

## A1 in Northumberland: Morpeth to Ellingham

Scheme Number: TR010041

6.7 Environmental Statement – Appendix 8.6 Written Scheme of Investigation for an Archaeological Strip, Map and Sample Excavation (National Grid Diversion Works)

Part A

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009



#### Infrastructure Planning

#### Planning Act 2008

## The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

### The A1 in Northumberland: Morpeth to Ellingham

Development Consent Order 20[xx]

#### **Environmental Statement - Appendix**

Regulation Reference:	APFP Regulation 5(2)(a)
Planning Inspectorate Scheme	TR010041
Reference	
Application Document Reference	TR010041/APP/6.7
Anthon	Ad in Nightherest ordered Mary attents Ellis at one
Author:	A1 in Northumberland: Morpeth to Ellingham
	Project Team, Highways England

Version	Date	Status of Version
Rev 0	June 2020	Application Issue



### Highways England

# A1 IN NORTHUMBERLAND: MORPETH TO FELTON SCHEME (ADVANCED WORKS PACKAGE)

Written Scheme of Investigation for an Archaeological Strip, Map and Sample Excavation (National Grid Diversion Works)

**PROJECT NO. 70044136** 

**OUR REF. NO. HE551459-WSP-EHR-M2F-RP-LH-1980** 

**DATE: APRIL 2019** 



## **CONTENTS**

6.1	GENERAL REQUIREMENTS	21
6	ARCHIVE	21
5.3	PUBLICATION AND DISSEMINATION	19
5.2	REPORT CONTENT	18
5.1	GENERAL REQUIREMENTS	18
5	REPORTING	18
4.3	ARTEFACTS AND ENVIRONMENTAL SAMPLES	14
4.2	FIELDWORK METHODOLOGY	11
4.1	GENERAL REQUIREMENTS	10
4	METHODOLOGY	10
3.2	RESEARCH AIMS AND OBJECTIVES	8
3	AIMS AND OBJECTIVES	8
2.4	ARCHAEOLOGICAL POTENTIAL	4
2.3	GEOLOGY	4
2.2	TOPOGRAPHY	4
2.1	SITE LOCATION	4
2	HISTORIC ENVIRONMENT BASELINE SUMMARY	4
1.3	CONSULTATION	3
1.2	DETAILED SCHEME DESCRIPTION	1
1.1	SCHEME BACKGROUND	1
1	INTRODUCTION	1



7	OPERATIONAL FACTORS	22
7.1	PROJECT TIMETABLE AND MONITORING ARRANGEMENTS	22
7.2	HEALTH AND SAFETY	22
7.3	INSURANCE	23
7.4	POST-EXCAVATION DELIVERABLES	23
7.5	COPYRIGHT	23

### **APPENDICES**

APPENDIX A

**REFERENCES** 

APPENDIX B

**FIGURES** 



#### 1 INTRODUCTION

#### 1.1 SCHEME BACKGROUND

- 1.1.1. The Applicant has produced a Written Scheme of Investigation (WSI) for an archaeological strip, map and sample excavation (SMS) to be undertaken as part of advanced works for the A1 in Northumberland: Morpeth to Felton improvements (The Scheme). The advanced works comprise the diversion of a National Grid high-pressure gas main, a Northern Gas Networks pipeline and a Northern Powergrid overhead electricity line to the south of Causey Park (National Grid Reference (NGR) 418667,594515: Appendix B, Figure 1). The WSI has been produced as part of the Development Consent Order (DCO, Application Document Reference: TR310110/APP/3.1) and is required in accordance to the National Policy Statement for National Networks (NPS NN) (paragraph 5.142).
- 1.1.2. The WSI sets out the scope and methodology for the SMS, including the fieldwork method, approach to sampling, post-excavation reporting, archiving and dissemination. The aim of the SMS is to clarify the presence, nature, date, extent and significance of any archaeological remains that may be present in the areas of proposed impact and ensure they are preserved in record. The WSI will be supplemented by detailed methodology statements produced by the archaeological contractor, which will be produced in consultation with The Applicant, the Principal Contractor and Northumberland County Council (NCC).
- 1.1.3. The WSI has been informed by a Historic Environment Desk-Based Assessment (HEDBA) prepared in support of the Environmental Statement (ES) (Application Document Reference: TR010041/APP/6.2) for the Draft DCO Order (Application Document Reference: TR310110/APP/3.1). These set out the legislative and planning background and provide a detailed baseline and an assessment of the likely significant effects of the Scheme. The WSI has also been informed by geophysical surveys, carried out in 2006, 2017 and 2018 (Application Document Reference: TR010041/APP/6.7, Appendix 8.2), a LiDAR assessment in 2018 (Appendix 8.3) and a walkover survey undertaken in 2018 as reported in the HEDBA (Appendix 8.1).
- 1.1.4. A separate programme of archaeological post-consent evaluation is required to inform any future archaeological mitigation for the Scheme. This is outlined in a **Written Scheme of Investigation for an Archaeological Trial Trench Evaluation (National Grid Diversion Works)**.

#### 1.2 DETAILED SCHEME DESCRIPTION

1.2.1. The Scheme comprises 12.6 km of dualling of the existing A1 single carriageway (both online and along a new offline section), de-trunking of a section of the existing A1, three new junctions, an overbridge, an underbridge and a bridge over the River Coquet, new and



extended culverts and new access tracks together with new and/or improved ancillary features.

- 1.2.2. In order to construct the Scheme, a National Grid gas transmission pipeline to the south of the proposed Causey Park Overbridge would need to be diverted, together with a Northern Gas Networks pipeline and a Northern Powergrid overhead electricity line at this location (hereinafter referred to as the proposed works).
- 1.2.3. The proposed works comprise the diversion of approximately 500m of existing 1050mm diameter National Grid High-Pressure Gas Main underground pipeline (HPGM). To facilitate this, the diversion of a section of Northern Powergrid (NPG) overhead electricity line (an overhead line) and a section of a Northern Gas Networks (NGN) medium pressure below ground gas pipeline is required.

