in this DBA as high, medium, low or negligible. This rating is based on an understanding of the archaeological resource and the number and proximity of known and predicted archaeological/historical sites and find spots within the Proposed Development Site and Study Area. Further considerations include the Proposed Development Site's historical and current land-use, the prevailing topography, geology, the results of archaeological evaluation, professional opinion and the results of stakeholder consultation and engagement. The archaeological potential of the Proposed Development Site is set out in Section 17.9 of this DBA.

Limitations

17A.5.15 Site access for the site visits was not granted for all areas of the Proposed Development Site and Study Area. Areas not accessed at the time of writing and to inform this preliminary iteration of the DBA include:

- The Main Site;
- The former Redcar Bulk Terminal to the west of the Main Site;
- Area around Coatham Dunes, to the north of the Main Site;
- Area to the south-west of Tod Point Road; and
- Fields to the north of Cowpen Bewley village.

17A.5.16 The lack of site access means that the assessment of archaeological potential in these areas is limited to desk-based sources only and the presence or absence of previously unrecorded features of heritage interest in these areas cannot be confirmed in this assessment. This will be updated where possible as the assessment progresses to the ES stage.

17A.6 Baseline Conditions

Summary of heritage assets

17A.6.1 There are 588 heritage assets recorded on the combined HERs, comprising extant buildings and features of heritage interest, sites of former structures, historic landscape features and sites of find spots where the asset has been removed from its location. Further features, not recorded on the HERs, have been identified from historic map evidence and from other data sources, including the Defence of Britain archived database. These features, where relevant to the context of the Proposed Development Site, are referenced in the archaeological and historical background section of this DBA and identified (where applicable) by their record identification number.

17A.6.2 In addition, there are 26 scheduled monuments, 532 listed buildings, 22 conservation areas, and two parks and gardens within the Study Area for designated assets. The majority of these assets are included in the gazetteer (to be submitted with the ES) to demonstrate the spatial extent of data capture for the assessment. However, the majority have been scoped out of the PEI Report as their distance from the Proposed Development Site would preclude any potential change to their setting that would affect their heritage value. As such, assets are only included in this DBA where they provide historical context, are relevant for establishing the archaeological potential of the Proposed Development Site, or where there is potential for them to experience change as a result of the Proposed Development.

17A.6.3 The following sets out the cultural heritage baseline conditions for the Proposed Development Site and Study Area. Some non-designated and designated heritage assets are described in Section 17.8 Site Walkover of this DBA so that the asset can be described and understood in the context of its current setting.

Geology and Topography

17A.6.4 According to the British Geological Survey (BGS) Geology of Britain Viewer (British Geological Survey, 2023) the superficial deposits which underly much of the Proposed Development Site are tidal flat deposits comprising estuarine alluvium. Areas of Devensian Glaciolacustrine Deposits (clay and silts) lie to the west of the Proposed Development Site, whilst Devensian Glacial Till is present to the north west. Areas of Blown Sand are recorded around the mouth of the River Tees and in the northern part of the Proposed Development Site (Main Site).

17A.6.5 The underling bedrock geology beneath much of the Proposed Development Site is Mercia Mudstone Group, with areas of Sherwood Sandstone Group lying to the north and Redcar Mudstone Formation in the area of the Main Site.

- 17A.6.6 Soils across much of the Proposed Development Site are described on Cranfield Soil and Agrifood Institute's Soils mapping (Cranfield Soil and Agrifood Institute, 2023) as "*loamy and clayey soils of coastal flats with naturally high groundwater*". Sand dune soils line the northern area of the Proposed Development Site (along the mouth of the River Tees). Beyond the Tees valley to the north west and south east the soil becomes "*slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soil*" interspersed with small areas of "*slightly acid loamy and clayey soils with impeded drainage*".
- 17A.6.7 The topography of the Proposed Development Site comprises a low-lying estuarine landscape. This consists of extensive stretches of intertidal habitats containing mudflats, salt marsh, coastal dunes and wetland adjacent to the estuary.
- 17A.6.8 The surrounding land-use is dominated by the large heavy industrial areas which line the River Tees on both sides, with the major towns of Middlesbrough and Stockton-on-Tees to the south and south-west, Lazenby to the south-east and Redcar to the east. Hartlepool sits to the north. This industrial land-use is mixed with interspersed pockets of flat open farmland, woodland and natural coastal and wetland habitats including North Gare Beach, Teesmouth National Nature Reserve and RSPB Saltholme.
- 17A.6.9 Whilst there are local undulations, the Proposed Development Site's location within the Tees valley means that it is typically low lying at between 1 m – 5 m above Ordnance Datum (aOD), reaching c.10 m AOD at its eastern and western extremities on the slightly higher valley contours.

Previous Archaeological Investigations in the 1 km Study Area and Site

- 17A.6.10 Previous archaeological work within the 1 km Study Area of the Proposed Development Site (Figure 17-3 PEI Report, Volume II) comprises 99 events, which includes archaeological monitoring, borehole and geoarchaeological survey, geophysical survey, fieldwalking, earthwork surveys, archaeological trial trench evaluations and archaeological excavations. This work has demonstrated a landscape with a varied and rich archaeological resource. Medieval activity dominates the archaeological record although evidence for earlier activity is also present. Early prehistoric find sites are not common, but later prehistoric activity, as well as centres of Iron Age and Roman activity, have been recorded.
- 17A.6.11 The following investigations have occurred within the Proposed Development Site and are identified by their HER reference number:
- SMR1220 – a watching brief carried out in 1992 noted peat deposits that contained large pieces of wood.
 - SMR667 – fieldwalking in 1995 recorded a number of possible archaeological anomalies, unfortunately the location of these was not well recorded and their precise location and nature is uncertain.
 - SMR883 and SMR1007 – in 2012 a watching brief (SMR883) uncovered a number of possible archaeological features indicative of Iron Age/Roman presence and possible settlement. This led to a programme of archaeological excavation

(SMR1007) later that same year, which revealed a significant Late Iron Age – Roman settlement site, which included a mound burial.

- SMR872 – a borehole survey was conducted in 2012 towards the centre of the Main Site, which demonstrated made ground to a depth of 5 m-8 m.
- SMR1456 – a watching brief in 2017 recorded the presence of a known World War II (WWII) spigot and mortar emplacement.
- SMR1470, 1468, 1498 and 1497 – a programme of archaeological works conducted in 2019 a geophysical survey (SMR1470) and subsequent watching brief (SMR1498) and trial trench evaluation (SMR1468) and a following archaeological excavation (SMR1497). These works uncovered a major Roman settlement. As well as the usual agricultural and domestic features (pits, postholes, field boundaries etc) two cist burials and 3 corn dryer flues were noted. Substantial amounts of Roman pottery as well as other finds (animal bone, coins, jewellery etc) were made.
- SMR1555 – a watching brief conducted in 2020 found a small quantity of Roman pottery.
- SMR1515 – a trial trench evaluation undertaken in 2020 (near to SMR1555) found no archaeological features or finds.
- Not recorded on the HER – Teesworks Industrial Zone, Historic Building Recording focussing on structures associated with the Redcar Blast Furnace.

Archaeological and Historical Background

Palaeolithic (c. 700,000 – 11,600 BC)

- 17A.6.12 There is little evidence for the Palaeolithic period in general across much of northern England, possibly due to the damaging effects of the Devensian glaciation (Roskams and Whyam 2005). Cave sites such as Kirkdale cave and Victoria cave offer some insights, as do open sites such as Biselsbeck farm and Hotham – these sites appearing to be niches of surviving pre-Devensian activity (Roskams and Whyam, 2005).
- 17A.6.13 At around 27000 – 21000 BP (towards the end of the Palaeolithic period). The Proposed Development Site would have sat under the North Sea Ice sheet, and as the ice receded silts were deposited creating peaty woodland and wetlands, particularly in low lying areas (Straw 2016). These peaty marshlands, particularly those in estuarine locations, offered valuable resources to prehistoric groups which would have used these areas for hunting and fishing.
- 17A.6.14 Palaeolithic activity tends to be represented in the archaeological record by finds of flint tools associated with hunting and fishing and/or the waste flint associated with the production of such, either as individual pieces or larger scatters of material. Recent land reclamation activities within the Study Area may well have destroyed much of the archaeological evidence of this period. However, it is possible that deeply buried deposits do survive, particularly in wet-land zones, and have the potential to contain information about this period.

- 17A.6.15 Within the study there is a single Palaeolithic find spots (SMR6212), located at South Gare, c.850 m north of the Proposed Development Site. The find is a single bifacially worked flint tool, which may have been washed out of deeper deposits onto the beach.

Mesolithic (c. 11,600 – 4,300 BC)

- 17A.6.16 The natural environment changed dramatically during the Mesolithic period as temperatures rose and forest cover spread (typically mixed deciduous forest), however this did not occur uniformly, and some regions experienced retarded vegetation development (Allen and Gardiner 2009). The first areas occupied were often these areas where vegetation had not flourished, or where deliberate clearance had taken place. This is represented in the toolkits of the Mesolithic period, which contain specialist wood working/tree felling equipment (transversely sharpened axes and adzes) and items suited to more mobile lifestyles. As with the Palaeolithic period it is these flint tools which typically provide evidence of this period.
- 17A.6.17 At the start of this period what is now the North Sea was an area of dry land (known as Doggerland) which extended as far north as Shetland and, in places, connected the British Isles with continental Europe. As the climate warmed and the ice melted, sea levels rose and by c.6000 BC the coastline was only a little to the east of its modern location (Shennan *et al*, 2000). This flooding had a dramatic effect on the vegetation of the region, with the mature mixed deciduous forest that had once stretched out onto the North Sea plain being replaced by wetlands and a coastal landscape, evidence of which exists as a submerged forest along the coast near Hartlepool (Batchelor and Green 2012). It is also possible that deforestation of upland areas at least partially contributed to the formation of these coastal wetlands Straw 2016, Carter 2014). The Tees Estuary therefore underwent a change from woodland to saltwater marshland (evidenced in intertidal peat beds, (Batchelor and Green 2012, Carter 2014)) and the area would have been a focal point for hunting and fishing activities (Daniels 2014).
- 17A.6.18 A variety of assets that could date to this period are located within the Study Area. During excavations for a quay wall in 1949 a number of objects were pulled out of deep deposits (recorded in the HER as being approximately 10 m below ground). These consisted of a human skull, 'Coatham Man' (SMR612), an assemblage of Red Deer bones (SMR5380) and a tool handle made from antler (SMR5379). These have been given a Mesolithic – Neolithic date range. The finds were made on the west bank of the River Tees, c.310 m to the east of the Main Site.

Neolithic (c. 4,300 – 2,200 BC)

- 17A.6.19 The Neolithic period marks the adoption of agriculture associated with more widespread tree clearance and associated changes in flint tools. During this period, people adopted a more settled lifestyle, one which is more visible in the archaeological record. Pottery appears and it is also when the first monuments are constructed, such as long cairns, chambered cairns and round cairns (Masters 1984) as well as large, enclosed ceremonial spaces (Oswald *in prep* as detailed in Frodsham 2019). The construction of these impressive monuments represents a major

investment of resources and a significant landscape event. During this period the climate continues to warm and sea level continued to rise, albeit at a now significantly slower rate. This appears to have caused coastal areas to be re-submerged by the rising tide, and by c. 2000 BC the coastline lay somewhat inland of its current position (Wugham *et al* 2005). In terms of the vegetation of the region, the continued sea-level rise led to further water-logging and submersion of the coastal woodland on sites that had previously been too elevated to be affected by this during the Mesolithic period.

