

15 ARCHAEOLOGY AND CULTURAL HERITAGE

15.1 Introduction

- 15.1.1 This section of the ES describes the existing environment with respect to the historic environment (archaeology and cultural heritage), and includes an assessment of the potential impacts of the construction, operation and decommissioning phases of the proposed scheme on the known archaeology and cultural heritage resource, including individual heritage assets.
- 15.1.2 Where considered appropriate, proposed mitigation measures are detailed and residual impacts are assessed.
- 15.1.3 Baseline information has been drawn from a range of sources, including an Archaeology and Heritage Desk-Based Baseline Appraisal Report (Technical Note) produced for the Harbour facilities (and MHF) (Royal HaskoningDHV, 2014a) (**Appendix 15.1**). The Technical Note was informed by an updated search of the Historic Environment Records (HER) (specifically from the Redcar and Cleveland HER and the National Heritage List online) relevant to the scheme and established the main heritage assets requiring further consideration and assessment within this section of the ES.
- 15.1.4 This section has also been compiled using existing archaeology and heritage baseline information and reporting obtained from the various development proposals in the immediate area, including the NGCT, Tees Renewable Energy Plant, QEII Berth Development and Tees Dock No. 1 Quay. The proposal to utilise existing information (as far as it is applicable) was outlined within the Environmental Scoping Report (Royal HaskoningDHV, 2013) (**Appendix 4.1**) and confirmed as acceptable within the PINS Scoping Opinion (PINS, 2014) (**Appendix 4.2**).
- 15.1.5 Much information has been drawn from, and can be found within, the Cultural Heritage Desk Based Assessment produced for the NGCT (AOC Archaeology, 2005) (**Appendix 15.2**).
- 15.1.6 Additional (up-to-date) record searches were requested in December 2014 of the Tees Archaeology HER (covering SBC) and the National Record for the Historic Environment (NRHE) to ensure that all known and recorded heritage assets had been considered as part of the EIA.
- 15.1.7 This section satisfies Regulation 5(2)(m) of the Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009.

15.2 Legislation, policy and guidance

- 15.2.1 Further detail on relevant legislation, policy and guidance is included in the Technical Note (**Appendix 15.1 – specifically Section 3**). Summaries of those most relevant to the proposed scheme are provided below.

NPS for Ports

- 15.2.2 Section 5.12 (Paragraph 5.12.1) of the NPS for Ports (Department for Transport, 2012) states that the construction, operation and decommissioning of port infrastructure has the potential to result in adverse impacts on the historic environment. As part of an ES, Paragraph 5.12.6 of the NPS states that the

applicant should provide a description of the significance of the heritage assets which have potential to be affected by the proposed scheme, and the contribution of their setting to that significance. The level of detail should be proportionate to the importance of the heritage assets and no more than is sufficient to understand the potential impact of the proposed scheme on the significance of the heritage asset. As a minimum, the applicant should have consulted the HER, and additional information held by English Heritage about heritage assets in English waters where relevant, and assessed the heritage assets themselves using expertise where necessary.

- 15.2.3 Paragraphs 5.12.7 to 5.12.9 of the NPS state that where a proposed development site includes (or has potential for) heritage assets, the applicant should carry out a desk based assessment and, where the desk based research is insufficient to properly assess the interest, a field evaluation. The possibility of damage to buried features from disposal of dredged material should be taken into account. The applicant should ensure that the extent of the impact of the proposed scheme on the significance of any heritage assets can be adequately understood from the application and supporting documents.

National Planning Policy Framework

- 15.2.4 Designated and non-designated heritage assets are given protection under the NPPF. Provision for the historic environment is given principally in Section 12 'Conserving and Enhancing the Historic Environment' (paragraphs 126-141), which directs Local Planning Authorities to set out "a *positive strategy for the conservation and enjoyment of the historic environment, including heritage assets most at risk through neglect, decay or other threats. In doing so, they should recognise that heritage assets are an irreplaceable resource and conserve them in a manner appropriate to their significance*".

Protection of Wrecks Act (1973): Section One

- 15.2.5 Wrecks and wreckage of historical, archaeological or artistic importance can be protected by way of designation. It is an offence to carry out certain activities in a defined area surrounding a wreck that has been designated, unless a licence for those activities has been obtained.

Protection of Wrecks Act (1973): Section Two

- 15.2.6 This section provides protection for wrecks that are designated as dangerous due to their contents and is administered by the Maritime and Coastguard Agency through the Receiver of Wreck.

Ancient Monuments and Archaeological Areas Act (1979)

- 15.2.7 Under the terms of this Act, an archaeological site or historic building of national importance can be designated as a Scheduled Monument and is registered with the Department of Culture, Media and Sport (DCMS). Any development that might affect either the Scheduled Monument or its setting is subject to the granting of Scheduled Monument Consent. English Heritage advises the government on individual cases for consent and offers advice on the management of Scheduled Monuments.

Planning (Listed Buildings and Conservation Areas) Act (1990)

- 15.2.8 This Act covers the registration of Listed Buildings (buildings that are seen to be of special architectural or historic interest) and designation of Conservation Areas (areas of special architectural or historic interest the character or appearance of which it is desirable to preserve or enhance).
- 15.2.9 A Listed Building may not be demolished, altered or extended in any manner which would affect its character as a building of special architectural or historic interest without Listed Building Consent being granted. There are three grades of listing (in descending order):
- Grade I: buildings of exceptional interest;
 - Grade II*: particularly important buildings of more than special interest; and
 - Grade II: buildings of special interest, warranting every effort to preserve them.

English Heritage Register of Parks and Gardens in England

- 15.2.10 The Register of Parks and Gardens of Special Historic Interest in England is maintained by English Heritage and divides the sites into three grade bands similar to those used for Listed Buildings.

English Heritage Setting Guidance

- 15.2.11 The Setting of Heritage Assets: English Heritage guidance includes sections outlining the definition of setting, the extent of setting and setting and the significance of heritage assets. Section 2.2 states that:

“Setting does not have a fixed boundary and cannot be definitively and permanently described as a spatially bounded area or as lying within a set distance of a heritage asset. Views on what comprises a heritage asset’s setting may change as the asset and its surroundings evolve, or as the asset becomes better understood” (English Heritage, 2011).

Local Development Framework

- 15.2.12 Policy CS25 ‘Built and Historic Environment’ of the RCBC Local Plan states that:

“Development proposals will be expected to contribute positively to the character of the built and historic environment of the Borough.

The character of the built and historic environment will be protected, preserved or enhanced. Particular protection will be given to the character and special features of: a) Conservation areas; b) Listed buildings; c) Historic parks and gardens; d) Archaeological sites; and e) The historic landscape of the Eston Hills.

Development which preserves or, where appropriate, enhances the character of important historic buildings and sites and their settings will be encouraged’ (Redcar and Cleveland Borough Council, 2007).”

- 15.2.13 The vast majority of the DCO application boundary is located within RCBC. Part of the proposed dredging footprint, however, is within the area covered by SBC. The adopted Local Plan (1997) includes policies under the Environment Section within Objective 6, designed: ‘to protect the built heritage and the urban environment’ which also covers provision for and the protection of heritage and

archaeology, including EN 20 and EN 22 to 30. Although no direct reference to Maritime or Marine Heritage is made.

15.2.14 Also of note and relevant to historic environment considerations as part of the proposed scheme are:

- Marine Aggregate Dredging and the Historic Environment: Guidance note (BMAPA, English Heritage and Wessex Archaeology, 2003).
- Marine Aggregate Industry Protocol for Reporting Finds of Archaeological Interest (BMAPA, English Heritage and Wessex Archaeology, 2005).
- Ports: the impact of development on the maritime historic environment (English Heritage, 2006).
- Code of Practice for Seabed Development (Joint Nautical Archaeology Policy Committee, 2006).
- English Heritage Conservation Principles: policies and guidance for the sustainable management of the historic environment (2008).
- Protocol for Archaeological Discoveries Offshore Renewables Projects (The Crown Estate and Wessex Archaeology, 2010).
- Offshore Geotechnical Investigations and Historic Environment Analysis: Guidance for the Renewable Energy Sector (The Crown Estate and COWRIE, 2011).
- Institute for Archaeologists (IfA) Standard and Guidance for historic environment desk-based assessment (revised 2012).
- NPPF Planning Practice Guidance - Conserving and enhancing the historic environment (Department for Communities and Local Government, revised 2014).
- The Historic Environment in Ports and Harbours: Practical Approaches for the Assessment and Management of Marine Archaeology During Port and Harbour Development (Wessex Archaeology, forthcoming).

15.3 Consultation

15.3.1 **Table 15-1** provides a summary of comments received from PINS through their Scoping Opinion in January 2014 (**Appendix 4.2**) and during consultation under Section 42 of the Planning Act 2008, with respect to archaeology and cultural heritage.