#### **National Grid**

- 1.2.4. The proposed works would comprise the construction of approximately 650 m of new pipe length to connect to back to the existing National Grid High-Pressure Gas Main underground pipeline (HPGM).
- 1.2.5. The existing HPGM crosses the offline section of the Scheme at approximate chainage 17300 / 17400 and therefore needs to be diverted to allow the Scheme to be constructed. The diversion passes through arable farmland and would comprise two tie-in points to the existing HPGM to the east and west of the Scheme alignment at this location. From the western tie-in point, the HPGM would be routed north by approximately 350 m, and then directly east by approximately 300 m to achieve a perpendicular crossing of the new alignment, reconnecting at the eastern tie-in point. The existing section of HPGM between the tie-in points would then be abandoned.
- 1.2.6. During the construction period of the proposed National Grid diversion, an approximate land take of 110,000 m² would be required, comprising approximate 2,500 m² stopple-pit¹ compounds at the east and western tie-in points and approximately 19,000 m² along the diversion length. Although the current proposal is to connect the new section of pipe to the existing by outage connection, negating the need for stopple valve arrangement, it is proposed that the land take requirement for stopple pits is retained to allow the proposal to revert to a stopple valve connection solution should that be required. Furthermore, an approximate 39,000 m² site establishment area would be required to accommodate site establishment and facilities and material storage during construction, which would be

<sup>&</sup>lt;sup>1</sup> Stopples are valve/plug arrangements to allow completion of connections without requirement for temporary outages in supply



- located broadly central between the two tie-in points, north-west of the Bridge House / Joiners Cottage Loop Road.
- 1.2.7. Following completion of the diversion, the redundant pipeline sections (i.e. the section which the diversion has bypassed) would be grout filled and / or removed by the National Grid Main Works contractor.

#### **Northern Powergrid and Northern Gas Networks**

- 1.2.8. The NGN and NPG services currently extend in a north-south direction approximately 400 m west of the existing A1 alignment, crossing the offline Section of the Scheme (and the route of the proposed HPGM diversion) at approximate chainage 17500. It is therefore necessary to divert these utilities to allow the Scheme to be constructed.
- 1.2.9. At their northern extent, the NGN and NPG would be diverted east, to the north of Causey Park Road towards Causey Park Lodge. The proposed diversions would then cross Causey Park Road and continue south parallel to the western side of the de-trunked A1, and then follow the existing loop-road that provides access to the existing Oak Inn on its western side, crossing the Earsdon Burn either at the existing road bridge (within the road construction or below the burn by directional drill) or adjacent to the bridge by directional drill, to a connection point approximately 100 m west of the Oak Inn.

#### 1.3 CONSULTATION

1.3.1. The Draft WSI was submitted to NCA on the 24<sup>th</sup> May 2019 and comments were received on the 6<sup>th</sup> June 2019. The WSI was amended in light of the comments and resubmitted to the NCA.



#### 2 HISTORIC ENVIRONMENT BASELINE SUMMARY

#### 2.1 SITE LOCATION

2.1.1. The proposed works are located approximately 9km north of Morpeth and 5.5 km south of Felton. The proposed works lie 240 m north of Causey Park Bridge, and between 60 m and 380 m west of the existing A1 (**Appendix B**, **Figure 1 and Figure 2**).

#### 2.2 TOPOGRAPHY

2.2.1. The topography along the proposed works area rises from approximately 80 m above Ordnance Datum (aOD) in the south to 85 m aOD in the north.

#### 2.3 GEOLOGY

2.3.1. Information gathered from the British Geological Society (BGS accessed 04/03/2019) identifies the underlying bedrock geology as being Stainmore Formation (mudstone, siltstone and sandstone). This is a sedimentary bedrock formed (approximately) 319-329 million years ago in the Carboniferous period. The superficial geology, for the majority, is Till, Devensian (Diamiction).

#### 2.4 ARCHAEOLOGICAL POTENTIAL

#### INTRODUCTION

2.4.1. The detailed review of the archaeological potential of the Scheme is presented in the HEDBA (Application Document Reference: TR010041/APP/6.7, Appendix 8.1) and Chapter 8: Cultural Heritage of the ES (Application Document Reference: TR010041/APP/6.2), drawing on the evidence provided from the geophysical survey (Appendix 8.2) and LiDAR assessment (Appendix 8.3). The following section presents the archaeological potential for the proposed works area only.

#### **CHRONOLOGICAL SUMMARY**

2.4.2. The HEDBA (Application Document Reference: TR010041/APP/6.7, Appendix 8.1) provides a detailed archaeological and historical background for the Scheme, which is summarised below.

#### **Prehistoric Period**

2.4.3. The Palaeolithic period is typically represented by isolated finds such as the flints found at Eltringham, near Prudhoe, c.25 km south-east of the proposed works area, however, there is no evidence of Palaeolithic activity recorded in close proximity. The Mesolithic period is represented in the Study Area by several pieces of Mesolithic flint found near West Moor Farm, approximately 4 km to the north. In the wider landscape the Mesolithic period is represented by a Mesolithic settlement site at Howick, approximately 20 km north-east of Felton. The Neolithic period is represented by isolated finds consisting of an arrowhead and three stone axe heads. Notably, two of the stone axe heads were located in an area where,



documentary evidence suggests, there was an undated earthwork 75 m in diameter. The location lies to the 3.5 km north and is now occupied by the disused East Thirston Moor Camp RAF airfield. Bronze Age activity within the area consists of a bowl barrow burial monument, which lies 1.5 km to the north. It is believed that the primary burial in this barrow is undisturbed. There is no evidence of Iron Age activity within the Scheme boundary, however, a complex of un-investigated cropmarks within the Study Area at Silver Hill may date to the period.

#### **Roman Period**

2.4.4. The proposed works area lies 19 km to the north of Hadrian's Wall and as a result there was limited Roman influence over patterns of land use and settlement in the landscape. It is, therefore, thought that many of the field systems, enclosed settlements and farmsteads identified as cropmarks could have seen continuity in use from the Iron Age to the Romano-British period. Cropmark complexes comprising rectilinear enclosures and circular features, which may reflect Romano-British activity, have been identified throughout the area, including at Northgate Farm, West Shield Hill Farmhouse and Fenrother and at Silver Hill.