- 17A.6.20 Within the wider region, Neolithic settlement appears to be focused on the upland area of Milfield and the six key settlement sites located here at Thirlings, Coupland, Yeavinger, Cheviot Quarry North, Cheviot Quarry South and Lanton Quarry (Frodsham 2019). There are few burial or other monuments in the immediate region of the Proposed Development Site with most being geographically related to the above settlement sites. A long cairn is known at Loftus (c.13 km to the south east of the Proposed Development Site) which is of a complex type almost unknown in the region (Vyner 1984). Near to this location there is also evidence for Neolithic salt working – brine storage pits, salterns and hearths, found alongside the remains of stone tools and ceramic vessels (Sherlock 2021). A large rectangular enclosure (with sides more than 100 m long) is known at Easington Lane c.23 km to the north-west (Hale 2008). In addition, polished stone axes (typical of this period and often a sign of prestige or used as a trade item, rather than an actual tool) have been found in Yarm and Preston.
- 17A.6.21 There are seven finds within the Study Area which date to this period. None of these finds sit within the Proposed Development Site. The finds include three find spots of stone axes (SMR1002, 1066 and 2848) and it is notable that SMR1002 and SMR1066 were found a few hundred metres apart on the western edge of the Study Area.
- 17A.6.22 Other finds include SMR1689 a thumbnail scraper, SMR3477 a stone arrowhead, SMR6263 a flint core fragment and SMR6798 the fragment of a human skull bone found by a dog walker on Cotham Sands, and radiocarbon dated to this period. As noted, it is also possible that the skull, deer bones and antler handed mentioned above (SMR612, 5380 and 5379) may also date to this period.

Bronze Age (c 2,200 – 750 BC)

- 17A.6.23 Centralised, permanent, settlement and associated agricultural practices intensify during this period with more and more land being cleared. The environment, generally, takes on a much more open aspect and field systems begin to emerge, although the regular occurrence of deer bones and antler in the archaeological record suggest that there are still significant areas of woodland. There is, generally, a picture of the widespread accumulation of colluvial material in the archaeological record at this time, presumably derived from increased agricultural activity.
- 17A.6.24 Material culture reflects these changes; new pottery forms emerge (Renfrew and Cherry 1986) and metal tools also emerge for the first time, although flint tools are still commonly used, albeit with changed forms (Humphrey 2003; 2007). Ritual activity also changes, the long cairns or barrows, more typical of the Neolithic period,

- slowly being replaced with round barrows, these also being more common than their predecessors and seemingly having a territorial, as well as funereal, function (Roskams and Whyman 2005).
- 17A.6.25 During this period the coastline remains relatively static, although there are minor eastwards and westwards movements and much of the area inland of the coast would have been dominated by coastal wetland saltmarsh.
- 17A.6.26 Within the wider region, the most prominent area of archaeological activity appears to be at Eston Hills, approximately 2.5 km south of the Main Site. The hills contain major Bronze Age activity including numerous designated assets. The activity includes at least 39 burial mounds, 13 cairns (Vyner 1991) and over 29 examples of rock art (Brown and Chappell 2005). It is also the location of the only surviving hillfort in Cleveland, Eston Nab (NHLE1011273); a Late Bronze Age palisaded settlement and beacon which appear to overlie an earlier Bronze Age settlement. It has been subject to only minimal archaeological work and is believed to be very well preserved and thus has extremely high potential to contribute to our understanding of Bronze Age society in the region (Vyner 1989). The hillfort is a rare regional example of a settlement site from this period and the only surviving hillfort in the region. The fort occupies a prominent position on the edge of an escarpment overlooking the Tees valley, the coastline, and the North Sea beyond. Its position on the escarpment contributes to the fort's visual prominence, and a feature that can be seen from within the valley floor.
- 17A.6.27 In the more low-lying areas, SMR8604 comprising a small Bronze Age round barrow, is located north-west of the Hydrogen Pipeline Corridor. It was during archaeological monitoring in 2012 (Event SMR1007) and may have a level of association with a later Iron Age/Roman settlement site (SMR8603).
- 17A.6.28 Within the Study Area, a further three assets of this period are recorded. SMR3404 (a complete saddle quern stone), SMR4870 (the skeletal remains of horse, cattle and sheep, which show evidence of being butchered) and SMR1309 a shell midden (noted in a drainage cut) which also contained five flint tools and a clay bead. SMR3404 and 4870 lie c. 300 m south of the Main Site, whilst SMR1309 lies just to the west of the Hydrogen Pipeline Corridor
- Iron Age (c. 750 BC – 43 AD).
- 17A.6.29 The evidence of settlement and agriculture seen in the Bronze Age period continues throughout to the Iron Age period. Cremation becomes the main burial custom and technology continues to develop and includes the emergence of the new forms of metal working. The hillfort at Eston Nab continues in use into this period – undergoing substantial expansion in the mid-5th Century BC (Tees Archaeology, 2002) and would have been an influential centre at this time.
- 17A.6.30 By the end of the Iron Age/start of the Roman period the lands within the Study Area begin to dry out. The cooler, wetter environment present towards the end of the Bronze Age, is slowly replaced with a warmer, drier one towards the end of the Iron Age (Tipping 2016). Generally, along the north-east coast of Britain, the coastal zone moves eastwards from its earlier westward maximum, resulting in some of the earlier

marshlands draining and drying out, whilst new marshlands became established in previously submerged areas. Locally sites such as Street House in Loftus see an increase in wetland taxa – reflecting a local increase in wetland areas. Salt production has also been recorded at this site (Sherlock and Vyner 2013) and salt making appears to become a significant industry in general at this time with salterns recorded at a number of sites along the north-east coast.

- 17A.6.31 During this period, this area of Britain was within the territory of the Brigantes tribe. It is believed that the Iron Age population of the Tees Valley comprised a discrete cultural group within the larger Brigantes tribe, with a cultural identity that was distinctly different to the tribes to the north and south of the valley (Sherlock 2012).
- 17A.6.32 SMR8603 located north-west of the Hydrogen Pipeline Corridor is an Iron Age settlement with possible Bronze Age origins (SMR8604). Archaeological excavation of the site (SMR1007) demonstrated the presence of round houses and a number of ditches which appeared to bound the settlement and divide up the agricultural land beyond it into fields. The settlement appeared to expand over time with the ditches defining it being re-dug to enlarge the enclosed area and the agricultural land beyond becoming more ordered, demonstrating increased, and more intensive use. Finds included pottery as well as evidence for pottery and metal working. The site continued in use into the Roman Period.
- 17A.6.33 Within the Study Area a small, enclosed area c.520 m to the east of the Proposed Development Site appears to indicate another small Iron Age farmstead (SMR159). Beyond these settlement areas, Iron Age evidence is restricted to a number of find spots (located to the west of the Study Area) including a bronze bracelet (SMR238), part of a beehive quern (SMR1043) and part of a statue's head (the Lazenby head, SMR1204).
- 17A.6.34 As a whole this evidence demonstrates that the valley and floodplain of the River Tees continued to be used for settlement and crop growing into and throughout this period.

Undated/Uncertain Prehistoric Evidence

- 17A.6.35 Within the Study Area there are five assets which are believed to be of a general prehistoric date, but which cannot be definitively placed into any specific period. None of these are located within the Proposed Development Site and they consist of a small quantity of animal remains, a scatter of six lithic (flint) objects (likely the partial remains of tools) and a peat deposit which contained wood fragments.

Romano British (AD 43 – 410)

- 17A.6.36 The Brigantes tribe, and their leader Queen Cartimandua, were supporters of the Romans during the early years following the invasion, however, this changed after AD 69. Venutius, the former husband of Cartimandua, led a successful rebellion against her and assumed control of the now anti-Roman Brigantes. The Roman Ninth Legion marched from Lincoln to face the Brigantes and Venutius and was eventually defeated following a series of campaigns between AD 71-74, with the last stand of the Brigantes posited as the Iron Age stronghold of Stanwick, near Darlington (Phillips and Rowe 2004). Aldborough (Roman *Isurium Brigatum*) was the capital city of the

- Brigantes tribe during this period which became an important administrative and economic centre (Ferraby and Millet 2020)
- 17A.6.37 A number of Roman Roads run through Yorkshire, the primary one of which is Dere Street (Margary 8a, 8b and 8c) which ran from the legionary fortress at York, through to Cramon on the Firth of Forth near modern Edinburgh. Nearer to the Study Area is what is known now as Cade's Road (Margary 80a) which ran from Stanford Bridge (or possibly York itself according to Cade) up to the River Tees and a crossing point somewhere east of Girsby (the exact location is unknown) (The Roads of Roman Britain). The Study Area lies outside of this major road communication network. The site of a purported route, Cleveland Street, which runs from possibly Girsby to Huntcliffe signal station on the coast does, hypothetically, pass through the southern part of the Study Area, however, there is no substantive evidence to confirm the route as Roman. Approximately 2 km west of the Hydrogen Pipeline Corridor is the site of a purported Roman road running from Billingham north-west to Sedgefield, where it possibly connected to Cade's Road (Mason, 2020). The road is purported due to an association with a possible military installation or port in the Billingham or Middlesbrough area. Forts were established along these roads for defence and control of the area, none are particularly close to the Study Area, Piercebridge (Roman Morbium), established in 70AD on Dere Street at a crossing of the Tees (Cool and Mason 2008) is probably the closest significant fort to the Study Area, 27 km to the south-west.
- 17A.6.38 Salt production continued to be a major industry and contributed significantly to the area's trade. The North Yorkshire coastline continued to regress eastwards in the early Roman period with a subsequent increase in coastal wetlands. However, during the later Roman /early Medieval period (4th – 6th centuries) the coast appears to have moved westward once again (Atkinson, 1994).
- 17A.6.39 The clearance of land to make way for agriculture continued and agricultural practices in general seemed little changed from the late Iron Age (Willis and Carne 2004). There is general consensus in research publications that, beyond military fortifications and the main urban centres, anything which might be termed 'Romanisation' impinged but little on the wider rural landscape for the first century or so after Rome exerted its control. It appears that it is only in the late-2nd and early-3rd centuries AD that Roman administration began to make its mark (Roskams 1999). This suggests that traditional patterns of community and social organisation may have continued from the Late Iron Age into the mid – late, Roman periods. From the 3rd century onwards, there are indications that the rural landscape beyond the main routeways was changing. Within the landscape beyond the Study Area, the most significant settlements of this period would be the Roman town and villa of Ingleby Barwick c.7.5 km to the south-west of the Proposed Development Site – this villa possibly being the most northerly in Roman Britain (Willis and Carne 2004) and Catcote (Hartlepool) approximately 5 km to the north-west of the Proposed Development Site (Long, C.D. 1988).