Table 15-1 Summary of comments in the PINS Scoping Opinion and received during consultation under Section 42 of the Planning Act 2008 with specific regard to archaeology and cultural heritage

Consultation Comment	Response / Section of the ES in which the comment has been addressed
Scoping Opinion (January 2014)	
<i>Secretary of State</i>	
The Secretary of State noted that the archaeological assessment is to be based on existing data sources with further investigation proposed should the desk based study, baseline collation and walkover suggest further investigation is required. The Secretary of State noted that English Heritage is in general agreement with the applicants proposed approach.	Noted
The Secretary of State suggested that the need for vibrocore and borehole logs should be discussed with English Heritage and the archaeologist of the local host authority, to assess the potential for peat and organic raw materials.	This comment has been addressed through Cotswold Archaeology's ' <i>Geoarchaeological Stage 1 Vibrocore and Borehole Assessment</i> ' of logs generated by geotechnical contractors (see Appendix 15.3). This assessment has established a limited potential for the presence of horizons of archaeological and geoarchaeological interest and broadly characterised them. No further work has been recommended at this stage.
The Scoping Report acknowledges that the berth pocket dredging would take place in a location that is not subject to regular dredging and therefore there is the potential for unknown archaeology to be present. The applicant's attention is drawn to English Heritage's suggestion for the adoption of an archaeological reporting protocol to mitigate potential archaeological effects arising from dredging.	Section 15.6 and 15.9
<i>English Heritage</i>	
English Heritage stated there will be no impact on any designated Historic Environment assets for which English Heritage has a remit.	Noted
English Heritage suggested the adoption of an archaeological reporting protocol to mitigate potential archaeological effects arising from dredging. The Crown Estates protocol would be a good example of such a document.	Section 15.6 and 15.9

Consultation Comment	Response / Section of the ES in which the comment has been addressed
<p>English Heritage reiterated the need, as a matter of course (rather than if deemed appropriate) for all new vibrocore and borehole logs produced as a result of the works to be examined by a qualified geo-archaeologist to ascertain the presence / absence of peat or other organic raw materials.</p>	<p>Section 15.6 and Section 15.9</p> <p>This comment has been addressed through Cotswold Archaeology's 'Geoarchaeological Stage 1 Vibrocore and Borehole Assessment' of logs generated by geotechnical contractors (see Appendix 15.3). This assessment has established a limited potential for the presence of horizons of archaeological interest and broadly characterised them. No further work has been recommended at this stage.</p>
<p>Section 42 consultation</p>	
<p><i>English Heritage</i></p>	
<p>English Heritage reiterated that the proposed development will have no direct impacts upon any asset for which English Heritage has a national remit.</p>	<p>Noted</p>
<p>English Heritage advised that the applicant should liaise closely with archaeological consultants retained to give advice to Redcar and Cleveland Borough Council. They are best placed to advise on the potential impacts of the proposals on undesignated archaeological / heritage assets, and will also have a view of any requirements for a protocol for the recording of archaeological / palaeoenvironmental material recovered in the course of the dredging activities related to the project. (c.f Crown Estates: Protocol for Archaeological Discoveries: Offshore Renewables, December 2010).</p>	<p>A letter was sent to English Heritage (Dr. Rob Young - 02/11/14) in response to comments received confirming the following:</p> <p>That potential impacts on the setting of the Kirkleatham Conservation Area has been, and will be further, assessed as part of the EIA. This is also addressed in Section 15.6, and Appendices 15.1 and 15.4.</p> <p>Heritage setting assessment specific to the Wilton site was addressed under Part 4 Chapter 13 (Cultural Heritage) of the separate but related Environmental Statement for the combined Mine, MTS and MHF. Additional settings assessment has been undertaken for the Harbour facilities (Appendix 15.4), including further consideration, comment and assessment with respect to Kirkleatham Conservation Area, which has identified no material change to the setting of the Conservation Area based on the proposed development, including overhead conveyor system.</p> <p>In addition, Cotswold Archaeology have undertaken a 'Geoarchaeological Stage 1 Vibrocore and Borehole Assessment' of logs generated by geotechnical contractors (Appendix 15.3), which has informed the EIA and requirement for, and scope of required mitigation works, i.e. a reporting protocol for the recording of any archaeological and palaeoenvironmental material recovered during the course of dredging activities.</p> <p>The Heritage Stakeholder Meeting held on 08/10/14 in York, included representatives from RCBC Janet Horne (Principal Planning Officer) and Neil Cookson (independent heritage adviser to RCBC), where updates were given on the Harbour facilities DCO application and the approach to heritage assessment discussed and agreed.</p>

15.4 Methodology

Study area

15.4.1 A 1km study area was established for the purposes of the desk-based baseline appraisal (see **Appendix 15.1**); encompassing a sufficiently wide area that comprehensive baseline information could be collected and collated. In addition, existing reporting was utilised from a variety of previous development proposals in the vicinity. The areas shown on **Figure 15-1** and **Figure 15-2** below are focused specifically on the proposed scheme footprint for the Harbour facilities (the DCO application boundary).

15.4.2 The study area broadly incorporates part of Seal Sands, the Teesside SSI Steel Works, Dormanstown, Bran Sands sewage treatment works, a large car depot, Tesco's Teesport import warehouse and distribution centre, part of the Wilton Industrial Complex, and the outskirts of Redcar.

Information resources

15.4.3 Information on all known heritage assets within the study area was collected from the Redcar and Cleveland HER as part of the Archaeology and Heritage Desk-based Baseline Appraisal (Technical Note) – see **Appendix 15.1**.

15.4.4 Further information was obtained from the Cultural Heritage Desk Based Assessment produced for the NGCT (AOC Archaeology, 2005) – see **Appendix 15.2**.

15.4.5 A review of online records from the National Heritage List maintained by English Heritage (<http://list.english-heritage.org.uk/>) was conducted in December 2013, predominantly to check for designated assets and to cross reference with data provided by the Redcar and Cleveland HER.

15.4.6 Additional record checks, specific to the Tees HER and the NRHE/English Heritage Archive, were conducted in December 2014.

15.4.7 A summary of the information sources used to inform this section of the ES is presented in **Table 15-2**.

Table 15-2 Main sources of archaeology and heritage information

Source	Data / Information
Redcar and Cleveland HER	Designated and non-designated heritage assets
Redcar and Cleveland HER	Previous archaeological events / investigations
English Heritage National Heritage List online GIS Datasets	Designated heritage assets
Envirocheck Report	Cartographic sources
AOC DBA (2005) (Appendix 15.2)	Cartographic sources / archaeological and historical background
Internet Sources	Further archaeological and historical background
Redcar and Cleveland Historical Photo Archive / AOC DBA (2005) (Appendix 15.2)	Historic aerial photos

Source	Data / Information
RHDHV 'Archaeology and Heritage Desk-based Baseline Appraisal (Technical Note) – York Potash Project: Harbour Facility (including Wilton Materials Handling Facility)' (2014a) (Appendix 15.1)	Updated baseline information
Cotswold Archaeology 'Geoarchaeological Stage 1 Vibrocore and Borehole Assessment' (2014a) (Appendix 15.3)	Archaeological and geoarchaeological potential
Cotswold Archaeology additional 'Heritage Settings Assessment' overhead conveyor system (2014b) (Appendix 15.4)	Further heritage setting considerations specific to the proposed overhead conveyor from the MHF to the harbour terminal.
Tees Archaeology HER (which covers the unitary authorities of Hartlepool and Stockton-on-Tees)	An additional record check was requested in December 2014. Confirmation was received 08/12/14 that no HER entries or events (held by Tees HER for Stockton-on-Tees) are recorded within the DCO application boundary or a 1km study area from the edge of the DCO boundary.
National Record for the Historic Environment (NRHE) / English Heritage Archive	An additional record check was requested in December 2014. The majority of records held by the NRHE relate to the Defence of Britain Project (1995-2002) and/or shipwrecks (recorded losses) within the Tees Estuary. These are discussed further at the end of Section 15.5 .

Impact assessment methodology

- 15.4.8 The impact assessment methodology adopted for archaeology and cultural heritage defines those assets likely to be impacted by the proposed scheme. The assessment is not limited to physical impacts, but also assesses possible impacts upon the setting of certain heritage assets, whether visually, or in the form of noise, vibration, dust etc.
- 15.4.9 More specifically the impact assessment presents:
- The perceived heritage significance (importance) of any assets identified as being affected.
 - The anticipated magnitude of effect (change) upon those assets.
 - The significance of any identified impacts upon those assets.
- 15.4.10 In the absence of an industry standard methodology for heritage impact assessment, the impact assessment methodology adopted in this section is broadly in line with DMRB, Volume 11, Section 3, Part 2: Cultural Heritage (Highways Agency document 208/07) (2008), in conjunction with various recent guidance documents such as 'Conservation Principles' (English Heritage, 2008) and 'The Setting of Heritage Assets' (English Heritage, 2011). Hence the methodology differs slightly (although not significantly) from the standard approach adopted more generally within this EIA, as set out in **Section 4**.