#### **Early Medieval Period**

2.4.5. There is no evidence of Early Medieval activity recorded near the proposed works area, although it is well represented in the wider landscape. The Anglo-Saxon kingdoms of Bernicia and Deira covered the Northumbria region and between the seventh and eighth centuries the "Golden Age of Northumbria" arose with monasteries being built at Lindisfarne and Hexham. In the late 8th century the Vikings infamously raided the east coast, beginning at Lindisfarne however, there is little Viking evidence available.

#### **Late Medieval Period**

- 2.4.6. The origins of the townships within the area surrounding the proposed works site can be traced back to the 13th and 14th centuries and many of the regions churches were founded in this period. Elements of Felton's Church of St Michael and All Angels date to the 13th century and the Church of St Cuthbert in Hebron is thought to have medieval chancel walls of 12th century origin. There is also evidence for a settlement known as Helm, located approximately 1.5 km north of Causey Park Bridge and the site of a 13th century Chapel is recorded 1km to the north.
- 2.4.7. Following the Norman Conquest, 16 motte and bailey castles were built within the region including at Morpeth and Mitford. Several monasteries were established in the area from the mid-12th century, including at Newminster, near Morpeth. The early part of this period also saw the steady increase in the population resulting in the establishment of new settlements and their gradual growth, including Morpeth.
- 2.4.8. War with Scotland and the Black Death outbreak in the 14th century led to population decline and the shrinking of settlement, with some villages being abandoned altogether. There is evidence for this in the Study Area at Bockenfield, Burgham and at Helm. During the 15th century, existing defences at the castles were strengthened and a new type of



building, "the tower house", was introduced in many Northumberland villages as part of the Lord's residence. One example of a tower house is located at Causey Park, although documentary evidence points to this being of 16th century date.

#### **Post-Medieval Period**

2.4.9. The Post-Medieval period appears to be one of the most prosperous periods for the area surrounding the Scheme, and there are a large number of heritage assets near the Scheme from this period. The majority of these assets are buildings, milestone markers and headstones. The Grade II\* Sundial from Causey Park, approximately 700 m to the west of the proposed work site, is rare, and contains the dated name of a local man: "William Ogle 1703". The agricultural heritage assets within the area indicate the prosperity of the agricultural sector during this time. Many land owners reorganised their fields and converted arable land in to intensive pasture, resulting in the preservation of areas of ridge and furrow cultivation as earthworks throughout the area.

#### **Industrial Period**

2.4.10. In the wider landscape coal mining became the dominant industry within the region and improved transport links allowed for greater trade links and a steady supply of workers. As a result, the population grew and between 1801 and 1891 it doubled in Northumberland. This increase was reflected in the expansion of towns and villages.

#### **Modern Period**

2.4.11. World War II remains dominate evidence of the Modern period within the landscape around the area. RAF Eshott Airfield was built between World War I and World War II and the site contained accommodation, air raid shelters and hangers. Further evidence comprises a crash site of a Republic P47 Thunderbolt and a Royal Air Force Spitfire, a Grade II Listed Pillbox near West Thirston and a tank depot at Felton Park.

#### **BURIED ARCHAEOLOGICAL REMAINS WITHIN THE SCHEME**

- 2.4.12. There are no designated heritage assets located within the proposed works site.
- 2.4.13. The Northumberland Historic Environment Record has identified a cropmark of a possible rectilinear enclosure, located within the proposed works site (HER 11367). The LiDAR assessment identified traces of this feature and established that it is sub-rectangular in form and is largely formed of two sections of ditch, approximately 0.5 m in depth in places but generally shallower than this, with the northern one almost right-angled and acting as the north and eastern boundary of the enclosure. In addition to the ditch sections, traces of a slight bank are visible on the western side. The enclosed area, covering 2.2 hectares, is defined by the top of a slope. Faint traces of further potential enclosures were also identified in the LiDAR in the immediate vicinity (**Application Document Reference:**

**TR010041/APP/6.7, Appendix 8.3, Figure 4 and Figure 8**). The enclosure is potentially of Prehistoric date, however without further investigation the date is unknown. The value of the potential heritage assets cannot be determined at this stage without further investigation.



2.4.14. The geophysical survey identified eight fragmented linear anomalies of potential archaeological origin in the same area, both within and immediately outside of the proposed works site (see Appendix B Figure 2, and Application Document Reference: TR010041/APP/6.7, Appendix 8.2). An archaeological origin has yet to be established, however they are potentially associated with the rectilinear enclosure feature (HER 11367).



#### 3 AIMS AND OBJECTIVES

- 3.1.1. To mitigate the impact on the identified archaeological remains a strategy of 'preservation by record' is proposed, in the form of archaeological strip, map and sample within the proposed works site, where any ground disturbance is required.
- 3.1.2. Removal of topsoil (and the loss of any residual evidence it contains) could expose any archaeological remains that may be present immediately beneath. These may then be adversely impacted by movement of vehicles and plant involved in construction activities, for example through rutting and compaction. Topsoil removal without archaeological supervision may result in overstripping, which would have an impact upon archaeological remains or understripping, where archaeological features are concealed beneath a thin layer of topsoil but are then exposed and unprotected from subsequent construction activities.
- 3.1.3. Strip, map and sample is usually reserved for larger areas to capture an overall plan of remains, the different phases present, and the activity represented. It involves rapid archaeological excavation, recording and sampling and is suitable for large areas of impact where complex/deep archaeological remains are not anticipated. The strategy aims to record remains without causing significant delays to the construction programme. If complex remains are encountered, sufficient time will be allowed for recording, with topsoil stripping continuing elsewhere, to minimise the risk of delays.
- 3.1.4. An archaeological excavation, which includes the approach of strip, map and sample, is defined by the Chartered Institute for Archaeologists is 'a programme of controlled, intrusive fieldwork with defined research objectives which examines, records and interprets archaeological deposits, features and structures and, as appropriate, retrieves artefacts, ecofacts and other remains within a specified area or site on land, inter-tidal zone or underwater. The records made and objects gathered during fieldwork are studied and the results of that study published in detail appropriate to the project design' (CIFA, 2014a).