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- 17A.6.40 Just outside of the Study Area a coin horde (SMR463) was found at Wilton Castle Ice House (1.5 km to the south). This contained 80 silver coins from the reign of Valens and a golden coin of Honorius.
- 17A.6.41 Six assets of this period are located within the Proposed Development Site. SMR9068, 9437, 9438, 9439, 9502 and 9523 are grouped together and located within the Hydrogen Pipeline Corridor. These all relate to a Roman settlement site at Saltholme, discovered during a programme of archaeological works undertaken in 2019 (SMR1470, 1468, 1498 and 1497). The work revealed a series of enclosures, along with pits, postholes and ditches. The settlement also contained two stone lines cist burials, the remains of three corn dries and finds including the base of a rotary quern, a trumpet brooch and pottery. The archaeological evidence demonstrated the presence of a large farmstead and agricultural activities.
- 17A.6.42 Within the Study Area other Roman finds include a silver denarius of Faustina II (SMR1458), a trumpet brooch (SMR4857) and Roman pottery (SMR1573 and 7201), and further Roman pottery found near Kirkleatham (SMR1801).

Early Medieval (AD 410 – 1066)

- 17A.6.43 Documentary evidence suggest that during this period the landscape continued to be cleared and closely settled and that sea level had reached something approaching modern levels. Pollen records would appear to support this (Davies and Turner 1979). However, it is recognised that the archaeological evidence for medieval settlement in the north-east is extremely variable. Across the region in general relatively little has been found (Frodsham 2019b). The villages of Greatham and Cowpen Bewley are not mentioned in the Bolden Book. However, the Church of St. John the Baptist in Greatham, a Grade II* listed building (1263522), has fragments of sculptured masonry, dating to the 8th and 12th centuries, built into its north aisle wall and late-12th century nave arcades which suggests a community was established at this place during the medieval period.
- 17A.6.44 Within the wider region, the nearest significant settlement site is Darlington (20 km to the south- west) believed to have originated as the Saxon *Burh* (a fortified, typically walled, settlement) of *Dearthingtun* in the early-11th century. Nearer to the Proposed Development, Billingham may also have early medieval origins.
- 17A.6.45 Significant Saxon cemetery sites are known at Darlington but also more locally at Saltburn (Gallagher 1987) and at Norton in Stockton-on-Tees, 2.4 km to the west of the Proposed Development Site (Sherlock and Welch 1992).
- 17A.6.46 Hartlepool originated as a monastery (Hereteu Abbey) founded in 640AD. Records exist of the Abbey until c.800AD, when it disappears from history (Rowe 2000). Beyond this, the majority of the evidence relating to settlement during this period is linked to place name evidence that has Anglo-Saxon and Scandinavian origins, such as Eston which derives from Anglo-Saxon for 'settlement to the east', Lackenby which is 'Lochlan's farm' in Scandinavian, and Lazenby which translates as 'settlement of freemen' in Scandinavian.
- 17A.6.47 Archaeological evidence from this period is restricted to find spots within the Study Area (there are no assets with the Proposed Development Site). These comprise find
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spots of a bone pin at South Gare (SMR4796); a ring mount near St. Cuthbert's Church in Wilton (SMR4811) and unstratified pottery sherds found in Kirkleatham (5133) during a trial trench evaluation (SMR101). Disarticulated human remains (SMR234) dating to this period were also found in Kirkleatham in 1902 during the excavation of a drain. It is also possible that 16 fragments of carved stone (SMR1270) found during the demolition of a tower at Greatham may also date to this period or to the start of the medieval period.

Medieval (1066 – 1540)

- 17A.6.48 Following the Norman conquest, land was divided up and placed into new ownership – lands within the Study Area being granted to the Brus family and the Abbeyes at Guisborough and Whitby. The pre-existing settlements in the area continued to grow and new villages were established often following a Norman 'blueprint' of two rows of tofts and crofts placed along a village green (as seen at Cowpen Bewley).
- 17A.6.49 To the east of the Tees, Kirkleatham (a village within the western edge of the Study Area of the Site) is recorded in the Domesday Book, where a population of 9.1 households is noted, putting it in the smallest 40% of settlements recorded in the Domesday Book. Despite this it became one of the principal villages at this time, with the Parish of Kirkleatham encompassing Redcar and Coatham. The town of Redcar is not mentioned in the Domesday book, appearing to have its origins as a fishing hamlet in the 14th century, involved in trade with the larger adjacent hamlet of Coatham. By the 13th century a significant port was located at Coatham and the weekly market of Kirkleatham parish was held here. Lazenby village, just to the south-west of Kirkleatham, is also recorded in Domesday as a tiny village with a population of less than one household. The population of this village (as with others in this area) only began to see notable increases in the mid-12th century when iron stone was found in the Eston Hills.
- 17A.6.50 The area to the north and west of the River Tees was not covered by the Domesday survey. Hartlepool continued to grow, becoming an important market town, not least due to its position as the official port of the County Palatine of Durham. The town underwent fortification in the early-14th century in anticipation of war with Robert the Bruce.
- 17A.6.51 The village of Greatham, which sits within the north-west corner of the Study Area, is known from documentary sources dating to 1196AD (Ekwall 1960). It was the site of Greatham Hospital founded by the Bishop of Durham in 1273 to aid the poor, although by the early-16th century it has become a "*house of entertainment for gentlemen*" (British history online 2023a). The settlement at Billingham continues to grow during this period, although it remains a very small town. Cowpen Bewley has little trace in documentary records, but the archaeological record (discussed further below) indicates that it is a good example of a planned medieval village with areas of common grazing at its centre. It is thought the name of the village may be derived from the Scandinavian 'Kuppa', a bowl-shaped vessel, and a derivation of Beaulieu, a name added by the Benedictine monks (the village being owned by the Prior of Dunham) (Cleveland Federation of Women's Institutes 1991). Stockton-on-Tees sees major growth in this period, with the manor of Stockton being built for the Bishop of

Durham in 1138, the village becoming a borough in the 13th century and a market being established in 1310. The town also began to become a centre for shipbuilding from the 15th century.

- 17A.6.52 Land continues to be cleared, albeit not at the same pace as earlier periods, and areas of woodland are kept, interspersed through this landscape – used for coppicing for fuel, hunting and as forage areas for animals. In general, the landscape becomes more organised and divided. Agricultural activity would have been the main economic stable of communities living within the Study Area although fishing would have been important for coastal towns and villages (such as Hartlepool, Redcar and Coatham) and salt processing also remains a major activity, taking place at Cowpen Bewley, Greatham and across the Study Area. The River Tees is a major communication and trade route at this time, with the port at Hartlepool being the main port at this time, although smaller ports such as those at Coatham would have been important for the villages south of the Tees. Industrial activity begins to emerge at some towns, such as linen production at Darlington and ship building at Stockton-on Tees.
- 17A.6.53 The HER records 126 Assets of this period within the Study Area of the Site. Of these, 10 are located within the Proposed Development Site (Table 17A-1). East of the River Tees, is a distinct cluster of assets focused around Cowpen Marsh. A number of these assets sit wholly or partially within the Hydrogen Pipeline Corridor. These assets comprise either salterns, used to process the brine water of the marsh into salt or mounds, usually located near a 'stell' (a pool or deep area of the numerous marshy creeks which run through the area), and mounds which are believed to have been derived from dredging of the stell and dumping of the resultant silty material.
- 17A.6.54 Some assets consist of both salterns and a mound or multiples of both. Some of the mounds are surrounded by low, circular embanking features (likely used to retain them) and ramps which have been trampled or cut into the mound to access the top. The mounds vary from 1 m – 4 m in height and from 5 m to 105 m in length or width (many are oval, or pear shaped rather than circular). It is not uncommon for the mounds to be re-used as building platforms (for informal buildings), as mooring points for accessing the stells and as game hides. Table 17A-1 details the assets and their location relative to the Proposed Development Site.

Table 17A-1: Salterns within or adjacent to the Proposed Development Site

SMR NUMBER	DESCRIPTION	WITHIN THE PROPOSED DEVELOPMENT SITE
8224,	Saltern	Yes
1711, 1718, 1720, 1721, 1715, 1727, 1728, 1737, 1738	Mound	Yes
1713, 1723	Saltern	No
1712, 1713, 1710, 1717, 1716, 1719, 1722, 1724, 1725, 1726, 1729, 1730, 1731, 1732, 1733, 1734, 1735, 1736	Mound	No

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- 17A.6.55 Within this cluster, asset SMR1714 is a salt mound that has been re-used as a platform for later buildings with modern re-use as a mooring place in the 'stell', which sits outside of the Proposed Development Site.
- 17A.6.56 Asset SMR6848 which sits at the south-west end of this group is an unusual patch of ridge and furrow lying on an island defined by several small creeks at Holme Fleet. The ridges are visible on aerial photographs and are fairly broad but straight. Further evidence for medieval ridge and furrow, as well as liming of the land was seen during trial pit excavation just north of the A1185 (SMR8905).
- 17A.6.57 The village of Cowpen Bewley took the traditional Norman form of two rows of properties laid out on either side of a broad green. The earthwork remains of this village, including 3 tofts at the eastern end of the southern row of properties, are recorded as assets SMR604 and 624 whilst asset SMR3612, to the north of the village, appears to represent a raked at midden to the rear of a property.
- 17A.6.58 Wrapping around the north, east and southern edges of Cowpen Bewley a number of extensive ridge and furrow earthwork remains attest to the medieval use of the agricultural land around Cowpen Bewley. Four of these assets sit within the Hydrogen Pipeline Corridor (SMR1513, 658, 6821 and 6819), whilst the remainder sit outside (SMR1519, 6821 and 6822).
- 17A.6.59 Approximately 1.5 km to the south of Cowpen Bewley (and likely associated with the village) is the site of the Manor House of Belasis (SMR613). The site is recorded from 1649 but is believed to have a much earlier origin and is associated with a visible moat (SMR5156), which is located within the Hydrogen Pipeline Corridor. The Manor and its associated outbuildings were demolished in 1941 and nothing visible remains of them. The moat has been backfilled but is partially visible on modern aerial imagery.
- 17A.6.60 To the north of this Manor and south of Cowpen Bewley asset SMR9580 relates to three fields recorded as "Mill Hill" on tithe plans. There is no evidence on the ground or in LiDAR for any structure at this location – however it was subject to housing in 1930, which was subsequently demolished.
- 17A.6.61 Roughly 2.4 km to the south-west of Cowpen Bewley and just to the south, assets SMR4426 and SMR1515 represent the site of the now demolished farmstead of Salt Holme (SMR4426) and an associated large area of complex and extant ridge and furrow (SMR1515).
- 17A.6.62 A number of assets within and around Greatham attest to the medieval origins of this village. The village is recorded as an initial 2 row plan with a green, followed by infilling at the end of the green and a further planned row added to the north of the village (SMR602). A hospital was founded in the village in 1272 (The Hospital of God) by the Bishop of Durham to aid the poor. There are no surviving remains of this hospital which was replaced by an Almshouse in the 18th century, however the site of it is known (SMR643). The Church and Chapel of St. John the Baptist in the village date to the 12th century (SMR8732; 645; 4716) and excavations in and around the churchyard have uncovered human remains of a likely medieval date (SMR8731; 4714).
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- 17A.6.63 Between Greatham and Billingham a number of extant ridge and furrow assets attest to the medieval agricultural use of the landscape – likely associated with medieval Billingham. This include assets SMR522, 524, 596 and 6721, this latter asset covering a particularly large area and extending beyond the Study Area.
- 17A.6.64 A possible mill race (SMR6861, now backfilled) has also been identified in this area, on the very western edge of the Study Area, via an earthwork survey (SMR680). It ran south-west into Billingham and may have had a dam along it (SMR6860) designed to create a water meadow or pond behind it – this is possibly identified as earthwork record SMR6856. The dam was partially destroyed by a WWII bomb in 1944. A mill is recorded in this area in documentary sources (SMR6584) its precise location is unknown, but it is likely to be associated with the race. The same earthwork survey identified a sunken lane or trackway running north from the race (SMR6859) and a fishpond a little to the north of the race (SMR1598).
- 17A.6.65 At the far south-west corner of the Hydrogen Pipeline Corridor, documentary evidence suggests the presence of a fishpond (SMR6865) within the area of the Wilton Complex.
- 17A.6.66 East of the River Tees, a further cluster of features is seen towards the north-east corner of the Proposed Development Site where a density of assets stretches along what is now a trunk road north of Lazenby. Again, these assets seem to be largely related to salt processing and ‘stell’ clearance and a number of them, as detailed in Table 17A-2, are located within the Hydrogen Pipeline Corridor.