Heritage significance (importance)

- 15.4.11 The assessment of significance of any impact is largely a product of the heritage significance (importance) of an asset and the magnitude of the effect on it, qualified by professional judgement.
- 15.4.12 An assessment of effects on an asset involves an understanding of the heritage significance of the asset and in the case of an effect on the setting of that asset, the contribution that the setting makes to the significance of the asset. Policy sets out that the level of detail should be proportionate to the significance of the heritage asset and no more than is sufficient to understand the potential impact of the proposed development (NPPF paragraph 128, 2012).
- 15.4.13 The criteria for determining the heritage significance / importance of the assets are described in **Table 15-3** below.
- 15.4.14 The categories of heritage significance / importance do not necessarily reflect a definitive level of importance or value of an asset, but a provisional one based on a range of factors, including the evidential, archaeological, historical, aesthetic, architectural and communal heritage values of the assets. When combined, these factors offer representations of the importance (or significance) of a given asset and provide an analytical tool that can help inform later stages of archaeological assessment and the development of appropriate mitigation.

Table 15-3 Criteria for determining heritage significance (importance)

Heritage Significance (Importance)	Definitions / Examples of Assets / Receptors
High (International / National Importance)	<ul style="list-style-type: none"> World Heritage Sites Scheduled Monuments Grade I or II* Listed Building or structure Designated historic landscapes of outstanding interest Conservation Area containing very important buildings Assets of acknowledged international / national importance Assets that can contribute significantly to acknowledged international / national research objectives
Medium (Regional Importance)	<ul style="list-style-type: none"> Grade II Listed Buildings or structures Conservation Area containing buildings that contribute significantly to its historic character Designated special historic landscapes Assets that contribute to regional research objectives Assets with regional value, educational interest or cultural appreciation
Low (Local Importance)	<ul style="list-style-type: none"> 'Locally Listed' building or structure Assets compromised by poor preservation and/or poor contextual associations Assets that contribute to local research objectives Assets with local value, educational interest or cultural appreciation
Very Low	<ul style="list-style-type: none"> Assets with no significant value or archaeological / historical interest
Uncertain (unknown)	<ul style="list-style-type: none"> The importance / existence / level of survival of the asset has not been ascertained from available evidence

Magnitude of effect (change)

- 15.4.15 The classification of the magnitude of effect on heritage assets takes account of such factors as:
- the physical scale and nature of the anticipated disturbance; and
 - whether specific features or evidence would be lost that are fundamental to the historic character and integrity of a given asset, and its understanding and appreciation.
- 15.4.16 Both physical and non-physical (e.g. visual, setting) impacts on heritage assets are considered. Impacts may be adverse or beneficial. Depending on the nature of the impact and the duration of development, impacts can also be temporary and / or reversible or permanent and / or irreversible.
- 15.4.17 The finite nature of archaeological remains means that physical impacts are almost always adverse, permanent and irreversible; the ‘fabric’ of the asset and, hence, its potential to inform our historical understanding, will be removed. By contrast, effects upon the setting of heritage assets will depend upon the scale and longevity of the development and the sensitivity with which the landscape is re-instated subsequent to decommissioning / demolition, if applicable.
- 15.4.18 The criteria used for assessing the magnitude of effects with regard to archaeology and heritage are presented in **Table 15-4**.

Table 15-4 Criteria for assessing magnitude of effects

Magnitude	Description / Definition
High	<ul style="list-style-type: none"> • Total loss of or substantial harm to an asset. • Complete and permanent loss of, or change to, those characteristics of an asset’s setting which contribute to its significance, such as could be caused by its disassociation with its historical setting.
Medium	<ul style="list-style-type: none"> • Partial loss of, harm to or alteration of an asset which will substantially affect its significance. • Substantial change to the key characteristics of an asset’s setting, which falls short of being a total disassociation with the historical context, or a more total loss which is temporary and/or reversible.
Low	<ul style="list-style-type: none"> • Minor loss of or alteration to an asset which leave its current significance largely intact. • Minor and/or short term changes to setting which do not affect the key characteristics and in which the historical context remains substantially intact.
Very Low	<ul style="list-style-type: none"> • Minor alteration of an asset which does not affect its significance in any notable way. • Minor and short term, or very minor and reversible, changes to its setting which do not affect the key characteristics.

Impact significance

- 15.4.19 An initial indication of impact significance is gained by combining the predicted magnitude of effect and heritage significance (importance) in accordance with the impact assessment matrix provided in **Table 15-5** below.
- 15.4.20 An impact significance of ‘major’ or ‘moderate’ would be considered to be ‘significant’ in EIA terms.

Table 15-5 Impact significance matrix

Heritage Significance (Importance)	Magnitude of Effect			
	High	Medium	Low	Very Low
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Minor
Low	Moderate	Minor	Minor	Negligible
Very Low	Minor	Minor	Negligible	Negligible

15.5 Existing environment

- 15.5.1 This section describes the baseline conditions of the site that are relevant to the historic environment (archaeology and cultural heritage) and should be read with reference to **Section 3** where a broader scheme description is provided.
- 15.5.2 More detail with respect to the archaeological and cultural heritage baseline can be found in **Appendix 15.1** and within the Archaeological Desk Based Assessment produced by AOC Archaeology as part of the NGCT EIA (AOC Archaeology, 2005) (**Appendix 15.2**). There is also the *Geoarchaeological Stage 1 Vibrocore and Borehole Assessment*, which assesses the archaeological / geoarchaeological potential with respect to the presence / absence of peat or other organic raw materials, as identified within geotechnical ground investigation logs (Cotswold Archaeology, 2014a), see **Appendix 15.3** and the additional ‘*Heritage Settings Assessment*’, which describes further heritage setting considerations specific to the proposed overhead conveyor system (Cotswold Archaeology, 2014b) (**Appendix 15.4**).
- 15.5.3 A brief overview of the most relevant aspects of the baseline conditions is provided below.

Previous reporting

- 15.5.4 As outlined within the Environmental Scoping Report (Royal HaskoningDHV, 2013) (**Appendix 4.1**), the Tees Estuary is of both archaeological and historical interest. The surrounding landscape is one of 19th and 20th century industrial heritage and landscape change, and industry still defines and dominates the region today.
- 15.5.5 The Cultural Heritage desk-based assessment undertaken by AOC Archaeology in 2005 for the NGCT and the subsequent ES Non-Technical Summary concluded that:

“The majority of the proposed development area has been reclaimed during the past 150 years and has been subject to industrial use and dumping. The proposed development site itself, therefore, has no archaeological interest and no structures are covered by any form of archaeological designation” (Royal Haskoning, 2006).

- 15.5.6 There are, however, records of shipwrecks thought to be located within the Tees Estuary and the use of the estuary as a historic shipping, transport and trade route, and also as a port from at least the medieval period onwards, would also point to this possibility of surviving historic wreck material (AOC Archaeology, 2005). This is discussed further at the end of this section (**Section 15.5**).
- 15.5.7 Although extensive reclamation has taken place within the Tees estuary, the potential for the presence of prehistoric land surfaces (indicated by surviving peat deposits, for example) also still remains, preserved beneath later sediments. The AOC Archaeology desk-based assessment highlighted that, within the Tees estuary, the presence of peat and alluvial deposits *“may preserve evidence of early use of the Tees and as such should be subject to further investigation”* (AOC Archaeology, 2005).
- 15.5.8 Previous geotechnical investigation work includes vibrocores taken during site survey related to the QEII Berth (AEG, 2009). These showed evidence of occasional plant material, potentially indicative of a former land surface in previously undredged areas. However, data from a later geotechnical borehole programme undertaken within Tees Dock indicated that there were *“no relict land surfaces present”*, and no peat or other organic remains were recorded from boreholes (AEG, 2011).

Scheme specific reporting

- 15.5.9 An Archaeology and Heritage Desk-Based Baseline Appraisal Report (Technical Note) was produced for the Harbour facilities (and MHF) (RHDHV, 2014a) (**Appendix 15.1**). The Technical Note was informed by an up-to-date search of the Redcar and Cleveland HER and established the main heritage assets requiring further consideration and assessment within this section of the ES.
- 15.5.10 A *Geoarchaeological Stage 1 Vibrocore and Borehole Assessment* was conducted in October and November 2014 that specifically assessed any possible archaeological and geoarchaeological potential with respect to the presence / absence of peat or other organic raw materials, as identified within geotechnical ground investigation logs (Cotswold Archaeology, 2014a), see **Appendix 15.3**. The results from this work are covered in more detail below.
- 15.5.11 An additional *Heritage Settings Assessment*, specific to the proposed overhead conveyor system, was undertaken in November 2014. This also included targeted field reconnaissance, in order to identify any remains of, or potential for, a recorded former medieval settlement thought to have been located in the most northern part of the Wilton Works (Cotswold Archaeology, 2014b) (**Appendix 15.4**). The results from this work are covered in more detail below.
- 15.5.12 Additional record checks, specific to the Tees HER and the NRHE/English Heritage Archive, were also conducted in December 2014 to inform this section of the ES.