#### 3.2 RESEARCH AIMS AND OBJECTIVES

- 3.2.1. The following research objectives have been identified. These research objectives may be revised during the course of the fieldwork in consultation with the LPA Archaeological Advisor:
  - Are there any remains of the rectilinear enclosure within the proposed works area?
  - Can a date for the rectilinear enclosure identified through cropmark and LiDAR assessment be determined?
  - Can the function and purpose of the enclosure be determined?
  - Are there any internal features preserved within the enclosure?
  - Are there any external features associated with the enclosure?
  - Is there any evidence for human activity not associated with the rectilinear enclosure within the proposed works site?

## A1 in Northumberland - Morpeth to Felton WSI



- Are the geophysical survey anomalies of archaeological origin? If so, what do they represent?
- How reliable is the geophysical survey for predicting the presence of and density of the archaeological remains?



#### 4 METHODOLOGY

#### 4.1 GENERAL REQUIREMENTS

- 4.1.1. The SMS will be carried out by a suitably qualified archaeological contractor, as defined by the Chartered Institute for Archaeologists' (ClfA) Code of Conduct and in the ClfA Standard and Guidance for an Archaeological Excavation (2014a). They would be required to prepare a detailed method statement (see below) which would set out how the SMS would be undertaken. The archaeological contractor will supply a suitably qualified and experienced team of archaeologists to carry out the investigation. The archaeological contractor will have demonstrable experience of working on similar projects and with comparable archaeological remains.
- 4.1.2. The SMS would be monitored by the Applicant (or their nominated representative), the Principal Contractor and NCC.
- 4.1.3. All work undertaken will conform to Historic England's Management of Research Projects in the Historic Environment (2015a), the ClfA Code of Conduct, the ClfA Standard and Guidance for an Archaeological Excavation (2014a) and other relevant ClfA Standards and Guidance documents.

#### **DETAILED METHOD STATEMENT**

- 4.1.4. The archaeological contractor will prepare a detailed Method Statement for the SMS in response to this WSI. The Method Statement will set out how the programme of SMS will be delivered. It will include detail of the archaeological contractor's staff, programme, contingencies and specialists. The contractor's Method Statement should conform to the outline in MoRPHE Project Planning Note 3: Archaeological Excavation and would contain information on the following:
  - The size and qualification of the work force including names and experience of key personnel.
  - Details of staffing levels and the number of person days to be spent on each specific task.
  - Details of specialists, including qualifications, who are likely to have input into the Scheme. Whether they are in-house or contracted in.
  - Details of the recording system for fieldwork and post-excavation analysis.
  - A timetable covering the whole project from setting up on site through report writing to deposition of the archive, including suitable allowance for bad weather or other unforeseen circumstances, the latter must be clearly indicated.
- 4.1.5. It is recommended that the archaeological contractor undertakes a walkover survey as part of the preparation of the Method Statement in order to review any on-site constraints with the Principal Contractor (e.g. routes of the existing overhead cables and the below ground utilities) and to determine what measures need to be undertaken and reported in the RAMS.



#### **EXCAVATION CONSTRAINTS**

4.1.6. The archaeological contractor will be responsible for locating any drainage pipes, service pipes, cables etc., which may cross the area of excavation, and for taking the necessary measures to avoid disturbing such services. It will be the responsibility of the archaeological contractor to address the requirements of any other constraints, which may include Tree Preservation Orders, public rights of way, contaminated land, areas of ecological interest and the habitats of protected species.

#### **Confirmation of Adherence to Specification**

4.1.7. Prior to the commencement of any work, the archaeological contractor must confirm adherence to this WSI in writing to the Applicant (or their nominated representative) and the Northumberland County Archaeologist (NCA), or state (with reasons) any proposals to vary the WSI. Should the contractor wish to vary the specification, then written confirmation of the agreement with the Applicant (or their nominated representative) and the NCA to any variations is required prior to work commencing. Unauthorised variations are made at the sole risk of the contractor.

#### **Documentary Research**

4.1.8. As part of the Scheme, a HEDBA of the site was carried out (Application Document Reference: TR010041/APP/6.7, Appendix 8.1). The HEDBA will be made available to the archaeological contractor in order to provide an overview of the archaeological/historical background of the site and its environs. In addition to providing a knowledge base for the work in hand, the results of this assessment may be incorporated into the contractor's report where they are considered to contribute to that report, but any extraneous material should be omitted.

#### 4.2 FIELDWORK METHODOLOGY

#### PRELIMINARY TOPSOIL REMOVAL

- 4.2.1. Machine stripping of the proposed topsoil area will be carried out under archaeological direction by a 360° tracked excavator fitted with an appropriate toothless ditching bucket. Undifferentiated topsoil overburden of recent origin will be removed by machine excavation in level spits of approximately 50–200mm to the upper-most level of any identified archaeological remains / archaeological horizon or the natural geology is exposed. Where necessary, the surface of archaeological deposits will be cleaned by hand.
- 4.2.2. Care will be taken for the machining not to have an impact any archaeological remains buried at shallow depths. No machinery (or vehicles) will cross stripped areas until they have been given the 'all-clear' by the on-site archaeologist, especially in wet weather conditions, as rutting and compaction by plant and vehicles may have an impact on archaeological remains. All earthmoving and other vehicles will avoid travelling on the freshly stripped subsoil and areas of archaeological investigation. Care should be taken not



- to damage archaeological deposits through excessive use of mechanical excavation, and the use of protective fabric may be considered.
- 4.2.3. The topsoil will be stored separately to subsoil and if required the removed turf will be stored separately under suitable conditions. All spoil heaps will be metal detected by the archaeological subcontractor on a regular basis, for the purpose of retrieving any metal artefacts missed during the monitoring and hand excavation.
- 4.2.4. The archaeological team will undertake monitoring of the machine stripping, hand-cleaning and planning in close succession (on the same or consecutive days) in order to ensure the pre-excavation site plan captures all archaeological features. If vulnerable features are revealed (such as graves and/or cremations) special consideration shall be taken, and materials such as protective fabric may be used to protect remains until recording and/or removal can take place.
- 4.2.5. A digital pre-excavation site-plan of any archaeological features will be prepared at an appropriate scale. All archaeological features will be surveyed and located to an accuracy of 0.1m or greater using a total station theodolite (TST) or differential Geographical Positioning System (GPS).
- 4.2.6. Areas containing particularly significant archaeological remains will be protected and not left open to the weather or exposed to vandalism overnight. All reasonable measures will be taken to protect or preserve features 'in situ' overnight and to store any archaeological materials (such as artefacts and records), both on or off site. Artefacts of particular significance may have to be taken offsite and stored at a secure location.