Table 17A-2: Salterns within or adjacent to the Proposed Development Site

SMR NUMBER	DESCRIPTION	WITHIN PROPOSED DEVELOPMENT SITE
-	Saltern	Yes
1812	Saltern	No
-	Mound	Yes
1812, 1739	Mound	No
3759, 3760, 3751, 3752, 3753, 3754, 3755, 3756,	Salt mound	Yes
3761, 3770, 3771, 3772, 3773, 3776, 3777, 3762, 3763, 3764, 3765, 3766, 3767, 3768, 3769, 3758, 3757, 3750, 3749	Salt mound	No

- 17A.6.67 The salt mounds are marked on the 1st edition Ordnance Survey (OS) map are now no longer extant.
- 17A.6.68 Loosely associated with this cluster, within the northern tip of Lazenby, asset (SMR355) sits within the Hydrogen Pipeline Corridor and is recorded as representing the deserted medieval village of West Coatham. This village is recorded in

- documentary evidence from 1236, which records the village being engaged in salt production and is visible as earthwork remains in OS maps from 1884. The site is currently occupied by hardstanding with no visible ground level earthworks.
- 17A.6.69 To the north (north of Warreby) assets SMR4670 and 350 relate to the possible site of a former chapel at East Coatham (SMR350). The chapel is variously referred to as dedicated to St. 'Sulpitius', 'Syplius', 'Sepulchres', 'Cyprion' or 'Sulphron' and human remains which are also believed to have been discovered associated with this site (SMR4670). However, beyond informal documentation there is no definite proof for either of these assets.
- 17A.6.70 Medieval Kirkleatham is recorded as asset (SMR915), which relates to the documentary evidence of the early village. A number of associated assets demonstrate its medieval history. The village is recorded as having a Church in the Domesday book, although the current church dates to 1763 and a Chancery with 12 priests was endowed in 1348, the site of which is currently not known. Assets (SMR489, 5134, 4807, 169, 1426, 1802 and 1801) relate to archaeological features associated with the medieval village (ridge and furrow and boundary ditches) and find sites of pottery and worked stone.
- 17A.6.71 Just to the south of Kirkleatham, asset (SMR3484) relates to partially visible earthworks relating to Yearby medieval village, which is recorded as part of Kirkleatham in the Domesday book.
- 17A.6.72 To the south and west of Lazenby a number of assets point to the presence of deserted medieval villages of Wilton and Lackenby and the extent of the agricultural hinterland around medieval Lazenby.
- 17A.6.73 Wilton is recorded in the Domesday book as consisting of 20 households. Wilton Castle (a grade II listed building NHLE1310567) is an early 19th century country house, which sits on the site of the 14th century castle of the Bulmer family (SMR466), which itself had an 11th century origin. The extant Church of St. Cuthbert at Wilton (a grade II listed building NHLE1310519, largely dating the early-19th century) appears to have 12th – 13th century origins (SMR1501, 6161, 1027). Ridge and furrow to the west of the church (SMR1582) appears to represent the agricultural hinterlands of both Wilton and Lazenby. This suggests that modern Wilton has shrunken significantly from the medieval period.
- 17A.6.74 South of modern Lazenby assets SMR1220, 1096 and 1507 are the remains of medieval ridge and furrow associated with agricultural land to the south of what would have been medieval Lazenby.
- 17A.6.75 To the south-west of Lazenby the small medieval village of Lackenby is recorded in the Domesday book as having a population of less than one household. Today this village survives as a small number of earthworks not visible from the ground (SMR4478), areas of associated ridge and furrow (SMR1082 and 372) and isolated pottery scatter find sites (SMR1803).
- 17A.6.76 As a whole, this evidence indicates the landscape of the Study Area was under relatively intense use during this period. A number of small to medium-sized villages and towns exist in and around the Study Area, a number of which have their origins

in earlier periods. The populace of these settlements was involved in a number of economic activities; arable farming in drier areas, and salt production in the more briny, marsh areas. A number of high-status sites are present, such as the Manor House of Belasis, Wilton and Kirkleatham, and would have represented the social, economic and political centres during this period. Cowpen Bewley, Lazenby and Greatham would also appear to have become at least modest settlements during this period, despite the latter two being almost unknown at the end of the early medieval period.

Post Medieval (1540 – 1900)

- 17A.6.77 The dissolution of the monasteries (1536) and enclosure of the land (1750 onwards) would have had the biggest impact on the society during the early parts of this period. With the crown acquiring the land of the former monasteries, nunneries and friaries and with common land all but disappearing. There is little evidence for planned parliamentary enclosure within the Study Area with only Marske (1756) and Kirkleatham (1850) receiving parliamentary awards (British History online 2023b). This means that it is likely that enclosure of the Study Area was undertaken by Private Act. Mapping appears to indicate that by 1811 the majority of the Study Area was enclosed (North Yorkshire County Council (n.d.)) with common pasture and moorland only remaining around the edges of settlements such as Coatham and at the foot of the Eston Hills. With the enclosure of land farming intensified, which assisted in supporting the burgeoning industrial development of the area and the associated increase in population. Maps from the late 1800s show a large increase in the number of farms and farmsteads in the regions (such as Marsh Farmhouse and Cottage (NHLE 1160308), garden wall (NHLE 1139619) and stable and barn (NHLE 1139620).
- 17A.6.78 The discovery of Iron ore in the Eston Hills in 1850 created an industrial boom in the area, leading to the growth of Iron works in the area and attracting people into the region to work at the new foundries. Transport and communication (significantly rail and docks) undergo major developed to support this industry. Many of the small medieval settlements in the study see significant growth either as towns supporting this activity (e.g. Kirlatham and Greatham) or as coastal tourist resorts for the regions burgeoning population (such as Redcar and Coatham). Hand in hand with this the construction of reclamation walls and banks dry out former marshlands and mudflats, reclaiming land to be turned over to the regions industrial development and to increase its agricultural output, as well as making the River Tees more navigable and so suitable for heavy shipping.
- 17A.6.79 Ship building at Stockton-on-Tees flourishes during this period and a number of other associated industries also develop, such as sail and ropemaking. In 1822 the first rail of the Stockton and Darlington Railway was laid at Stockton-on-Tees, with the first ever passenger train running from Stockton-on-Tees to Shildon (via Darlington) on September 27th, 1825. As with much of the region, Stockton-on-Tees saw a large population increase in the late 1800s with the discovery of iron in the region, increasing from 10,000 in 1851 to over 50,000 by 1901.
- 17A.6.80 Hartlepool remains relatively small until the mid-1800s. The port at this time was small, having lost its earlier importance by the 18th century and the town (population

of 1,300 in 1831) was little more than a market town with a small port, which also attracted tourists as a seaside resort. However, a new dock was opened in 1835 and railway connecting Hartlepool to the Durham coalfields opened in 1839, and as a result its population grew to 9,227 by 1851. The construction of further new docks to the south west of the town in 1847 resulted in a new town springing up around these – West Hartlepool, which overtook the old town in terms of population by 1880. By 1901 old Hartlepool had a population of c.14,000, but that of West Hartlepool was around twice this size (local histories.org).

- 17A.6.81 Middlesbrough was also created during this period. In the medieval period Middlesbrough was the site of a small Benedictine priory on the south bank of the River Tees. Following the Dissolution the site became a farmstead with a population of around 25. In 1828 Joseph Pease (banker, coal mine owner and shareholder in the Stockton and Darlington Railway) decided to build a port ('Port Darlington') at the site of the farmstead to offload coal, this was built in 1829 and linked to the Stockton and Darlington Railway in 1830. A settlement was built to the east of the port to house labour. The success of the port meant that it soon became overwhelmed, and a new dock was built to the east of the earlier one, opening in 1842. By 1851 the population of the new town was 7,600. In 1853, Middlesbrough received its Royal Charter of Incorporation, giving the town the right to have a mayor, aldermen and councillors. Henry Bolckow became mayor, in 1853. Fuelled by the success of the region's iron and steel works, the town had a population of c. 90,000 by 1901 (Simpson 2015).
- 17A.6.82 To the west of the River Tees, SMR4172 represents the line of the Stockton and Hartlepool Railway – a branch line linking West Hartlepool to the main line of the Clarence Railway near Billingham. Constructed in 1839 (opening in 1841), with the purpose of moving passengers (often workers) and freight from Hartlepool to ports and industry along the River Tees, and passenger/goods from these ports and factories onwards. The line still operates a limited service today. A section of the railway line runs through part of the Hydrogen Pipeline Corridor. The railway also connected the Greatham Salt and Brine Company factory (1887) (SMR1222). The company became the Cerebros Saltworks in 1903 and ceased salt production in 1970, although it continued food production until 2007. The site was demolished in 2012 and now exists as a large area of overgrown hardstanding and rubble to the north-west of the Hydrogen Pipeline Corridor. A signal box (SMR4783) was constructed in 1889 at the site of Greatham station (SMR4586) which itself opened in 1841 opposite the Greatham Salt and Brine Company works. The station closed to traffic in 1991 and whilst the platform remains, all buildings have been demolished. The signal box (a tower with a control room at the first floor) is still in operation.
- 17A.6.83 To the south west of Greatham Station, further along the rail line, SMR4095 is the site of large brick and tile works (Cowpen and Greatham Brickworks). Founded in 1855 (and first seen in OS mapping of 1859) the works were involved in large scale clay extraction to the north and south of the Railway. The works closed in 1957 and the site is now below the mounds of Cowpen Bewley Country Park – although a large pond (created from one of the early clay quarry pits) still exists (Cowpen Bewley Wildlife Lake). These works were located just to the south west of Greatham Creek,