Designated assets within the study area

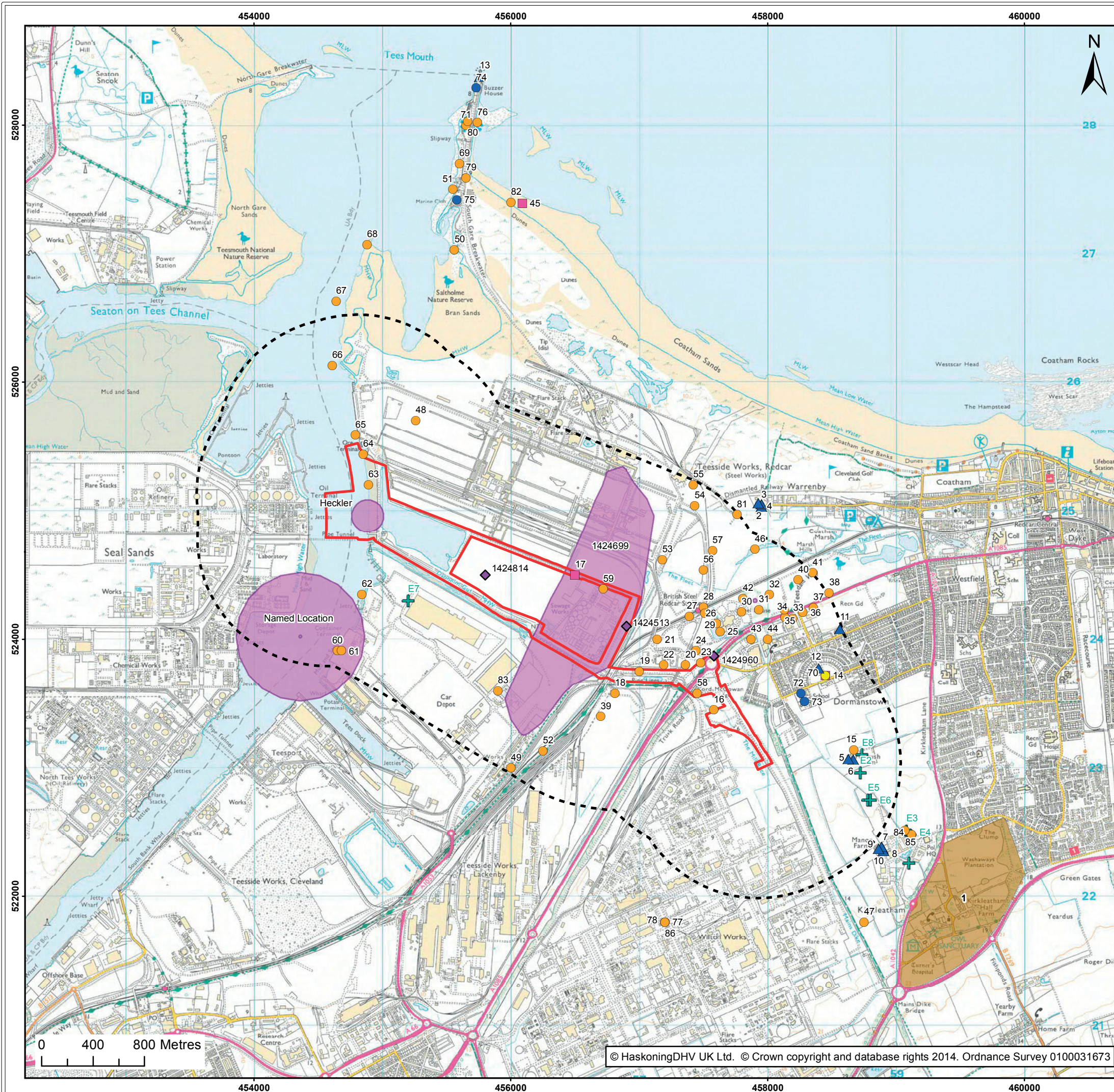
- 15.5.13 There are no World Heritage Sites, Scheduled Monuments, Conservation Areas, Registered Parks and Gardens or Designated Battlefields within the study area.
- 15.5.14 The nearest Scheduled Monuments are approximately 5km to the south on Eston Moor, and also within Wilton Moor Plantation and Court Green Wood. The nearest Conservation Areas are 'Coatham' located approximately 2km to the east / north-east and 'Kirkleatham' located approximately 1.5km to the south-east.
- 15.5.15 There are four Listed Buildings located within the study area, none of which are in the immediate vicinity of the site. The closest to the site are Foxrush Farmhouse and garden wall (5) and an associated barn (6) located approximately 600 to 700m to the east / south-east of the DCO application boundary.
- 15.5.16 There are currently 49 historic wreck sites designated in English waters, with the nearest designated wreck site being located approximately 4.5km north of the site – 'Seaton Carew'.
- 15.5.17 A full catalogue of designated heritage assets in relation to the site is provided within **Appendix 15.1** and shown on **Figure 15-1** and **Figure 15-2** below, specific to this section of the ES. Further detail is also included within **Appendix 15.4**.

Non-designated assets within the study area

At least seven heritage assets (including one previous findspot) are recorded by the Redcar and Cleveland HER as being located broadly within or crossing the site (DCO application boundary) (see **Table 15-6**). A further five assets (sites) are recorded by the NRHE as being located within or close to the DCO application boundary.

- 15.5.18 The recorded location of a deserted settlement (16) (possibly a deserted medieval village), is highlighted within the HER as having been identified through documentary evidence. However, during the February 2014 site visit undertaken as part of the Archaeology and Heritage Desk-Based Baseline Appraisal Report (Technical Note) (RHDHV, 2014a) (**Appendix 15.1**) it was observed that this area has been recently developed, as a briquette factory, and any associated remains are unlikely to survive. The recorded location is to the north of the MHF in the vicinity of where the conveyor system would transport material from the MHF to the Harbour Terminal. The Light Detection and Ranging (LiDAR) data also suggests recent disturbance in this area, with nothing seen to be of obvious archaeological origin.
- 15.5.19 Additional targeted field reconnaissance survey, undertaken in November 2014, was conducted in order to identify any remains of, or potential for, the survival of the recorded former medieval settlement (16). The locations of two later farms recorded on historic maps (e.g. the 1857 1:10,000 scale OS map) to the north of this location were also investigated for any surviving evidence of settlement.
- 15.5.20 The location of the HER record was found to comprise a small area of green space within the north of the Wilton Works, a short distance to the south of the traffic island on the A1085. The recorded location of East Farm is immediately north of this, to the north of the Mill Race (58), with Middle Farm a short distance to the west. These farms are known to have been demolished during the late 1950s.

- 15.5.21 As recorded as part of the *Heritage Settings Assessment* reporting (Cotswold Archaeology, 2014a) (**Appendix 15.4**), the whole of this area has undergone significant alteration in modern times, not least as part of the Wilton Industrial Complex development. The former location of East Farm is now confirmed as an industrial site – a briquette production factory, warehouse and material store, and the former location of Middle Farm has been developed as part of the A1085, as well as various associated access roads, pipework systems, existing conveyors and landscaping.
- 15.5.22 Within the open field that forms the recorded location of the HER record, no standing structures, earthworks, or any other evidence for medieval or later settlement in general has been identified. Within the scrub to the side of the field, two blocks of stone (possibly masonry) were identified, as well as a small scatter of 20th century bottles, cups etc. that have been churned up out of the soil. As reported, none of these items are evidence for medieval or Post-medieval settlement, but possibly relate to refuse generated during the use of the farms during more modern times.
- 15.5.23 The iron spear (**17**) is believed to date to the ‘early’ medieval period and was found on a slag tip in the 1930s, on the site of an old blast furnace. The recorded location is in the immediate vicinity of the substantial modern sewage works.