#### ARCHAEOLOGICAL EXCAVATION AND RECORDING

- 4.2.7. Following monitoring of the preliminary stripping, archaeological excavation and recording within the area can commence. All excavation work will be supervised and monitored by a fully qualified Archaeological Project Officer/Supervisor.
- 4.2.8. A pre-excavation site-plan will be produced. The site plan will be used to guide the recording and sampling strategy which will be subject to an updated specification if necessary, in consultation with the Applicant (or their nominated representative), the NCA and Historic England's Regional Science Advisor. The excavation strategy will be flexible and will accommodate changes as the fieldwork proceeds. The excavation strategy will be justified against the stated aims and objectives of the excavation and will be agreed with the NCA.
- 4.2.9. Where archaeological horizons are encountered, subsequent archaeological excavation will be undertaken by hand.
  - All exposed archaeological deposits and features will be recorded using a pro forma recording system.
  - A context record will be kept on pro-forma record cards. Each discrete archaeological layer, fill, cut, etc., will be individually numbered and described in terms of soil composition, stratigraphic position, dimensions, artefact content, samples, with



professional interpretation as to the likely nature and date of the feature. The context system will be able to be cross-referenced to all records, and will be compatible with digitisation.

- Registers will be kept of all photographs, levels, plans, sections, finds and samples taken in the field.
- A complete drawn record of excavated archaeological features and deposits will be made. Plans and sections will be drawn at a scale deemed appropriate, i.e. generally 1:20 or 1:50 for plans, 1:10 for sections) and tied to the Ordnance Survey National Grid.
- All plans and sections will include the Ordnance Datum (OD) height of strata and all principal features (as defined by OSGM15 and OSTN15).
- A 'site location plan', indicating site north shall be prepared at 1:1250. A plan at 1:200 (or 1:100) shall be prepared showing the location of archaeology investigated in relation to the investigation area. The location of site plans will be identified using OSGB coordinates.
- Single context planning (MOLA 1993) shall be used where complex stratigraphy is encountered.
- A 'Harris matrix' stratification diagram shall be employed to record stratigraphic relationships (Harris et al. 1993), where appropriate. This record shall be compiled and checked during the course of the fieldwork with spot dating, where appropriate, incorporated onto this diagram.
- A full photographic record will be made (see below).
- All hand drawn information shall be digitised (or preferably generated digitally in the first instance).
- 4.2.10. Where modern features are seen to truncate the archaeological remains, these will be removed, where practicable, in a manner that does not damage the surrounding deposits.
- 4.2.11. The following sampling strategy is proposed. The sampling excavation strategy set out above will be reviewed continuously onsite and amended in order to take account of changing circumstances. Any changes or amendments will be agreed between the Applicant (or their nominated representative) and the NCA.

Table 4-1 - Proposed sampling strategy

Feature Type	Minimum percentage of each example
Stake-hole	100%
Post-hole or pit	50%
Linear feature (less than 5m)	20%; all termini and intersections will be excavated
Linear feature (greater than 5m)	10%; all termini and intersections will be excavated



Feature Type	Minimum percentage of each example
Deposits relating to funerary activity (e.g. burials, cremation deposits)	100% (subject to agreement with curator)
Deposits relating to domestic/industrial activity (postholes, hearths, floor surfaces/floor makeup deposits)	100%
Agricultural pits and features	50%
Agricultural linear features (e.g. ditches/gullies, paths/tracks	20% for prehistoric features 10% for Roman and later features. All termini and intersections will be excavated

#### **Photography**

- 4.2.12. A full and detailed photographic record of individual contexts will be maintained and similarly general views from standard view points of the overall site at all stages of the excavation will be generated. Photography will be undertaken using high-resolution digital cameras (no less than 10 megapixels). Photograph records will be maintained on index pro-forma sheets.
- 4.2.13. Images may be captured in RAW format but archiving should follow the guidance given by Historic England (2015b) in Digital Image Capture and File Storage: Guidelines for Best Practice. Digital images will be archived in both a JPEG and TIFF formats. The latter as uncompressed 8-bits per channel TIFF version 6 file of not less than 25 Mbs (See section 2.3 of the Historic England guidance). The contractor must include metadata embedded in the TIFF file. The metadata must include the following: the commonly used name for the site being photographed, the relevant centred OS grid coordinates for the site to at least six figures, the relevant township name, the date of photograph, the subject of the photograph, the direction of shot and the name of the organisation taking the photograph.

#### 4.3 ARTEFACTS AND ENVIRONMENTAL SAMPLES

#### **Artefacts**

- 4.3.1. All recovery, retention and treatment of finds and samples will be carried out mindful of the overall purpose of the exercise, i.e. to evaluate for further decision making, as expressed in CIfA (2014a) para 3.2.12.and 3.3.8. To this end, all artefactual and ecofactual material will be reviewed on site for its capability to inform the SMS report.
- 4.3.2. Identified archaeological finds and artefacts will be carefully recovered by hand and bagged or boxed according to the type of artefact (i.e. pottery, ceramic building material/CBM, bone, worked flint, metal) archaeological context from which they came, with a label indicating the



site code, find type and context reference number). Particularly notable artefacts will be recorded as a 'registered' find, and recorded three dimensionally with Ordnance Datum levels. This will include in situ prehistoric worked flint.