- and the railway crossed this creek by means of a viaduct (constructed in 1839 and renovated in 1861). This viaduct (SMR4094) is still in use today.
- 17A.6.84 Another brickworks was located c.850 m further south along the rail track. Asset SMR9084 is the site of J. J. Lisle Steam Brickworks. The majority of the site has since been built over by the A1185 carriageway, however one of the ponds associated with the brickworks remains.
- 17A.6.85 As much as to the development of heavy industry, the mouth of the modern River Tees also owes its development to a programme of land reclamation which began in the 1700s. This early reclamation took the form of large earthen banks which enclosed parts of the estuary – this had the dual function of causing silt to build up behind them (creating reclaimed land) and making the Tees more navigable for vessels using it (allowing large ships to access the river and industry along it to develop). As industry developed in the area (particularly iron works) waste materials from these works were dumped in the marshlands and mudflats, raising them and creating more areas of re-claimed land. Two of these early reclamation embankments are visible within the Study Area – SMR8262 and 8683. Both are visible on tithe maps (for Cowpen Bewley – 1838 in the case of 8262 and that of Greatham – 1840 for 8636) as well as OS maps of 1859/1861. It is likely that SMR8262 is the earliest of these reclamation embankments dated to 1740, with SMR8636 of a slightly later date. Both are visible as earthworks on modern aerial imagery, and sections of both run through areas of the Hydrogen Pipeline Corridor.
- 17A.6.86 Slag dumped from the ironworks was used to build two sets of retaining walls, to create a small harbour for light craft, such as fishing cobbles, on the south bank of Greatham Creek, just before it runs into the River Tees (SMR4683). This harbour dates to the 1880s/90s and is now largely silted up. However, stumps of mooring posts and revetments for mooring are still visible.
- 17A.6.87 The site of two farmsteads is also located within the Study Area. Assets SMR8172, Thorn Tree Farm, is known from documentary evidence dated to 1828 and seen in mapping from 1861. It undergoes a number of small changes and extensions from this period until 1995 when it appears to have been largely demolished, the single structure left being demolished by 2016. Asset SMR8173, Pudding Nook, sits just outside (to the north) of the Hydrogen Pipeline Corridor. The farmstead is known from documentary evidence of 1858 and mapping of 1861. The farmstead undergoes a number of extensions from this period through to 1968 when it reaches its final form, being demolished by 1982. There are now no visible upstanding remains of either of these farmsteads, although the footprint of Thorn Tree Farm can be seen in aerial imagery.
- 17A.6.88 Running along the east bank of the River Tees is another reclamation wall (SMR6046). This runs from the mouth of the Tees (at a point now within the River itself) along the east bank to a point near to the modern ‘Smith’s Dock Road’ (Easton Wharf Mooring Stage to the South Gare Breakwater). The asset is seen on mapping dated to 1895 but is now largely invisible due to modern industry, docks and modern sea defences/retaining walls. However, below ground remnants of it may survive. Sections of the route of this asset run through areas of the redline boundary of the

- Site. Dotted along the wall, the 1895 OS map also records the presence of navigation lights (beacons) and mooring points. Again, these are not present today but again below ground remnants may survive. A number of these assets (SMR6050, 6051, 6056, 6057, 6058, 6059 and SMR6065) sit within the redline boundary of the Site.
- 17A.6.89 Further to the east, beyond the River Tees, another reclamation wall (SMR5602) is recorded on OS mapping dated to 1895 as running from Normanby Jetty to South Gare. The area is now heavily developed and only a small section of the bank remains visible.
- 17A.6.90 The Darlington Section of the North Eastern Railway also runs through the Study Area east of the River Tees (SMR5908). Originally the Stockton and Darlington Railway the track was built in the early 1800s (visible on mapping of 1895) to connect the Coalfields of County Durham with the docks and ironworks of Tees, moving both passengers (again often people employed in the industrial work of the area) and freight. The railway underwent a number of renovations and re-routing and changed ownership (to North East Railways) in 1863. The current, extant, arrangement of the track is still in use today and those sections which were re-routed (and so are no longer in use) are visible in the landscape as remnant embankments and earthworks.
- 17A.6.91 A number of tramways connected into this railway feeding the industry of the area into the rail network (SMR5708, 5715 and SMR5732). These are all visible on the OS maps of 1895, and are still visible on maps of 1955, however they are gone by 1985 and are visible today only as occasional marks in the landscape, and only where they have not been built over by modern industrial, housing and road developments.
- 17A.6.92 Stations were constructed along the length of the railway, the site of four of which sit within the Proposed Development Site. This includes Lazenby Station (SMR5688) constructed in 1846, closed in 1864. Eston Grange (SMR4360) constructed in 1885 and closed in 1991 (also called Grangetown), and Lackenby Station (SMR5647). This station sits c.600 m to the north of Eston Grange and other than the presence of a small station being marked here on the map of 1857 little is known of it. It is possible it was replaced by Eston Grange in 1885.
- 17A.6.93 None of these stations have extant above ground remains, however it is possible that below ground remains may still exist.
- 17A.6.94 This rail infrastructure was designed to feed the industry of the area with workers and products it needed (chiefly Iron ore and coal) and move the products of the works out into the wider region and to the docks for wider distribution. Remnants of these industrial activities that are present within the Proposed Development Site are described in Table 17A-3.

Table 17A-3: Features located within the Proposed Development Site

SMR ID	NAME	DESCRIPTION/COMMENT
5659	Lackenby Ironworks	Built in 1871 to the south of the trainline and likely associated with SMR5652. Seen on mapping of 1895. Now no longer visible above ground (covered in areas of modern industrial development).
5652	Spoil heap	Recorded on mapping of 1895, north of the railway and likely the result of the Lackenby Ironworks, now under the Corus Steelworks.
5658	Reservoir	A reservoir seen on mapping of 1895 and likely associated with Lackenby Steelworks (sitting within the south east extent of this former site).
5653/5654	Brickyard (5653) and Concrete works (5654)	Seen on mapping of 1857. Adjacent to and west of the Lackenby Ironworks and Lackenby Station. Possibly associated with the construction/use of the ironworks, the railway or the adjacent Lackenby Station. Recorded as a concrete works in 1895 mapping. No longer visible above ground. Likely associated with SMR5649 and 5646.
5649	'Brickfield'	Brickfield noted in mapping of 1857 – likely associated with the brickyard c.300 m to the north-west. Now a built up area.
5646	'Claypit'	Located c.500 m to the south west of 5653 and likely associated with it. Seen on mapping of 1895 where it is quite extensive. Now a built-up area
5709	Coatham Ironworks	Adjacent to and north of the railway. Constructed 1873 and visible on mapping of 1895. Consisted of two furnaces. This site, along with Redcar Ironworks (5711), was one of the most significant iron and settle works in the area. Both remained in operation until the late 1990s (under British Steel PLC) becoming part of the Corus Group in 1999. The plants struggled economically in the early 2000s and were permanently moth balled in 2015. The plants were demolished in 2022. The site is now an open brownfield site within which traces of the Ironworks are still visible.
5710	Reservoir	Associated with SMR5709, (not visible).

SMR ID	NAME	DESCRIPTION/COMMENT
5711	Redcar Ironworks	Opposite Coatham Iron Works, south of the railway. Constructed in 1874 and visible on 1895 mapping. Closed in 2015 and demolished in 2022 (see Coatham Iron works, SMR5709).
5632	Spoil heap	Visible on mapping of 1895. A small part of this just sits within the Proposed Development Site. It is likely associated with the site of the Cleveland Steel works (SMR5633, constructed 1874-1876, demolished in the late 1990s) which it sits north of (on the north side of the rail track). The site of the steelworks itself does NOT sit within the redline boundary of the Site and sits to the south of the rail track. The site of the spoil heap is now partially covered by a modern industrial development.
4048	Meggitt's Pond/Issac's Pond	A dog leg pond is labelled on the OS map of 1857, which becomes Isaac's pond by 1895 when it appear to have been expanded – it is likely the site of a clay extraction pit. It sits just on the eastern edge of Proposed Development Site, the western edge of the feature just extending into the Proposed Development Site.

- 17A.6.95 A mill race (SMR5716) – which is, in fact, most likely a drainage channel, is recorded on the OS map of 1857. It runs north from 'Main dyke' (Kirkleatham) to 'The Fleet'. The route of this drain is now largely built over, however a small portion of it remains visible in its middle. This asset (including the still visible element) sits within the Proposed Development Site.
- 17A.6.96 A duck decoy pond (SMR3775) is described in 1901. It is still visible today and sits within the Proposed Development Site.
- 17A.6.97 Within the wider Study Area a large number of assets are present which attest to the industrial, and agricultural use of the region during this period. Cleveland steelworks (SMR5633) – located on the southern edge of the Study Area, was constructed in the mid-1800s (1874 – 1876) and is visible on the OS map of 1895. It was connected to the Iron Mines at Eston Hills (SMR1122, outside of the Study Area) which were in production from 1850 to 1949, by the Eston Branch Railway line (SMR5626). This was opened in 1851 by the mining concern Bolcklow Vaughn to transport ore from its mines. The northern end of this line sits within the Study Area. A small gasworks (SMR5628) is recorded in the western edge of the steelworks. After undergoing some expansion in the early part of the 20th century, the steelworks were demolished in the late 1990s. However, areas of hardstanding remain, as do visible elements of foundations and surviving sections of two blast furnaces. The Eston Branch line is no longer extant, and much of its route has been built up. However, traces of it can still

- be seen in the landscape where the ground has not been developed. The site of the gasworks is now a modern industrial development.
- 17A.6.98 The site of Newport Iron Works (SMR1822) also sits just within the south-west edge of the Study Area. Now entirely built over by modern industrial works, the Iron Works were in production by 1872 and are seen on mapping of 1895.
- 17A.6.99 Iron was not the only industry within the Study Area at this period and salt production remained important. The Greatham Salt Company has been mentioned but a number of other salt production facilities existed. Cowpen Saltworks (SMR4301) is located centrally within the Study Area, just to the west of reclamation bank SMR8262 was short lived, active from 1885 – 1916, likely due to the drying out of the surrounding marshlands.
- 17A.6.100 Much of the rest of the salt production activity within the Study Area tended to be focused in the remaining marshy areas on the west bank of the River Tees on a bend of the River Tees opposite what is now Middlehaven and extending north west towards Haverton Hill. Saltworks here included Tennants Saltworks (SMR1221) founded in 1885. Still in operation in 1970 the exact date of the closure of the works is not recorded but it is not present on imagery from 1985. The area of the site is currently undeveloped and imagery from 2000 shows a number of earthworks present likely associated with the works.
- 17A.6.101 Approximately 150 m to the north of Tennants Saltworks, the Westfield Durham Saltcompany (SMR4420) was founded in 1888, becoming the South Durham Saltworks (SMR4300) in 1891. Again, the exact date at which the site was closed is not recorded however it is present on the 1938 OS map but gone by the 1950 map. Again, the site is currently undeveloped and possible earthwork remains can be seen on imagery of 2000. Numerous 'brine pits' and 'wells' surround both works and attest to their industry.
- 17A.6.102 The Tees Salt works (SMR4306) to the west of Haverton was established in 1888 and demolished in 1931. It is currently a modern industrial site.
- 17A.6.103 All these saltworks were served by the Port Clarence Branch railway (SMR4175). This was established in 1834 and is still in use today, running through the south west edge of the Study Area.
- 17A.6.104 The development of settlements noted during the medieval period also continue into this time. Numerous new buildings of this period are recorded at Cowpen Bewley, Greatham and Kirkleatham. This development includes many farmsteads and domestic dwellings but also a school at Cowpen Bewley (SMR9451 – now a residential development) and a chapel (SMR644, extant), almshouse (SMR4712, redeveloped) and school (SMR8120, extant) at Greatham, where 'Gods Hospital' was also renovated (SMR4713).
- 17A.6.105 A hospital is also built at Kirkleatham in 1674 (SMR234, redeveloped) as is a hall in 1623 (SMR236 demolished 1956 and now redeveloped) and an associated kitchen garden (SMR4040 – boundary walls partially remain in a dilapidated state). Kirkleatham becomes an urban district in 1894 but is annexed by Redcar in 1899.