Legend:

- DCO Order Limits
- 1km study area
- Record Type**
- ▲ Listed building (Grade II)
- Monument
- Building
- Findspot
- Town
- + Events
- ◆ Additional Records Dec 2014 (NRHE)
- Additional Records Dec 2014 (NRHE)
- Conservation Area

DCO Order Limits as of 24/02/15

Client:	Project:
York Potash Limited	York Potash Project Harbour Facilities

Title:
Environmental Statement: Archaeology and
Heritage Data

Part:	HF	Figure:	15.1	Drawing No:	9Y0989-HF-15-001
Rev:	Date:	Drawn:	Checked:	Size:	Scale:
1	05/03/2015	LB	FS	A3	1:30,000
0	09/12/2014	LB	FS	A3	1:30,000

Co-ordinate system: British National Grid

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Legend:

- DCO Order Limits
- 1km study area

Record Type

- ▲ Listed building (Grade II)
- Monument
- Building
- Findspot
- Town
- + Events
- ◆ Additional Records Dec 2014 (NRHE)
- Additional Records Dec 2014 (NRHE)
- Conservation Area

DCO Order Limits as of 24/02/15

Client: York Potash Limited	Project: York Potash Project Harbour Facilities
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Title:
Environmental Statement: Archaeology and
Heritage Data - Aerial Imagery Background

Part: HF	Figure: 15.2	Drawing No: 9Y0989-HF-15-002			
Rev:	Date:	Drawn:	Checked:	Size:	Scale:
1	05/03/2015	LB	FS	A3	1:30,000
0	09/12/2014	LB	FS	A3	1:30,000

Co-ordinate system: British National Grid

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Table 15-6 Heritage Assets recorded as being located within the site (DCO application boundary)

RHDHV ID No.	HER / SMR / NRHE No.	Monument Type	Name / Description	Period
16	355	Deserted Settlement	West Coatham. Deserted medieval village. Documentary evidence. Also visible as a small settlement on the OS 1884 Solid geological map. The site is recorded in the HER as 'open space to the west of Meggitts Lane'.	Medieval
17	239	Spear (findspot only)	Warrenby. Early medieval iron spearhead with leaf shaped blade and closed socket. Length 36cm and blade width 3.1cm. The spearhead was found at a slag tip in the 1930's on the site of an old blast furnace.	Medieval
19	3751	Saltern	West Coatham Marsh. Large ovate saltmound marked on OS 1 st Edition map. Not now extant (i.e. no longer survives).	Medieval
23	3755	Saltern	West Coatham Marsh. Ovate saltmound marked on OS 1 st Edition map. Not now extant (i.e. no longer survives).	Medieval
58	5716	Channel	The Mill Race. The OS 1857 1 st Edition shows what is probably a drainage channel running north from Mains Dike (Kirkleatham), to West Coatham and then following a 'tortuous' route to 'The Fleet'. The OS 1895 2 nd Edition shows 'The Mill Race' may still survive, shown as a drainage channel or ditch on modern mapping.	19 th Century
59	5732	Tramway	Old Tramway. The OS 1895 2 nd Edition shows the Tramway running from a mine in Neptune's Wood to Coatham Ironworks. Not shown on modern mapping.	19 th Century
63	6057	Navigation	Seventh Buoy Light. The OS 1895 2 nd Edition shows a River Tees navigation light. Not shown on modern mapping.	19 th Century
n/a	908826 / 3119	Shipwreck	HECKLER. A wherry (vessel). Recorded as having sunk in the River Tees in the fairway in the vicinity of Teesport (18 August 1960).	Unknown
n/a	1424814	Trench	Second World War trench. Coatham Marsh, Redcar.	WWII
n/a	1424699	Anti-landing ditch	Second World War anti-landing ditch. Bran Sands, Redcar. These anti-aircraft obstructions are recorded as being visible as earthworks and structures on aerial photographs.	WWII
n/a	1424513	Pillbox	Second World War pillbox, no specification. Next to railway, Warrenby Works, Redcar.	WWII
n/a	1424960	Petroleum Warfare Site	Second World War petroleum warfare site - fougasse. Trunk Road, Redcar.	WWII

- 15.5.24 The recorded 'Salterns' or Saltmounds (**19** and **23**), as identified from first edition Ordnance Survey mapping (OS 1855. 1st Edition. VII NW. 1: 10,560) within the HER, are recorded as being located in the area between the Wilton MHF and the Bran Sands lagoon, east of the sewage works. This area has been previously heavily developed and is believed to contain substantial depths of made ground. All the Salterns in this area recorded in the HER are described as '**not now extant**' (i.e. they no longer survive).
- 15.5.25 The Mill Race drainage channel (**58**) running north from Kirkleatham to West Coatham was a 19th century water channel used to power an industrial mill. The asset runs across the Wilton MHF site and into the area to the north associated with the proposed Harbour facilities. It is believed to still be a functioning channel on the Wilton site, but possibly not in the area to the north where the conveyor system would start. The asset is considered to be of limited archaeological interest.
- 15.5.26 The route of an old tramway (**59**) that ran from a mine site in Neptune's Wood to Coatham Ironworks, as identified on second edition Ordnance Survey mapping (OS 1895. 6" Yorkshire Sheet VI SE. 2nd Edition) within the HER, is recorded on the site of the substantial modern sewage works as point data only. The route is not shown on more modern mapping suggesting it was dismantled and is no longer extant (i.e. it no longer survives). Again the asset is considered to be of limited archaeological interest.
- 15.5.27 The recorded location of the Seventh Buoy Light (**63**), a River Tees navigation light, is shown as being located in the area of the proposed berth pocket and quay at Bran Sands, although this asset is not shown on modern mapping. On further inspection during a heritage site visit conducted in February 2014, a 'Dolphin' Mooring Bollard was observed at this location (see **Plate 15-1**), possibly of 19th or 20th century date, and not the navigation light as recorded; further 'Dolphins' (**64** / **65**) are recorded as being located to the north of the proposed scheme footprint.

Plate 15-1 Dolphin Mooring Bollard located at the recorded position of the Seventh Buoy Light (**63**)



- 15.5.28 An additional record check (data search) of the NRHE was carried out on 5 December 2014, which provided supplementary baseline information to that provided in **Appendices 15.1** and **15.2**. The search returned 71 records comprising:
- six events records for archaeological work previously encapsulated by the Redcar and Cleveland HER data and previous assessment for this project;
 - 20 recorded losses of ships and boats at a Named Location to the south west of the DCO application boundary;
 - 40 records relating to military sites recorded as part of the Defence of Britain Project (1995-2002);
 - one record for salt works corresponding to the salterns discussed above in paragraph 15.5.25;
 - one linear record corresponding to the Stockton and Darlington railway coastguard extension; and
 - three further records that do not correspond to previously reviewed records from the Redcar and Cleveland HER, but that also do not represent surviving extant remains.
- 15.5.29 As these last three records all lie outside the DCO application boundary, and as they do not correspond to existing structures or sites that may be subject to impact from this project, they are not discussed further as part of this assessment.
- 15.5.30 Maritime records from the NRHE comprised 20 vessels reported as lost within the Tees Estuary. For example, Heckler (NRHE 908826/HER 3119) was a wherry, a type of boat traditionally used for carrying cargo or passengers within rivers or canals, that sank in River Tees in the fairway in the vicinity of Teesport in 1960. The current location of the wreck is unknown although the recorded location of loss lies within the DCO application boundary to the south of the Seventh Buoy Light or Dolphin (63) also within the area of the proposed berth pocket (**Figure 15-1** and **15-2**). Nineteen further vessels are recorded as lost, grouped by the NRHE at a 'Named Location' c. 650m to the south west of the DCO application boundary within the River Tees (**Figure 15-1** and **15-2**). A Named Location is an arbitrary point on the seabed at which the NRHE groups reported losses and the points do not, except by chance, correspond to actual remains on the seabed. Nonetheless, the number of vessels located at this Named Location is a useful indicator of the high potential for the presence of previous unidentified wreck remains within the River Tees.
- 15.5.31 Nine of the vessels were lost following collision, nine foundered or were stranded and one was lost after striking a mine during WWI. The date of loss of the nineteen vessels range from 1751 to 1921 with a general distribution as follows:
- 1750-1799: 2 records;
 - 1800-1849: 4 records;
 - 1850-1899: 9 records; and
 - 1900-1949: 4 records.
- 15.5.32 The absence of pre-1750 records does not necessarily mean that no vessels were lost prior to this date. There is, in general, an inherent bias in wreck reporting with a comparatively greater representation of 19th and 20th century wrecks than those of earlier periods. This bias is partly explained by the absence of a central record of shipping losses prior to the advent of the Lloyds of

London list of shipping casualties in 1741. There is also a bias towards recording more recent, larger metal hulled wrecks as these are more likely to be charted as a navigational hazard.