- 4.3.3. Initial conservation and storage will be in a proper manner and to standards set out follow First Aid for Finds (Leigh *et al* 1998) and the ClfA 'Standard and Guidance for the collection, documentation, conservation and research of archaeological materials' (ClfA 2014b). If necessary, an appropriately qualified and experienced archaeological conservator will be appointed to advise and assist in the lifting of fragile finds of significance and or value and to arrange for the X-raying and investigative conservation of objects as may be necessary.
- 4.3.4. Certain classes of bulk material, i.e. post-medieval pottery and building material may be discarded if there is a considerable quantity (more than a single standard archive box of c. 0.016 m²), after recording with a representative sample.
- 4.3.5. Post-medieval remains associated with industrial activity will not be subject to discard and post-excavation analysis is required on the full sample.
- 4.3.6. All pottery, bone and worked flint will be washed and then marked in accordance with the project archive repository guidelines. Most building material and burnt flint (not including significant diagnostic material) will be identified, counted, weighed and discarded. Samples will be retained as appropriate. The finds identification and specialist work will be undertaken by the relevant finds specialists agreed with the NCA to assess the date range of the assemblage with particular reference to pottery use relevant county or region-specific type series for identification and dating, where available. This evidence will be used to characterise the site, and to establish the potential for all categories of finds should further archaeological work be necessary. Records of artefact assemblages will clearly state how they were recovered, sub-sampled and processed. Consideration will be given for donation of appropriate artefacts to type series reference collections.

#### **Treasure**

4.3.7. Any artefacts that fall under the statutory definition of Treasure (as defined by the Treasure Act of 1996 and its revision of 2002) will be reported immediately to The Applicant (or their nominated representative), the Principal Contractor, the NCA, the relevant Coroner's Office, the Finds Liaison Officer and the landowner. A Treasure receipt must be completed and a report submitted to the Coroner's Office and the FLO within 14 days of understanding the find is Treasure. Failure to report within 14 days is a criminal offence.

#### **Human Remains**

4.3.8. If human remains are encountered the Applicant (or their nominated representative), the NCA and the local Coroner will be informed immediately. Human remains should be left in situ and only removed if absolutely necessary. Where excavation of human remains is unavoidable, it will be undertaken following the provisions of the Coroners Unit in the Ministry of Justice and relative professional guidelines. It is essential that the post-excavation assessment of excavated human remains contains an analysis of the material



and a statement for the final deposition of the assemblage. The qualified statement must address future research potential, where applicable, and the options for reburial.

#### **Environmental Samples**

- 4.3.9. If archaeological deposits, which may have environmental potential are identified, a programme of environmental sampling will be initiated. A range of samples will be undertaken from dated and undated deposits and features. The sampling strategy will follow the Historic England environmental sampling guidelines outlined in Environmental Archaeology, A guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation (English Heritage 2011). Unless clear justification can be provided, it is assumed that 100% of the environmental samples obtained during the excavation will be processed.
- 4.3.10. Secure and phased deposits, especially those related to settlement activity and/or structures will be considered for sampling for the recovery of charred plant remains, charcoal and mineralised remains. Any cremation-related deposits will be sampled appropriately for the recovery of cremated human bone and charred remains. If any evidence of in situ metal working is found, suitable samples for the recovery of slag and hammer scale will be taken.
- 4.3.11. Where sealed waterlogged deposits are encountered, samples for the recovery of waterlogged remains, insects, molluscs and pollen, as well as any charred remains, will be considered. The taking of sequences of samples for the recovery of molluscs and/or waterlogged remains will be considered through any suitable deposits such as deep enclosure ditches, barrow ditches, palaeo-channels, or buried soils. Monolith samples will also be taken from this kind of deposit as appropriate to allow soil and sediment description/interpretation as well as sub-sampling for pollen and other micro/macrofossils such as diatoms, foraminifera and ostracods.
- 4.3.12. For remains suspected to be of Neolithic to Romano-British, the use of multiple radiocarbon dates should be applied and where possible samples should be taken from contexts with stratigraphic relationships to allow the use of Bayesian calibration of dates, in accordance with the North Eastern Regional Research Framework (Petts and Gerrard 2006). The need for any more specialist samples, such as OSL, archaeomagnetic dating and dendrochronology will be evaluated and will be taken under the direction of the relevant specialist.
- 4.3.13. The strategy for environmental sampling must be outlined in the archaeological contractor's method statement, and will be subject to variation as appears necessary during the SMS. Variations to the strategy will be made following consultation with the NCA, The Applicant (or their nominated representative) and the Historic England Assistant Science Advisor or the project's palaeoenvironmentalist.



#### **Metal Detecting**

4.3.14. Spoil heaps are to be scanned for ferrous and non-ferrous metal artefacts using a metal detector capable of making this discrimination, operated by an experienced metal detector user (if necessary, operating under the supervision of the contracting archaeologist). Modern artefacts are to be noted but not retained (19th-century material and earlier should be retained.) Artefacts recovered by metal detecting should be clearly identified in the final report.

If a non-professional archaeologist is to be used to carry out the metal-detecting, a formal agreement of their position as a sub-contractor working under direction must be agreed in advance of their use on site. This formal agreement will apply whether they are paid or not.