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- 17A.6.106 Redcar and Coatham expanded significantly during this period and much of the housing at Redcar and Coatham date to this period as they became fashionable seaside resorts. Piers were built for both towns in the 1870s (although that at Coatham was almost wrecked by a shipping accident in 1898, after which point it was allowed to disintegrate).
- 17A.6.107 A small settlement (SMR4671) is created at Warrenby, on the northern edge of the Study Area, in 1870 for the workers of the Coatham and Redcar Ironworks. The settlement takes the form of a single street, Tod Point Road, with dwellings on either side. There was a Mission Chapel and Wesleyan Chapel. Nothing of this village now
- 17A.6.108 During the post-medieval period the Study Area undergoes significant change and development. The discovery of iron in the Eston Hills creates an industrial boom as ironworks develop along the shipping route of the River Tees and infrastructure in the form of railways spring up to serve this and transport the products produced. At the same time, the increase in infrastructure allows traditional industrial practices i.e., salt production, to expand and become more industrialised. This increase in industry attracts population into the area and settlements expand – some such as Hartlepool growing from little more than a hamlet to a major town, whilst new settlements such as the workers town at Warrenby are created specifically to house those coming into the area. All of this is accompanied by a changing topography as more and more land is reclaimed around the banks of the River Tees.
- 17A.6.109 However, there is also decline. The drying out of the marshlands reduces the available area for salt production and whilst some saltworks thrive, others such as the Cowpen works do not. The enclosure of land from the late 1700s onwards which denied people the common land previously used for growing crops and grazing would have had a significant social impact, forcing people to move from the countryside into towns to find alternative subsistence means. Issues such as this may have contributed to the collapse of small rural villages in the area, such as Lazenby and Lackeby which collapsed almost completely at some point during this period. Even the village of Wilton which saw significant new building during this period is all but abandoned by the end of the period.

Modern (1901 – Present)

- 17A.6.110 The first half of the 20th century is dominated by wars and the production of material need to prosecute these wars. In Teesside, these wars are represented by a continued increase in output of goods needed for the war efforts – chiefly steel and coal. This generated an increase in industrialisation and a commensurate increase in population in the area as a larger workforce was required – leading to the growth of settlements in the area. World War I left little mark on the landscape; however things are very different with WWII. Due to the strategic importance of the north east coast during the wartime, WWII military remains are well represented along the north east coast.
- 17A.6.111 As industry on Teesside developed the smaller companies which owned and ran the steel works in this area began to amalgamate with a smaller number of larger firms emerging in the second half of the 20th century, one of the largest of these being Dorman Long who now owned the Coatham Ironworks (SMR5709) and the Redcar
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Ironworks (SMR5711) which began production in the late-19th century. These companies are nationalised into the British Steel Corporation under Labour in 1967, which was then privatised by the conservative government into British Steel Plc in 1988. Both assets are located within the Water Connections Corridor and while the site of Coatham Iron Works has been developed extensively, aerial imagery suggests that foundation remains of Redcar Iron Works survive within the Proposed Development Site.

- 17A.6.112 The economic climate of this period meant that lot of steel manufacturing plants (along with many other heavy industries in the UK) were struggling and a number of them closed. By the early 2000s the remaining Teesside steel works were failing and British Steel Plc merges with Netherlands based steel maker Koninklijke Hoogovens to form Corus Group. However, the company continues to struggle and despite a number of buy outs and rescue packages throughout 2007 – 2019 British Steel collapses going into insolvency in 2019. The Redcar Blast Furnace, which had been mothballed since 2015 is finally demolished in 2022, following many of the other Iron and Steel works in the area (such as the Cleveland Steelworks (SMR5633)). The site is currently an undeveloped brownfield site within which the traces of the works can be seen. It sits within the Proposed Development Site.
- 17A.6.113 Iron and Steel manufacture are the not the only industries to suffer in this area in the latter half of the 20th century, Shipyards such as Furness (SMR4834) and Graythorpe (SMR6227) built in the 1920s are closed by the 1970s. The Billingham Anhydrite Mine (SMR6099) follows a similar pattern. However, some companies have thrived – such as Witon international, which opened as a chemical manufacturing plant in 1956. The site is still in use today having expanded its portfolio to cope with the changing times, being involved in such things as recycling, process research and energy generation. Indeed, the area has seen recent growth in industries connected to waste processing and recycling, energy generation and specialist fabrication.
- 17A.6.114 During the industrial boom of the first half of the 20th century population in the area increased, to supply the demand of the industrial works. Hartlepool and Middlesbrough both undergo significant growth and Billingham, which has been little more than a small market town expands massively in 1917 when the town was chosen to be site of a new chemical works. The villages of Greatham and Kirkleath continue to grow as do Coatham and Redcar. The latter two are no longer principally seaside resorts but become dormitory towns for people working in the steel industry.
- 17A.6.115 Along with this a number of new towns are developed (see below). However, as industry began to decline in the latter half of the 20th century, and air pollution from the area's heavy industries became more and more of a problem, a number of these workers villages became abandoned, eventually being demolished in the latter part of the 20th century. Many of the existing towns also begin to go into economic decline suffering from high unemployment rates.
- 17A.6.116 The vast majority of the cultural heritage assets within the Study Area, which date to this period, relate to the WWII fortification of the north east coast. The assets comprise anti-aircraft batteries, anti-landing obstacles, search light batteries, pillboxes, section posts, mortar emplacements, air raid shelters, barracks, command

posts, storage areas and bombing decoy sites. Bomb craters are also a common feature of the Study Area. Within the Study Area, 18 of the 22 assets from this period relate to WWII activity, as listed in Table 17A-4.

Table 17A-4: Second World War assets within the Study Area

SMR	DESCRIPTION
985	Large Pillbox (variant FW3 type 23). Currently extant.
3287	Type 23 Pillbox. Partially extant.
3289	Spigot mortar point, partially buried in 2010 by a footpath over the embankment within which it sits.
3602	WWII bombing decoy site (associated with 3623 and 3628) – intended to represent an aircraft landing ground or RAF satellite airfield.
3623	WWII bombing decoy site (associated with 3602 and 3628) – indented to simulate the flarepath lighting of permanent RAF stations as a lure to attack by night bombers.
3628	WWII bombing decoy site (associated with 3602 and 3623) – a fire-based decoy, fires would be lit to simulate sites already under attack, thus diverting enemy fire.
4366	WWII bombing decoy site – a fire-based decoy. Site is now a brine field.
4367	WWII bombing decoy site – a fire-based decoy. Possibly identified (as a series of concrete post) by archaeological survey in 2003.
4375	WWII bombing decoy site – a fire-based decoy. It is associated with two military buildings (SMR3288 and 6178) which sit c.40 m to the west – placing them beyond the redline boundary of the Site.
4684	A surviving concrete base believed to represent the raft foundation of a WWII pillbox
5267	Surviving WWII air raid shelter. Semi sunken consisting of a series of precast concrete arches jointed together to form a long trench shelter. Wooden door frame also survives.
6092	Large square WWII section post (a hardened trench emplacement). Partially extant.
6845	Possible WWII bomb crater. Visible today as a pond in Cowpen Marsh.
6902	WWII section post. Partially visible.
6903	Site of WWII section post, demolished in 1972.

SMR	DESCRIPTION
8094	Site of WWII anti-aircraft battery. Originally consisted of a four gun emplacements associated with a group of ancillary buildings to the north which would have included barracks and offices. Site has been demolished and replaced by a modern chemical works.
8223	WWII Tank Traps. Two loose tank traps were noted dumped on an area of hardstanding at Cerebos Saltworks in the early 2000s. The original location of these traps could not be ascertained.
9532	Site of WWII anti-landing obstacle built as a series of concrete posts. No longer visible.

17A.6.117 At some point in the early 1900s a spur rail line was constructed which extended from Port Clarence north towards Greatham Creek, stopping just short of the Creek (SMR8717). It is seen on A Tees Conservancy Commissioners map of 1906 and on the OS map of 1916. A Tees Conservancy Commissioners map of 1938 indicated that it was intended to extend the line northwards towards Hartlepool, however this never happened. The purpose of this line was to provide additional connectivity for the industry active in the Study Area at this time. It is unclear how active the line was before it fell out of use. Whilst heavily overgrown much of the line is still visible today.

17A.6.118 SMR6099 is the site of the Billingham Anhydrite Mine, one of the new industries founded here in the early-20th century (1928). Located just to the west of Haverton Hills (within the southern tip of the Redline boundary of the Site), the mine was entered by shafts which were sunk as deep as 260 m and accessed an extensive underground network covering several square kilometres. The plant closed in 1971 and the mine was capped in 1978 although the below ground tunnels remain open. The site currently sits as an open brownfield site, surrounded by industrial works.

17A.6.119 In 1954 a new signal box (SMR4782) was built on the Darlington Section of the North Eastern Railway (SMR5908) c.400 m to the north east of the (at the time extant) Eston Grange Station (SMR4360). It was updated in 1984 and is still in use today.

17A.6.120 Asset SMR8864 is slightly unusual. OS maps of 1918 show the presence of a number (possibly five) of small structures located on 'Cote Hill' a small area of raised land in Cowpen Marsh, c.100 m north west of Greatham Creek, which was the site of a former Saltern. These structures were thought to be house boats and/or small wooden 'cuddy houses'. The number of structures present is seen to have increased in the 1968 OS maps. This small community of people living in house boats and cabins was documented by the photographer Ian Macdonald in the 1970s and at the time consisted of 11 houseboats, three timber cabins, 8 timber 'cuddy houses' and one brick cottage. A survey of the site in 1999 found only the remains of small areas of reclaimed land, reinforced ground and the remains of post settings, mooring points and jetty fragments.