- 15.5.33 The types of crafts recorded by the NRHE comprise two barges, an Italian barque, five described as sailing vessels, a yawl (a type of fishing vessel) two sloop-rigged sailing craft, four boats described simply as 'craft' and two cargo carrying steamships, one of which is recorded as Swedish. The prevalence of smaller wooden hulled sailing vessels and craft may be indicative of the nature of vessel use within the River Tees. It is also possible that these represent only a fraction of the numbers of smaller, traditional boats that were actually lost in the wider area as these are less likely to have been reported as lost than larger cargo ships, for example. The use of the Estuary as a historic shipping, transport and trade route, and also as a port from at least the medieval period onwards, points to the potential for greater numbers of vessels to have been lost within the Tees, but perhaps not officially reported, and for which surviving wreck material may potentially be present within the Site (DCO application boundary).
- 15.5.34 During WWII the north-east coast was of strategic importance, as indicated by the high number of military sites recorded from the area. There are seven records from the Redcar and Cleveland HER dating to this period within the study area. None of these is located within the Site (DCO application boundary), although prior to the development of the Wilton Works Complex, three WWII bombing decoy sites (77, 78 and 86) were located to the south-west of the DCO application boundary, as identified by aerial photographs. All are now entirely built over with the remnants of former and existing heavy industrial complexes.
- 15.5.35 The search of NRHE monument data returned 40 records associated with military sites, four within the DCO application boundary and 36 within the wider study area. This dataset differs from that provided from the Redcar and Cleveland HER, primarily due to the incorporation of two additional sources: the Defence of Britain database; and the North East Rapid Coastal Zone Assessment.
- 15.5.36 Thirty of the records come from the Defence of Britain database, created from field and documentary work carried out between April 1995 and December 2001. The records comprise:
- 11 records of WWII pillboxes;
 - 4 records of WWII anti-tank obstacles;
 - 1 record of a WWII anti-landing obstacle for aircraft;
 - 1 record of a WWII gun emplacement, also recorded in the Redcar and Cleveland HER as part of the record for Redcar Jetty;
 - 4 records of WWII roadblocks;
 - 3 records of a WWII defensive ditch/trench, one of which lies within the DCO application boundary;
 - 2 records of minefields;
 - 1 record of a WWII air raid shelter;
 - 2 weapons pits; and
 - 1 record of a petroleum warfare site.
- 15.5.37 These records comprise both extant and demolished structures with six recorded from RAF vertical aerial photographs from the late 1940s. Only four records, however, lie within or close to the DCO application boundary (these have been illustrated on **Figures 15-1** and **15-2**). They comprise:

- a WWII trench within Coatham Marsh, recorded following a field visit as ‘demolished prior to 1995’ (NRHE **1424814**);
- anti-aircraft obstructions visible as earthworks and structures on air photographs, recorded following a field visit as ‘demolished prior to 1995’ (NRHE **1424699**);
- a pillbox next to the railway, Warrenby Works, recorded following a field visit as ‘demolished in the period prior to 1995’ (NRHE **1424513**); and
- a petroleum warfare site, recorded following a field visit as ‘demolished in the period 1945-1950’ (NRHE **1424960**).

15.5.38 As all four of these records are recorded as demolished no further action is considered necessary.

15.5.39 A further fourteen records were recorded during a review of air photographs for the North East Rapid Coastal Zone Assessment (2007-2010). All of these records were observed on air photographs only, from 1946 or 1948:

- 1 record of WWII military buildings;
- 1 record of WWII anti-tank defences;
- 1 record of a possible WWII minefield;
- 2 records of WWII bomb craters;
- 3 records of possible WWII/20th century pillboxes; and
- 6 further records also recorded within the Defence of Britain database and included above.

15.5.40 None of these records lie within the DCO application boundary and therefore have not been considered further.

15.5.41 A further two sites recorded by the NRHE comprise a civil bombing decoy at Bran Sands, also recorded in the Redcar and Cleveland HER, and the Tees mouth anti-aircraft battery. Both are located well outside the DCO application boundary.

15.5.42 Although the majority of these records relate to WWII sites that have now been destroyed, the high numbers of military records within the study area is indicative of the role that these coastal areas would have played in the defence of the nation if a land invasion had been attempted. The north-east also provided a focus for early bombing raids during WWII and Middleborough was one of the first industrial targets with some of the first bombs of the war falling on the town. As a major port and industrial centre, Teesport itself was also a bombing target (AOC Archaeology, 2005).

Previous archaeological work

15.5.43 The main previous archaeological ‘activity / event’ record for the site (and relevant to the DCO application boundary) is the desk based study produced by AOC Archaeology, which summarised the available historic data for the area between Tees Dock and Teesside Works on the south bank of the Tees (AOC Archaeology, 2005 – **Appendix 15.2**). This report provides useful detailed background to the history and archaeology of the proposed development area (DCO application boundary).

Additional archaeological work

- 15.5.44 The *Geoarchaeological Stage 1 Vibrocore and Borehole Assessment* conducted in October and November 2014 (Cotswold Archaeology, 2014a) (**Appendix 15.3**) further established the potential for prehistoric/historic land surfaces to be present and formed the basis for appropriate mitigation proposals, where necessary. A programme of marine vibrocoreing was undertaken and the vibrocore logs have been analysed by a geoarchaeologist, along with boreholes from the edge of the Tees estuary, also acquired specifically for the scheme, and other available borehole logs from the Wilton MHF site, including some with limited overlap with the southern-most extent of the DCO application boundary.
- 15.5.45 The primary assessment of eight vibrocore and five borehole logs recovered from the area of the proposed Harbour facility identified five broad sedimentary units, as interpreted from the logs:
- Unit 1 Weathered Bedrock
 - Unit 2 Estuarine alluvium and peat (possible mid-Holocene sediments)
 - Unit 3 Marine sediments / Estuarine alluvium
 - Unit 4 Estuarine alluvium / polluted fluvial sediments
 - Unit 5 Made ground (20th century)
- 15.5.46 Only Unit 2 has been assessed as having the potential to contain in-situ prehistoric archaeological material associated with mid-Holocene (broadly covering the late Mesolithic to early Iron Age) seasonal use of the estuary / marshland.
- 15.5.47 Unit 2 was not present within any of the vibrocore logs due to their limited depth of penetration. No retained borehole samples included material from Unit 2 that would be suitable for further analysis. Due to the infrequent and slight nature of the peat deposit within Unit 2, it cannot be guaranteed that further borehole survey would encounter these deposits again and hence no further work therefore has been recommended at this stage. This was agreed in consultation with English Heritage during December 2014 (North-East Region).
- 15.5.48 As set out above, an additional *Heritage Settings Assessment*, specific to the proposed overhead conveyor, was undertaken in November 2014 (Cotswold Archaeology, 2014b) (**Appendix 15.4**). The assessment concluded that there would be no change to the settings of the large majority of the heritage assets identified in proximity to the overhead conveyor system. The overhead conveyor corridor itself may be visible from a small number of heritage assets. However, any views of the overhead conveyor system from these locations would constitute distant glimpses only, obstructed by intervening built form and vegetation. Given that the views from the identified and assessed heritage assets in this direction would also include the large-scale modern industrial facilities in the Wilton Industrial Complex, Teesside industrial works and other steel and chemical plants around Teesmouth, the proposed scheme would represent no material alteration to the setting of heritage assets, and there would be no resultant harm to the assets' significance.

15.6 Assessment of potential impacts during construction

Deserted Settlement - West Coatham (16)

15.6.1 This asset comprises the recorded location of a possible deserted medieval settlement, as recorded by documentary sources within the HER. The asset, if any remains survive, is likely to be of low to medium heritage significance (importance). The site has already been previously (recently) developed as a briquette production factory and, as such, the asset is unlikely to survive in any discernible form. The LiDAR data also shows recent disturbance in the area, with nothing seen to be of obvious archaeological origin.

15.6.2 The nature of the proposed development in this area (the route of the conveyor system applicable to both conveyor options and specifically the conveyor supports) is only likely to have a very low or low magnitude of effect on the asset. The resulting impact is therefore assessed to be of **minor adverse** significance (based on a worst case scenario). There are numerous other existing utilities in the area, suggesting a substantial level of previous ground disturbance.

Potential mitigation measures and residual impact

15.6.3 The additional field reconnaissance (ground truthing exercise) conducted in November 2014 identified no standing structures, earthworks, or any other evidence for medieval or later settlement. It may, however, still be prudent to monitor any ground intrusive works planned in this area (for example soil stripping activity and the location of conveyor supports) through means of an archaeological watching brief and, if identified, record any surviving features associated with the asset. This would ensure that the significance of any residual impact would be reduced to **negligible**.

Iron Spearhead – Warrenby (17)

15.6.4 This 'asset' (previous findspot only) comprises the recorded location of an early medieval iron spearhead. The spearhead was found in isolation on a slag tip on the site of an old blast furnace and there is no evidence to suggest that it is associated with any surviving settlement or occupation related evidence. The site of the findspot is heavily made ground and, as such, the findspot has not been considered further as part of this assessment.