#### 5 REPORTING

#### 5.1 GENERAL REQUIREMENTS

- 5.1.1. A report on the fieldwork and archive will be completed and made available within six weeks of the of the completion of fieldwork. The report will describe the methods employed and its conclusions will include a clear statement of the archaeological value of the results, and their significance. The report will conform to the standards set out in the CIfA Standard and Guidance for Archaeological Excavation (2014a) and must contain sufficient detail to enable the results to be interpreted without recourse to the site archive. It will include tabulations of contexts and finds by context. It will also include a non-technical summary of the project and its results.
- 5.1.2. The findings of the fieldwork will be related to the relevant known archaeological and historical information held by the Northumberland HER.
- 5.1.3. Reporting on ceramic artefacts and pottery should follow the guidance given in 'A Standard for Pottery Studies in Archaeology' (2016) and endorsed by the Prehistoric Ceramics Research Group; the Study Group for Roman Pottery & the Medieval Pottery Research Group.
- 5.1.4. In the first instance, the archaeological contractor will submit a digital copy of the draft report in .docx format to the Applicant (or their nominated representative) for review and comment.
- 5.1.5. Following any amendment required by the Applicant (or their nominated representative), the draft report will be submitted by the archaeological contractor to the NCA for approval. The report will be submitted in a timely manner to allow further work, if necessary, to be scheduled and the planning application to be determined in an informed manner. If specialist reports are outstanding then a catalogue of finds with spot dates may be submitted with the report.
- 5.1.6. A fully indexed field archive shall be compiled consisting of all primary written documents, plans, sections, photographic negatives and a complete set of labelled photographic prints.
- 5.1.7. The full report, once accepted by the NCA, will be supplied on the understanding that it will be added to the Northumberland Historic Environment Record and will become a public document after an appropriate period of time (generally six months).

#### 5.2 REPORT CONTENT

- 5.2.1. The report will include, as a minimum:
  - A summary sheet providing the following information:
    - Site name and grid reference
    - Site activity (i.e. type of investigation)
    - Date and duration of project
    - Contractor Site code



- Area of site
- Summary of results
- Monuments identified
- Location and reference of archive
- And the following main sections, as appropriate to results:
  - Summary
  - Site location
  - Archaeological and historical background
  - Methodology
  - Description of results (including stratigraphic description, if necessary)
  - Interpretation of the results in the appropriate context
  - Summary of the archaeological potential of the proposed works and immediate surrounding area
  - Consideration of the significance of the findings on a local, regional and national basis
  - Critical review of the effectiveness of the methodology
  - References
  - Appropriate photographs in colour
  - Location Plan (no smaller than 1:10 000)
  - Site layout plans on an OS base, with north point and scale with the location of trial pits/trenches
  - Plans and sections of significant archaeological remains, as necessary, including Cardinal Points, Ordnance Datum, vertical and horizontal scales
  - Site matrices where appropriate
  - Specialist descriptions of artefacts and ecofacts as required
  - Summary of the contents of the project archive and its location (including summary catalogues of finds)
  - Photographic Register, and
  - Copy of the OASIS record form.

#### 5.3 PUBLICATION AND DISSEMINATION

- 5.3.1. In order to fulfil the planning condition, the results of the investigation will need to be published and disseminated at a level that is appropriate to the significance of the remains recorded.
- 5.3.2. Copies of the report should be deposited with the Northumberland Historic Environment Record (HER), on the understanding that it will be made available as a public document after an appropriate period (not exceeding 6 months from the completion of fieldwork); a further hard copy to be sent to the client. Electronic (PDF) copies of the report will also be provided alongside the hard copies.

## A1 in Northumberland - Morpeth to Felton WSI



- 5.3.3. A summary account of the work should be submitted to the editor of the local archaeological journal Archaeology Round-up and any relevant period journals (e.g. Medieval Archaeology, Proceedings of the Prehistoric Society) no later than March 31st of the year following completion of fieldwork.
- 5.3.4. Further publication may range from a 'grey literature' archaeological report, to a short journal article in local and period-based archaeological journals as appropriate (as above), to a full monograph. The level of dissemination would be determined in consultation with the NCA.
- 5.3.5. In all cases a short summary of the results of the work will be submitted to the HER, and National Record for the Historic Environment (NHRE), as maintained by Historic England, via a standard OASIS archaeological report form. The archaeological contractor must, therefore, complete the online OASIS form at http://ads.ahds.ac.uk/project/oasis/.



#### 6 ARCHIVE

#### 6.1 GENERAL REQUIREMENTS

- 6.1.1. All recovered artefacts are the property of the Landowner. The Applicant (or their nominated representative) will provide the relevant contact details of the Landowner(s) to the archaeological contractor in order to commence the transfer title of artefacts so that the archive, including all artefacts, can be deposited with the Great North Museum.
- 6.1.2. The site archive will be assembled in accordance with Archaeological Archives: A Guide to Best Practice in Creation, Compilation, Transfer and Curation (Archaeological Archive Forum 2007). It will also adhere to the recommendations in MoRPHE (Historic England 2015), Guidelines for the Preparation of Excavation Archives for Long-term Storage (United Kingdom Institute for Conservation, 1990), Standards in the Museum Care of Archaeological Collections (Museums and Galleries Commission, 1994); and relevant CIfA standards and guidance.
- 6.1.3. The site archive will contain all the data collected during the fieldwork, including records and finds, and all reports. The archaeological contractor will ensure that the archive is quantified, ordered, indexed and internally consistent, and adequate resources will be provided to ensure that all records are checked. Archive consolidation will be undertaken immediately following the conclusion of fieldwork.
- 6.1.4. The archaeological contractor will ensure that the project is recorded on the OASIS database. All parts of the OASIS online form http://ads.ahds.ac.uk/project/oasis/ will be completed and a copy will be included in the final report and also with the site archive. A digital copy of the approved report will be uploaded to the OASIS website.

#### **Archive Deposition**

6.1.5. An integrated project archive (including both artefacts/ecofacts and project documentation) should be prepared upon completion of the project for deposition with the Great North Museum. The digital archive will be deposited with the Archaeology Data Service. Provision should be made for the payment of a 'deposit grant' at the time of archive transfer towards the costs of archive curation in perpetuity. The rates and requirements currently employed by the nominated depositing museum for its archive store should be used for guidance.



#### 7 OPERATIONAL FACTORS

#### 7.1 PROJECT TIMETABLE AND MONITORING ARRANGEMENTS

- 7.1.1. The Applicant (or their nominated representative) will liaise with the archaeological contractor regarding access and the health and safety requirements in force on the site. Information will be provided to the NCA as relevant. A programme of works, monitoring, recording and access will be agreed by the archaeological contractor, the Applicant (or their nominated representative) and the NCA before the project commences.
- 7.1.2. The Applicant (or their nominated representative) will be kept informed of progress by the archaeological contractor to allow for any monitoring visits by the NCA to be conducted during the course of the fieldwork.