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- 17A.6.121 The site of West Hartlepool Airport (SMR610) is located on the north west corner of the Study Area. The Airport was opened by the RAF in 1939 and continued to be used by them until 1947, after which point it continued in use as a civilian airfield until 1957. The site is now in mixed use. Areas of it appear to be open and relatively undisturbed, whilst steel works (most notably Liberty Steel Hartlepool) sit on other areas of it. Recent imagery shows that elements of the airport, including at least one of the runways, are still visible on the ground.
- 17A.6.122 The site of a WWII prisoner of war camp (SMR5361), which lies to the immediate east of Manor Farm, is in the south east of the Study Area. The camp was visible on aerial photographs taken in 1948 where it is seen to consist of approximately six small huts. The site was subject to geophysical survey in 1999 prior to the development of the Kirkleatham Business Park (Hale, D.N. 1999). This survey identified possible structural remains associated with the POW camp as well as a ring ditch of unknown date/function, evidence for medieval ridge and furrow activity and post medieval agricultural features. Currently the site is an open field, but development of the land to the immediate east of the site is ongoing.
- 17A.6.123 A prisoner of war camp for prisoners of World War I, is known to have existed at Port Clarence, just outside of the Study Area (SMR8442). The camp is listed under Accommodation of Prisoners of War as Camp (Hutted) by the War Office, Lands and Buildings Reconstruction Committee (1918). The exact location of the camp is not known but it is thought to have been located somewhere in the vicinity of the Allhusen Saltworks (SMR4421).
- 17A.6.124 The remaining, non-military assets, attest to the continued development of industry, transport infrastructure and settlement within the Study Area during this time.
- 17A.6.125 Asset SMR6227 located c.500 m to the north east of the northern edge of the Proposed Development Site, it site of the Graythorpe Shipyard. The site opened in 1924 on the western bank of the Tees, near its mouth. The Yard closed in 1963 when the company wound down. The site has since largely been cleared and is currently in use as a fabrication area, with only a small number of modern buildings present. As part of the construction of the shipyard, a small works settlement (Graythorpe Village – SMR8707) was built on the northern side of Tees Road c.350 m to the north west of the shipyard. The village consisted of several short terraces along of off Graythorpe Road, with a school, a playing field and a club. The village lasted no longer than the Yard and the settlement was cleared by the early 1980s and is now a combination of open space and industrial units.
- 17A.6.126 Another shipyard (Furness Ship Yard – SMR4834) was established at Haverton Hill, on the north bank of the Tees (c.800 m to the south of the Proposed Development Site) in 1917. Its position on the bend in the river allowed easy launching in fairly deep water near to the river mouth. The low-lying marshland was initially reclaimed with up to 14 feet of slag and ash. The yard continued in use into the 1970s when the bulk of orders were for oil carriers. The yard closed in 1979 and both the site the slipways remain empty. A blacksmiths (SMR4908) was associated with the yard and the brick buildings which housed this (to the east of the yard) still exist today and re in use as a welding and fabrication workshop. Lord Furness established Belasis Garden Village
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in 1921 to house workers at the Furness Ship Yard. The village (SMR4477, located c.2 km to the north-west of the yard and c.1 km to the north-west of the Proposed Development Site). The new village took the form of a main road (Cowpen Lane) bisecting two concentric crescents on each side (Essex and Warwick Crescents to the west and Devon and Lincoln Crescents to the east). The land between the crescents was built up with back to back housing. The village initially consisted of 531 houses. The village went in to decline following the 1930s recession and the closure of the shipyard. The whole area was demolished in 1970s due primarily to the effects of industrial pollution. Today the layout of the garden village still exists but all the houses are new, the site being a suburb of Billingham/Cowpen Bewley.

17A.6.127 Cleveland Steelworks (SMR5633, located to the south-east of the Study Area, c. 550 m to the west of the Proposed Development Site) underwent some expansion at this period with two new Bessemer blast furnaces being built (SMR1831). Furnace number 5 was built in 1937 and closed in 1986. Furnace number 4 was built in 1991 and closed in 1993. The site closed completely in the late 1990s and is now demolished. However, the site remains undeveloped and traces of the steelworks, including traces of these furnaces, can still be seen in the ground.

17A.6.128 Dormanstown (SMR3290, located on the north-east edge of the Study Area) was built in 1917 by Dorman Long to house the workers of the Dorman Long Iron and Steel works (at this time the biggest iron and Steel company in the area). Initially the village housed 342 families and gained a school in 1926 (SMR6922 and 6923) – which is the site of the current school. All Saints Church was built in 1935 as was a Methodist chapel, with St Williams Catholic Church being completed in 1939. The village continued to grow as industry in the area developed, having a population of 4,650 in 2021.

17A.6.129 The settlement north of Haverton Hill (SMR4833) which had undergone development during the post medieval period, was focused on the junction of Cowpen Bewley Road and Haverton Hill Road. The settlement appears to have been established in the early-19th century following the construction of coal staithes at Port Clarence (SMR4182), and a forge (SMR4180) and glassworks (SMR4181) at Haverton Hill itself. The settlement was in decline by the 1850s with 27 of the 73 houses lying empty. The Glassworks closed in the 1860s creating greater poverty in the area. This was soon redressed with the building and expansion of the Port Clarence Iron Works (SMR 4183) 1853. Prosperity returned to the settlement in the 1880s with the establishment of various salt workings on this bank of the Tees. This prosperity boomed in 1917 with the construction of the Furness Ship Yard at Haverton Hill (SMR4834) and a coal depot on the southern edge of the village (SMR8796). This led to the construction of a new workers estate at Cowpen Lane/Belasis Avenue. This consisted of 564 houses and a hostel that housed 500 workers. This initial boom led to overcrowding which in the depression of the 1930s led to Haverton Hill become a slum area. Despite the revitalisation of the ship building industry following WWII the fortunes of the settlement worsened as pollution from newly established chemical industries made life unbearable. Houses became abandoned and remained empty until the wholesale demolition in the site in the 1960s. Until the early 2000s there were no dwellings at Haverton Hill, it consisted of a small number of commercial

properties only. Since this time a small housing development has sprung up the east of the village along Port Clarence Road. (Owens 1995; Cleveland Federation of Women's Institutes 1991).

17A.6.130 The modern history of Teesside is very much one of boom and bust. Early industrial development enabled by the discovery of iron ore, aided by parallel innovations (such as the advent of rail transportation) and fuelled by the demands of two World Wars creates a boom which draws significant population to the area and encourages tremendous regional growth. However, as demand for the main industrial product in the area decreases in the latter half of the 20th century, compounded by market prices, foreign competition and the political landscape in the UK, the industries decline. This creates an economic crisis for the population they supported resulting in the decline of local towns and a decrease in populations. This story is very much reflected in the archaeological record of the Study Area during this period.

17A.7 Overview of Modern Disturbance

17A.7.1 The Main Site formed part of Bran Sands historically, and slowly saw increasing levels of development from the late-19th century onwards, starting with tramways from various industries including Redcar Iron Works, transporting materials through the Site to and from Redcar Jetty.

17A.7.2 Made Ground deposits have been mapped across the entirety of the Main Site, except for the northeast extent of the Main Site. This is displayed in the 1:10,000 mapping displayed in the Groundsure report (Appendix 10A: Geology, Hydrogeology and Land Contamination Desk Based Summary Report, PEI Report, Volume III). Based on previous GIs completed across the Main Site and in the adjacent Net Zero Teesside (NZE) site to the southeast of the Main Site, extensive Made Ground deposits are anticipated. These deposits are predominantly composed of slag-dominant material, a stony waste matter separated from metals during the smelting or refining of ore – in this case from iron ore, and other waste materials that are derived as waste products from the long industrial history of the Main Site. Previous geotechnical investigations within the NZE site demonstrated that the depths of made ground varied across the site, with an average thickness of 4.7 m.

17A.7.3 Information derived from historical boreholes within the Main Site confirm the presence of Made Ground, which is described as a black sandy gravel, with inclusions of slag, concrete, black and clinker with a notable hydrocarbon/creosote odour. The deepest layer of made ground was recorded as 7 m, with an average thickness of between 4 m and 5 m across the Main Site. The Made Ground sealed deposits of sand and glacial till but deposits with an organic content were not present.

17A.7.4 The Made Ground within the Main Site derives from years of industrial waste material being dumped across the area to enable subsequent development. Recognising the impact caused by the construction of buildings and industrial structures within the Main Site, the dumping of industrial waste to consolidate and raise ground levels may have compacted any subsurface remains present but would not necessarily have removed (or truncated) them entirely. Though not recorded in the historical exploratory logs carried out across the Main Site, Blown Sands have been mapped to

close to the north of the Main Site. The Blown Sands are described in the Groundsure Report as deposits of sand that have been blown by the wind, which if present would overlie the Tidal Flat Deposits.

- 17A.7.5 Deposit modelling for the NZT site to the south-east of the Main Site recorded the deposit sequence beneath the Made Ground as comprising post-glacial estuarine sand between 4 m and -10 m aOD, sealing Glacial Till which was recorded between approximately -5 m aOD and -20 m aOD. It is likely that this sedimentary sequence extends into the Main Site.

17A.8 Site Walkover

- 17A.8.1 A site visit covering some of the Proposed Development Site was undertaken on 20 April 2023. Beyond the Proposed Development Site, the site visit included consideration of the wider setting of surrounding heritage assets. The principal areas and assets visited are described below.

Greatham and Cowpen Bewley Conservation villages

- 17A.8.2 The villages of Greatham and Cowpen Bewley, the cores of which are conservation areas, lie to the north and west of the Proposed Development Site. Both consist of linear villages, tightly developed around central roads. This form of development suggests both have medieval origins, with this 'strip' form remaining legible today. The tightly packed buildings within both settlements create an intimate and insular experience in both locations, with no meaningful longer views experienced from within either village. From within both villages, views guided along the main axis of settlement are the most prominent and include attractive views guided by a patchwork of historic buildings, as well as newer buildings built in styles that are sympathetic to the areas' characters (Plate 17A-17A-1 and Plate 17A-2).



Plate 17A-1: View to the west from the eastern end of Cowpen Bewley, demonstrating the linear development and open green



Plate 17A-2: Typical view within Greatham, facing north-west. Note linear development enclosing and directing views

- 17A.8.3 Prominent buildings, mainly listed, play a strong role defining the character of both settlements, providing an element of architectural and historical interest to both conservation areas. Within Greatham, the settlement's historic connections to notable individuals are reflected by the presence of the Grade II listed Greatham Hospital (NHLE 1249889) (Plate 17A-3), Hospital Chapel (NHLE 1249890) and the impressive Grade II* Church of St. John the Baptist (NHLE 1263522). Within Greatham, these impressive institutional buildings form a distinct grouping at the village's south-west side. Lying within surroundings surrounded by mature trees, they occupy a secluded setting where longer views are obscured, creating an intimate experience of the buildings (Plate 17A-4).
- 17A.8.4 Within the main street, other listed buildings are experienced as a part of the wider streetscape, collectively providing a sense of the village's strip development, and the varied architectural periods which have contributed to its built environment (Plate 17A-2). Again, longer views are generally obscured and play no significant role in the appreciation of the area.



Plate 17A-3: View of Grade II listed Greatham Hospital, facing north-east, demonstrating the insular, private setting with no long-range views



Plate 17A-4: Typical view within the churchyard surrounding the Church of St. John the Baptist, illustrating secluded setting

- 17A.8.5 With regard to wider views, and views that introduce change as the viewer moves through the landscape, two particular views contribute to an appreciation of the setting of Greatham. On approach from the west of the village to the west of Greatham Bridge and the valley of the Greatham Beck, the village can be viewed as a linear development sitting on a low spur of ground and overlooking lower ground to the south (Plate 17A-5). Although almost entirely shrouded by tree cover, the village is marked by its prominent church tower, which, although overtopped by pylons, serves to provide a prominent visual marker that locates the village. Surrounding open farmland to the west and south continues to provide an historic functional context for this rural settlement, whilst industrial Teesside is visible to the south.



Plate 17A-5: View toward Greatham from the west of Greatham Bridge, facing south-east. Note prominent church tower amongst thick tree cover

- 17A.8.6 In terms of views away from the conservation area, those gained from the southern tip of the village provide the most interest in terms of appreciating the wider rural setting of the village, as well as its topographic location on higher ground, and its juxtaposed proximity to urban, industrial Teesside. The view south from the southern extent of Greatham takes in the falling ground levels which leads the eye across open farmland and a network of hedgerows which lead to the tall industrial structures of Teesside, with a network of pylons crossing the view (Plate 17A-6). Here, the Grade II* listed Transporter Bridge (NHLE 1139267) is clearly visible, set against the backdrop of the Cleveland Hills, and representing a prominent visual identifier of Middlesbrough.



Plate 17A-6: View south from Greatham village. Note Transporter Bridge at left of view with Cleveland Hills forming a visual backstop.