Salterns (Salt Mounds) – West Coatham Marsh (19 and 23)

15.6.5 There are a series of saltmounds recorded in the HER from historic OS mapping (1st Edition 1855) across the former extent of West Coatham Marsh. These are all, however, (including the two within the DCO application boundary (**19** and **23**)), described as no longer extant (i.e. they no longer survive) and as such they have not been considered further as part of this assessment.

The Mill Race (Drainage Channel) (58)

15.6.6 The Mill Race survives on the proposed Wilton MHF site and is shown on modern OS mapping to continue through the area to the north into the proposed scheme footprint for the Harbour facilities, which is already heavily developed. The drainage channel's course is not considered to overlap with the proposed conveyor route heading from the Wilton site to the Harbour facilities and, therefore, the

combination of this and the limited archaeological interest of the asset means that it has not been considered further as part of this assessment.

Abandoned 19th century tramway (59)

- 15.6.7 The route of this tramway is believed to have been dismantled and no discernible remains survive. Combined with its limited archaeological interest it has not been considered further as part of this assessment.

Seventh Buoy Light / Dolphin Mooring Bollard (63)

- 15.6.8 A Dolphin Mooring Bollard has been identified as being located in the area of the proposed berth pocket and quay (see **Plate 15-1**, **Figures 15-1** and **15-2**).
- 15.6.9 The asset comprises the recorded position of a former navigation light and the surviving remains of a later mooring bollard. This asset is considered to be of low heritage significance. The proposed removal of this asset as part of the planned works would result in the total loss of the asset and, consequently, it would be subject to a high magnitude of effect. The resulting impact significance is, therefore, predicted to be **moderate adverse**.

Potential mitigation measures and residual impact

- 15.6.10 It is recommended that a Level 1 Building Recording Survey (or equivalent) is carried out by a suitably qualified 'buildings' (built heritage) archaeologist prior to the demolition of the asset, in order to ensure the asset is documented and recorded. This would result in a residual impact of minor adverse significance, as the asset would be preserved 'by record'.

Potential for the presence of geoarchaeological / palaeoenvironmental remains indicative of former land surfaces

- 15.6.11 As highlighted in the Environmental Scoping Report (Royal HaskoningDHV, 2013) and PER (Royal HaskoningDHV, 2014b), one of the potential concerns associated with the scheme was the possibility of impacting upon any surviving prehistoric/historic land surfaces within the development footprint, which may also contain preserved archaeological remains. This is most relevant to the capital dredging requirement for part of the approach channel and berth pocket, which involves the deepening of these areas (see **Section 3** for more detail), and therefore there is the potential for an impact on previously undisturbed deposits.
- 15.6.12 The geoarchaeological assessment of vibrocore and borehole data, undertaken by Cotswolds Archaeology (2014a) (**Appendix 15.3**), identified potential for in-situ prehistoric archaeological material associated with mid-Holocene (broadly covering the late Mesolithic to early Iron Age) seasonal use of the estuary / marshland associated with Unit 2 'Estuarine alluvium and peat'.
- 15.6.13 The assessment indicates, however, that peat deposits within Unit 2 are infrequent and slight and that further borehole survey is unlikely to locate further deposits for sampling. As a result no further work has currently been recommended, as agreed in consultation with English Heritage during December 2014 (North-East Region).

- 15.6.14 The potential for impacting upon any surviving prehistoric/historic land surfaces within the DCO application boundary, which may also contain preserved archaeological remains, is considered to be low. If present, however, such remains could potentially be of medium heritage significance. As the anticipated impact on such remains would be low, the resulting impact significance is predicted to be **minor adverse** (based on a worst case scenario).
- 15.6.15 English Heritage have suggested that suitable samples should however be taken if future works are found to impact upon any peat deposits. Specifically stated in an email from English Heritage to Cotswold Archaeology, who conducted the ‘*Geoarchaeological Stage 1 Vibrocore and Borehole Assessment*’ of logs generated by geotechnical contractors (see **Appendix 15.3**), was the following text: “*given that peat lenses were found in the course of the coring work then we would advise that any future work in the general area should expect to potentially encounter them as discrete entities, and provision should be made for the collection and assessment of environmental proxies should the need arise.*” (Dr. R Young, English Heritage, 2014, pers. comm., 02 December).

Potential for the presence of remains associated with shipwrecks within the Tees estuary

- 15.6.16 The Tees estuary has been used as a historic shipping, transport, trade route and port since at least the medieval period and there are a number of ships reported and recorded to have been wrecked in the Tees (including *Heckler*). There is, therefore, potential for the remains of wrecks or associated structures and finds of medium or high heritage significance to be present within the study area. If present, dredging within the approach channel and berth pocket has the potential to have a medium or high magnitude of effect upon these types of remains; potentially resulting in a **moderate** or **major** adverse impact. As such, it is proposed that an archaeological reporting protocol is adopted to mitigate the potential impact on any as yet unidentified marine archaeological remains arising from dredging activity. Ensuring that any new discoveries are quickly and efficiently reported and addressed through the protocol would result in a reduced residual impact, predicted to be of **minor** adverse significance.
- 15.6.17 It is proposed that this protocol would be formalised in a scheme specific Written Scheme of Investigation (WSI) to specifically cover dredging activity, which would be produced by a suitably qualified marine archaeological specialist. It should be noted however that, due to the high concentrations of some contaminants in the marine sediments overlying geological material, an enclosed grab is proposed to dredge the fine sediments overlying the geological deposits. This would reduce opportunities for archaeological material to be identified within these sediments, although unexpected obstructions encountered during dredging would be reported if discovered and this fine sediment is ‘younger’ than the material below it.

Additional records acquired December 2014 (NRHE)

- 15.6.18 None of the additional records acquired from the NRHE (e.g. WWII records from the Defence of Britain Project and North East Rapid Coastal Zone Assessment) were found to represent extant remains within the proposed scheme footprint (DCO application boundary). As none of these sites (assets) will be subject to impact they have not been considered further as part of this assessment.

Setting effects on designated and non-designated heritage assets

- 15.6.19 A heritage specific site visit was conducted in February 2014, this included the site and wider surrounds. The location of predominantly designated, but also non-designated, heritage assets was compared against the proposed high-level scheme design at the time. No anticipated adverse setting effects on designated or non-designated assets associated with the proposed scheme were identified.
- 15.6.20 Further heritage setting consideration, a further site visit and more detailed assessment were conducted in November 2014 with respect to the overhead conveyor corridor (Cotswold Archaeology, 2014b – **Appendix 15.4**). This was undertaken with reference to the (in progress at the time) LVIA Chapter (see **Section 20**) and associated figures and appendices (YPL, 2014), as well as the latest design proposals.
- 15.6.21 The assessment of the potential impact of the overhead conveyor system on surrounding heritage assets via alteration to their setting (Cotswold Archaeology, 2014b – **Appendix 15.4**) has been conducted in line with the industry-standard English Heritage guidance document *The Setting of Heritage Assets* (English Heritage, 2011). This document provides guidance on setting and development management, including assessment of the implications of development proposals. The recommended five step process within the guidance was followed for this assessment.
- 15.6.22 The extent to which the proposed development might alter the settings of identified assets was assessed through field reconnaissance survey (site visits), GIS analysis, review of current and historic OS mapping, Google Earth, Google Maps and information provided by the National Heritage List for England online.
- 15.6.23 To the east / north-east of the proposed overhead conveyor system is the coastal town of Redcar, with its outlying modern residential suburb of Dormanstown. To the south / south-east is the A174, with the village of Kirkleatham to the north of the road. South of the A174 the land rises out of the estuarine basin, with undulating farmland and woodland to either side of the B1269. The assessment identified that it is within these areas to the north-east, east and south east – i.e. beyond the industrial facilities – that the potential exists for the proposed overhead conveyor system to be visible.
- 15.6.24 The heritage settings assessment results found that the addition of the overhead conveyor system into this already heavily industrialised landscape would be barely, if at all, perceptible from the majority of identified heritage assets. The addition of the overhead conveyor system into this landscape is considered to be in-keeping with the intensive modern industrial nature of the area, and would occasion no change to the character of the ‘historic’ landscape and no material change to the setting of the following heritage assets:
- Kirkleatham Conservation Area and all of the Listed Buildings within it (including the Grade I Listed Church of St. Cuthbert, the Grade I Listed Sir William Turner’s Hospital and Grade II* Listed Old Hall Museum).
 - Foxrush Farm and other associated Grade II Listed Buildings.
 - Marsh Farmhouse and other associated Grade II Listed Buildings.

15.6.25 Several heritage assets were found to have a degree of perceived intervisibility with the overhead conveyor system corridor. However, in the majority of instances this was found to either be highly obstructed or totally blocked by intervening built form and vegetation. These assets include:

- Yearby Conservation Area and other Grade II Listed Buildings within and within proximity to it.
- Manor Farm and other associated Grade II Listed Buildings.
- Coatham Conservation Area and Listed Buildings within and proximate to it.