- 17A.8.7 At Cowpen Bewley a similar view is gained looking south-east from the edge of the village, along Cowpen Bewley Lane as it leaves the village southward (Plate 17A-7). Here, an open view across pasture fields containing ridge and furrow, indicative of the area's farming heritage, provides a strong experience of the historic functional setting of the village. The ridge and furrow within the fields is barely visible on the ground, but clearly present on LiDAR imagery of the area (Plate 17A-8).
- 17A.8.8 The prominent presence of the silhouettes of the Transporter Bridge and Roseberry Topping provide a clear visual sense of place against a strong visual backstop of the Cleveland Hills (Plate 17A-7). Views towards the village are generally obscured, or contain much modern visual clutter, providing little contribution to the significance of the conservation area.



Plate 17A-7: View south-south-east from Cowpen Bewley, across open fields containing ridge and furrow. Note Transporter Bridge and the peak of Roseberry Topping prominent in the view



Plate 17A-8: Excerpt from Environment Agency LiDAR data, showing pattern of historic ridge and furrow cultivation surrounding Cowpen Bewley

Proposed Development Site North of the Tees

- 17A.8.9 Much of the Proposed Development Site and Study Area north of the Tees is made up of low-lying agricultural land or reclaimed coastal saltmarsh in current or historic industrial use. No obvious views of significant heritage assets are present within the footprint of the Proposed Development Site, and limited heritage interest is represented by isolated, discrete features.
- 17A.8.10 At the eastern side of Seaton Carew Road, brine fields lie to the south of Greatham Creek, within an area of partially reclaimed salt marsh. Within the part of the Proposed Development Site that falls within this area, the embankment of the Greatham Creek Branch of the North Eastern Railway, built after 1897 and dismantled by 1946, survives as an upstanding earthwork. Located within shallow excavations made into the embankment, two Second World War concrete emplacements survive at NZ 50937 24965 and NZ 50940 25021.
- 17A.8.11 The southern-most structure is described in the Defence of Britain (DOB) archived database as a section post (DOB Ref. S0006050). A large, square, concrete structure, open at the centre, with embrasures in each face. There are eight embrasures in its east face, and presumably a similar number in the other faces, making a total of 36 embrasures (Plate 17A-9).



Plate 17A-9: Second World War section post within former railway embankment, facing south-west

- 17A.8.12 To the north of the section post is a small, square concrete pillbox (DOB Ref. S0006049), with a doorway and embrasure on its west side, a large embrasure in the north face and a small embrasure in its east face (Plate 17A-10, Plate 17A-11).



Plate 17A-10: Small, square pillbox at northern extent of former railway embankment, facing north-east



Plate 17A-11: View of both emplacements, facing west

- 17A.8.13 A number of other extant features of Second World War coastal defence survive in the surrounding area but could not be accessed due to access constraints. These include a series of emplacement features survive along the south side of Greatham Creek, and along a former coastal embankment extending south from the mouth of the Greatham Creek between NZ 51685 25492 and NZ 51550 23722. This former coastal defence embankment lies in line with the former railway embankment, suggesting the fortification of both was intended to take advantage of these fortuitously placed parallel earthworks, forming a layered line of defence with flat, open ground between.

Proposed Development Site South of the Tees

- 17A.8.14 South of the Tees, the site visit included the area surrounding the northern side of the existing Redcar Bulk Terminal, in the area to the east and south-east of Bran Sands. The overwhelming majority of this area is marked on historic Ordnance Survey mapping as coastal sands throughout the 19th century, with greater and greater areas being reclaimed for industrial use throughout the 20th century. The area around, and within, the current site of Redcar Bulk Terminal can be clearly seen to have been reclaimed through the dumping of infill material to raise its height above sea level. For much of the site area, this material is finished in a consistent, man-made slope at its north-western extent (Plate 17A-12), where it meets the current extent of Bran Sands at the margin of the river estuary.



Plate 17A-12: View south-west along the edge of Bran Sands, showing battered edge of made ground underlying Redcar Bulk Terminal

- 17A.8.15 However, where it has been eroded it is possible to note the make-up of the ground is an imported material (Plate 17A-13). The thickness of this imported material appears to be variable, between 4 and 8 m. No historic features were notable within this area of made-ground, or within the existing Redcar Bulk Terminal site, although various historic landscape features, including Second World War coastal defence emplacements, are known to exist within Coatham Dunes to the east and north-east.



Plate 17A-13: Eroded edge of made ground at Bran Sands. Note clearly imported material raising height of the area of former coastal sands

Coatham Conservation Area

- 17A.8.16 Coatham Conservation Area comprises the single-row settlement of East Coatham and the better-preserved parts of the mid-to late Victorian planned settlement and retains a layout which reflects the settlement's medieval origins. The buildings in the conservation area principally comprise two storey Victorian and Edwardian houses with bay windows, boundary walls and gate piers which are a prominent characteristic of the streetscape. Due to the built-up nature of the area, there are limited views out of the conservation area, but views from its western edge, framed by the linear arrangement of the buildings along York Road, do extend as far as the Proposed Development Site where the sight of industrial buildings form a backstop to views out.

Middlesbrough Transporter Bridge

- 17A.8.17 It was noted during the site visit that the Grade II* listed Middlesbrough Transporter Bridge (NHLE 1139267) can be seen in extensive views across parts of the Proposed Development Site and Study Area, particularly from areas north of the River Tees.
- 17A.8.18 These extensive views are facilitated by the low level of development around Saltholme, in an area bounded at its eastern side by Seaton Carew Road, and at its west by Cowpen Bewley Road and the A1046. Here, relatively undeveloped land extends close to Port Clarence, opening longer views of the bridge in its context, which are rarely possible from elsewhere in the Tees valley. The most significant of these views is that gained from south of Cowpen Bewley, where the bridge can be

seen in profile, against a backdrop of the Cleveland Hills and the landmark silhouette of Roseberry Topping (Plate 17A-14); features that are strongly associated with the character and history of Teesside. Views of the bridge from areas closer to Seaton Carew Road are less significant, showing the bridge end-on, and often surrounded by a wire-scape of overhead power lines.



Plate 17A-14: View along Cowpen Bewley Road facing south east, from just south of Cowpen Bewley, showing an uninterrupted view of Middlesbrough Transporter Bridge with Roseberry Topping (to the left) and the Cleveland Hills as a backstop

17A.9 Assessment of Potential

17A.9.1 The following provides a summary of the archaeological potential of each part of the Proposed Development Site based on the information collated for this DBA.

Main Site

17A.9.2 Historic map evidence shows the presence of 19th century tramways within the footprint of the Main Site. Access to this area for the site walkover has not been granted but, recognising the history of development at the Main Site, it is presumed that these features are no longer extant and exist only as records. There remains a potential for more recent industrial features to be present within the Main Site that may be of local or potential regional industrial heritage interest, but this potential is assessed to be low.

17A.9.3 The Main Site Geotechnical information for the Main Site confirms the depths of extensive made ground deposits across the site, sealing post-glacial sands and glacial till. Historically the Main Site was located in Bran Sands and the environment would not have been conducive to long-term or permanent settlement, but its resource-rich

environment would have provided excellent hunting grounds for earlier communities. There is a low potential for artefacts associated with temporary activities to be present within the Main Site, embedded within modern made ground, but it is assessed there is negligible potential for settlement archaeology to be present.

Natural Gas Connection Corridor

- 17A.9.4 This part of the Proposed Development Site has seen significant levels of development and ground disturbance since the late-19th century. The only record on the HER within the corridor comprises the site of the 19th century Normanby Jetty to South Gare reclamation wall (5602). The reclamation wall is no longer extant.
- 17A.9.5 The history of development has likely removed features relating to 19th century industrial structures. This part of the site has been occupied most recently by ancillary structures associated with the Redcar Blast Furnace, which are being demolished and as part of a separate scheme and were included in a programme of building recording. The potential for features of heritage interest to be present within the site is assessed to be negligible.

Hydrogen Pipeline Corridor

- 17A.9.6 Romano-British settlement archaeology has been recorded within the Hydrogen Pipeline Corridor at the site of an operational energy plant, Saltholme Statera, to the west of the A1185. It is possible that further settlement-related remains, or features relating to activity in the periphery of the settlement, are present within Hydrogen Pipeline Corridor and the potential is assessed to be medium to high.
- 17A.9.7 Late-19th century historic maps show the location of Redcar Iron Works (5711) and Coatham Iron Works (5709) within the northern part of the Hydrogen Pipeline Corridor. Site access has not been granted to confirm the presence or absence of remains associated with these assets, but the site walkover will be completed for the ES. Historical map evidence shows that the site of Coatham Iron Works has been developed extensively throughout the 20th century, with iterations of different industrial structures occupying the site of the former works. Aerial imagery, including LiDAR, shows no evidence of potential features associated with the former works and it is assumed that subsequent development have removed all trace of the asset.
- 17A.9.8 Aerial imagery (Plate 17A-15) and LiDAR (Plate 17A-16) of the area of Redcar Iron Works shows the remains of sidings and also the remains of structures which may represent furnace bases. The degree of preservation would need to be confirmed by a walkover survey but, based on the desk-based evidence, there is a presumption that remains do exist and therefore the potential is assessed as high. The preservation level of the remains would influence their heritage value, which derives from their archaeological and historical interests, but it is assumed they would be at least of local importance.
- 17A.9.9 At the eastern edge of the Hydrogen Pipeline Corridor and to the south-west of Coatham Marsh is a series of medieval salt mound features that relate to salt production. The extraction of salt from seawater was a major industry in the medieval period and numerous salt mounds, identified as earthworks, have been recorded from historical maps and aerial photographs around Coatham Marsh. The salterns

have the potential to be of regional importance, and therefore medium heritage value, deriving from their archaeological and historical interest associated with salt production. However, due to the history of development and ground disturbance in this area, there is unlikely to be any subsurface remains associated with historical salt production. The potential for features to be present associated with medieval salt production is assessed to be negligible.



Plate 17A-15: Google Maps © 2023 showing the curving lines of former railway sidings and possible furnace bases circled



Plate 17A-16: LiDAR imagery showing extent of railway sidings and structural foundation remains of Redcar Iron Works

Electrical Connection Corridor

- 17A.9.10 The known heritage assets within the Electrical Connection Corridor relate to the sites of former industrial features which are no longer extant, or assets that still exist, such as Grangetown signal box (4782). The majority of this part of the site is occupied by the A1085 carriageway and railway sidings. The potential for features of heritage interest to be present within the site is assessed to be negligible.

Water Connection Corridor

- 17A.9.11 The site of the deserted medieval village of West Coatham (355) is located within the Water Connection Corridor. Earthworks associated with the village are visible on the OS map dated 1884, but the site has been developed extensively through the late-19th and 20th centuries and surface features are no longer present. However, depending on the extent of ground disturbance, there is a potential for deep features to be present such as wells or waterholes. The potential is therefore assessed as low.

17A.10 Next Steps

17A.10.1 The following actions will be carried out to finalise the baseline conditions for heritage assets and inform the assessment to be presented within the ES:

- additional walkover surveys of the Proposed Development Site;
- geophysical survey of suitable areas where archaeological potential has been identified, specifically the fields adjacent to the Romano-British settlement at the energy plant, Saltholme Statera, to the west of the A1185, and the fields to the north and south of Cowpen Bewley (as outlined in Chapter 17: Cultural Heritage, PEI Report, Volume I);
- stakeholder engagement will continue with archaeological advisors and conservation officers as the Proposed Development progresses to discuss the assessment findings and agree a proportionate scope of mitigation.

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