15.6.26 Overall the *Heritage Settings Assessment* (Cotswold Archaeology, 2014b) (**Appendix 15.4**) identified that there would be no change to the settings of the vast majority of the heritage assets identified in proximity to the overhead conveyor system. The overhead conveyor corridor itself may, however, be visible from a small number of assets. Any views of the overhead conveyor system from these locations would be distant glimpses only, obstructed by intervening built form and vegetation. Given that the views in this direction from these assets would also include the expansive modern industrial facilities at Wilton, Teesside and other steel and chemical plants around Teesmouth, this has been predicted to result in no material alteration (if any) to their settings, and there would be **no resultant harm** to the assets' significance.

15.7 Assessment of potential impacts during operation

15.7.1 Any potential impacts to the archaeological and heritage resource are expected to occur during the construction phase, with the exception of the likely requirement to maintain the marine archaeological reporting protocol throughout the operational phase to cover any chance findings associated with, for example, maintenance dredging activity.

15.7.2 As per the assessment of potential impacts during construction (**Section 15.6**), the operation of the proposed scheme has been assessed to result in no material alteration (if any) to the setting of heritage assets identified within the vicinity of the DCO application boundary, as identified and reported within the *Heritage Settings Assessment* (Cotswold Archaeology, 2014b) (**Appendix 15.4**).

15.8 Assessment of potential impacts during decommissioning

15.8.1 Any potential impacts to the archaeological and heritage resource would be likely to have occurred during construction and operation. It would be best practice to maintain the marine archaeological reporting protocol during any decommissioning activity to cover any chance findings associated with such activity. However, the decommissioning phase is only applicable to the conveyor; the harbour facility would not be decommissioned as part of the scheme.

15.9 Summary

15.9.1 Record searches were conducted of the Redcar and Cleveland HER in order to ensure that all known heritage assets were identified as part of the assessment and a short, concise Archaeological and Heritage Desk-Based Baseline Appraisal (Technical Note) (see **Appendix 15.1**) was produced. This also covered the proposed Wilton MHF site, although it should be noted that the proposed Wilton MHF has been assessed within an ES submitted to RCBC in support of a planning application for the Wilton MHF. The assessment utilised substantial existing information, including the AOC Archaeology Desk-based Assessment produced for the NGCT (AOC Archaeology, 2005) (see **Appendix 15.2**). An

additional record check (data search) of the NRHE was carried out on 5 December 2014, which provided supplementary baseline information to that provided in **Appendices 15.1** and **15.2**.

- 15.9.2 Following the desk-based baseline collation work and a heritage specific site visit undertaken in February 2014, the potential for setting effects associated with the harbour facility were scoped out and not considered further as part of the assessment. The site and surrounding area shows very obvious signs of recent and in some cases now ceased modern industrial activity. It is considered that the scheme provides an opportunity to re-commence activity in an area that is currently characterised predominantly by landfill and made ground associated with previous modern workings in an area surrounded by heavy industry and manufacturing.
- 15.9.3 Additional heritage setting assessment work was, however, conducted in November 2014 for the conveyor. This concluded that there would be no change to the settings of the vast majority of the heritage assets identified in proximity to the overhead conveyor system. Any views of the overhead conveyor from surrounding assets would also include the large-scale modern industrial facilities at Wilton, Teesside and other industrial plants and complexes, resulting in no material alteration (if any alteration) to the setting of heritage assets and no resultant harm.
- 15.9.4 No areas of Greenfield land (previously undisturbed ground) were identified as falling within the proposed scheme footprint, with the possible exception of the extreme eastern most section, adjoining the Wilton MHF site. This area was also subject to archaeological ground truthing, as described in **Section 15.6**, with respect to the recorded location of a Deserted Settlement - West Coatham (**16**). No standing structures, earthworks, or any other evidence for medieval or later settlement in general was identified. Within the scrub to the side of the field, two blocks of stone, possibly masonry, were identified, as well as a small scatter of 20th century bottles, cups etc. that have been churned up out of the soil. None of these items are evidence for medieval or Post-medieval settlement, and possibly relate to refuse generated during the use of the now demolished farms during more modern times. Hence the requirement for further non-intrusive and/or intrusive archaeological survey methodologies was not recommended as part of the assessment. Also taken into account was the fact that previously the site had been subject to a consented planning application for a proposed paper manufacturing and recycling facility (Enviros Consulting, 2005), with no known archaeological conditions.
- 15.9.5 Key features of the historic environment baseline, further considerations and potential impacts to the archaeology and heritage resource associated with the proposed scheme include the following:
- With respect to ground works in the vicinity of the recorded location of a deserted medieval settlement (**16**), despite substantial previous ground disturbance in this area, it may still be prudent to make provision for archaeological watching brief to record any surviving features associated with the asset, if and where identified, in the unlikely event that remains are still present and subsequently disturbed. Ground truthing of the LiDAR data and targeted field reconnaissance survey conducted in November 2014 identified no standing structures, earthworks, or any other evidence for medieval or later settlement in general.
 - The Dolphin Mooring Bollard (located within the proposed berth pocket for the scheme) is of interest. The mitigation proposed for the anticipated impacts to this asset comprises historic building recording of the structure prior to its demolition.
 - The potential for the presence of geoarchaeological/palaeoenvironmental remains indicative of former land surfaces exists. In their scoping response, English Heritage reiterated the need for

all new vibrocore and borehole logs produced as a result of the proposed works to be examined by a qualified geoarchaeologist to ascertain the presence/absence of peat or other organic raw materials. All available borehole logs from programmes of onshore and offshore geotechnical ground investigation have been reviewed and analysed by a qualified geoarchaeologist (Cotswold Archaeology, 2014a) (**Appendix 15.3**). One of the sedimentary units identified and interpreted from the logs (Unit 2 Estuarine alluvium and peat - possible mid-Holocene sediments) was identified as possibly having the potential to contain in-situ prehistoric archaeological material associated with mid-Holocene seasonal use of the estuary / marshland. However, Unit 2 was not present within any of the vibrocore logs due to their limited depth of penetration and no retained borehole samples included material from Unit 2 that would be suitable for further analysis. Combined with the infrequent and slight nature of the peat deposit within Unit 2, it cannot be guaranteed that further borehole survey would encounter these deposits again. No further work is therefore recommended at this stage. English Heritage has suggested, however, that suitable samples should be taken if future works are found to impact upon any peat deposits.

- The potential for the presence of remains associated with shipwrecks within the Tees Estuary exists (e.g. *Heckler*). As such an archaeological finds reporting protocol, to be formalised within a WSI for dredging and other marine related development activity, should be produced and implemented.
- An additional search of the NRHE returned 71 records (predominantly of former WWII sites and structures), but none of these were found to represent existing and surviving heritage assets within the proposed scheme footprint (DCO application boundary). As such, these records do not indicate or represent assets that may be subject to impact and no mitigation has been outlined or is deemed to be required.

15.9.6 None of the residual impacts identified as part of this assessment would cause substantial harm under the terms of the NPPF (2012). Overall, the EIA has identified nothing that would preclude the development of the proposed scheme on heritage grounds. The proposed scheme would be consistent with both national and local heritage policy. **Table 15-7** presents a summary of the potential impacts to the archaeological and heritage resource, as well as key mitigation measures and residual impacts.

Table 15-7 Summary of mitigation measures

Description of Impact	Significance of Impact (prior to mitigation)	Key Mitigation Measures	Residual Impact (Realistic Worst Case Scenario)
Construction			
Removal of known and/or unknown buried remains. For example the recorded location of a deserted medieval settlement (16) at West Coatham	Minor	Archaeological monitoring in the form of a watching brief during construction related ground works in the vicinity of the recorded location of heritage asset (16).	Negligible
Removal of a Dolphin Mooring Bollard (63) located within the proposed berth pocket	Moderate	Historic building recording of the structure prior to its demolition (preservation by record).	Minor
Impact on potential geoarchaeological/palaeoenvironmental remains indicative of former land surfaces	Minor	No specific further mitigation has been recommended at present. However, the identification and reporting of any peat deposits should be included as part of the archaeological 'finds' reporting protocol to be formalised within a Written Scheme of Investigation (WSI), see below.	Minor / Negligible
Potential for the presence of remains associated with shipwrecks within the Tees Estuary (e.g. 'Heckler' is recorded as having sunk in the River Tees in the fairway in the vicinity of Teesport on 18 th August 1960 - the recorded position is within the dredge footprint within the DCO application boundary).	Moderate / Major	The production and implementation of an archaeological finds reporting protocol to be formalised within a WSI for dredging and other marine related construction activity undertaken as part of the scheme.	Minor