#### Monitoring

- 7.1.3. The Applicant (or their nominated representative) will monitor and assure all elements of the archaeological fieldwork, and will ensure that the work is carried out in accordance with this WSI, professional standards and the requirements of the NCA. Any variance in the scope of work shall be made by the Applicant (or their nominated representative), in consultation with the NCA.
- 7.1.4. Any key decisions (such as excavation strategy or work scope changes) that are made on site shall be noted during the monitoring visits and communicated by the Highways England (or their nominated representative) to relevant parties. Visits by the NCA will be arranged so that they are satisfied that the works are being conducted to proper professional standards. Access is also to be afforded at any reasonable time to Historic England's Archaeological Science Advisor.

#### 7.2 HEALTH AND SAFETY

- 7.2.1. All relevant health and safety regulations and codes of practice will be respected. The Applicant will provide the archaeological contractor with all known site constraints, such as areas of contamination, utilities and access limitations. The archaeological contractor will provide a Health and Safety Statement prior to the commencement of the archaeological investigation. All site procedures will be carried out in accordance with the guidance set out in the Health and Safety Manual compiled by the Federation of Archaeological Employers and Managers (FAME) and in accordance with current legislation which includes:
  - The Health and Safety at Work Act (1974)
  - Management of Health and Safety at Work Regulations (1999)
  - The Construction (Design and Management) Regulations (2015)
  - The Control of Asbestos Regulations (2006)
  - Construction (Health, Safety and Welfare) Regulations (1996)
  - The Health and Safety (Miscellaneous Amendments) Regulations (2002)
  - The Control of Substances Hazardous to Health Regulations (2002)



- The Health and Safety (First-Aid) Regulations (1981)
- The Regulatory Reform (Fire Safety) Order (2005)
- The Provision and Use of Work Equipment Regulations (1998)
- Lifting Operations and Lifting Equipment Regulations (1998)
- 7.2.2. Prior to the start of the archaeological investigation, risk and method statements will be produced and submitted to the Client and/or Principal Contractor. All staff involved or associated with the investigation will be provided with copies of the documents prior to the beginning of the works and they will be required to read them before commencing construction works.
- 7.2.3. The archaeological contractor will be responsible for the safeguarding of its staff, as far as reasonably practicable, and others who may be affected by the works on site.
- 7.2.4. The Applicant (or their nominated representative) must be notified immediately of the nature and extent of any unexpected site hazards and the appropriate health and safety precautions required
- 7.2.5. Personal Protective Equipment (PPE) will be worn by all staff as appropriate

#### 7.3 INSURANCE

7.3.1. Full details of the insurance and copies of certificates covering the archaeological contractor shall be supplied upon request.

#### 7.4 POST-EXCAVATION DELIVERABLES

- 7.4.1. The Applicant (or their nominated representative) will technically assure the deliverables conform to the format and scope agreed with the NCA, and that the reporting is accurate and clear and with sound conclusions, and that it has been produced to professional standards and the requirements of the NCA. This will be the case whether the agreed deliverables take the form of an archaeological report for the HER, journal article or monograph.
- 7.4.2. The Applicant (or their nominated representative) will liaise with the archaeological fieldwork subcontractor to ensure that the work is carried out to an agreed delivery programme.

#### 7.5 COPYRIGHT

7.5.1. Copyright will remain with the archaeological fieldwork contractor under the *Copyright*, *Designs and Patents Act 1988* with all rights reserved. An exclusive licence will be provided to the client, or their appointed representative, for use of all project records and reports in all matters directly relating to the project. The archaeological fieldwork contractor retains the right to be identified as the author of all project documentation and reports.

## Appendix A

REFERENCES



#### PUBLISHED AND DOCUMENTARY SOURCES

Archaeological Archive Forum, 2011, Archaeological Archives: a guide to best practice in creation, compilation transfer and curation

Archaeological Services Durham University, 2018, A1 Morpeth to Felton Geophysical Survey, unpublished report

British Geological Survey, <a href="http://mapapps.bgs.ac.uk/geologyofbritain/home.html">http://mapapps.bgs.ac.uk/geologyofbritain/home.html</a> accessed 04/03/2019

Chartered Institute for Archaeologists, 2014a, *Standard and Guidance for an Archaeological Excavation* 

Chartered Institute for Archaeologists, 2014b, Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives

Chartered Institute for Archaeologists, 2014c, Standard and guidance for the collection, documentation, conservation and research of archaeological materials

Chartered Institute for Archaeologists, 2014c, Standards and guidance for commissioning work or providing consultancy advice on archaeology and the historic environment

Historic England, 1992, Archaeological Assessment and Evaluation Reports (Guidelines)

Historic England, 2009, Archaeological Guidance Paper 3: Standards and Practices in Archaeological Fieldwork

Historic England, 2011, Environmental Archaeology: A guide to the theory and practice of methods, from sampling and recovery to post-excavation

Historic England, 2015a, Management of Research Projects in the Historic Environment (MoRPHE)

Historic England, 2015b, *Digital Image Capture and File Storage: Guidelines for Best Practice* 

Leigh D, Watkinson and Neal V 1998, First Aid for Finds: Practical Guide for Archaeologists Museums and Galleries Commission, 1992, Standards in the Museum Care of

Museum of London, 1994, Archaeological Site Manual

Archaeological Collections.

Society of Museum Archaeologists, 1995, *Towards an Accessible Archive. The Transfer of Archaeological Archives to Museums: Guidelines for Use in England, Northern Ireland, Scotland and Wales.* 

Standing Conference of Archaeological Unit Managers, 1991 revised 1997 Health and Safety in Field Archaeology, Manual

Petts, D, and Gerrard, C. 2006. Shared Visions: The North-East Regional Research Framework for the Historic Environment, Durham County Council

## A1 in Northumberland - Morpeth to Felton 6.1 Environmental Statement



Treasure Act 1996 Code of Practice (2nd Revision) 1996, DCMS

Treasure (Designation) Order 2002, TSO

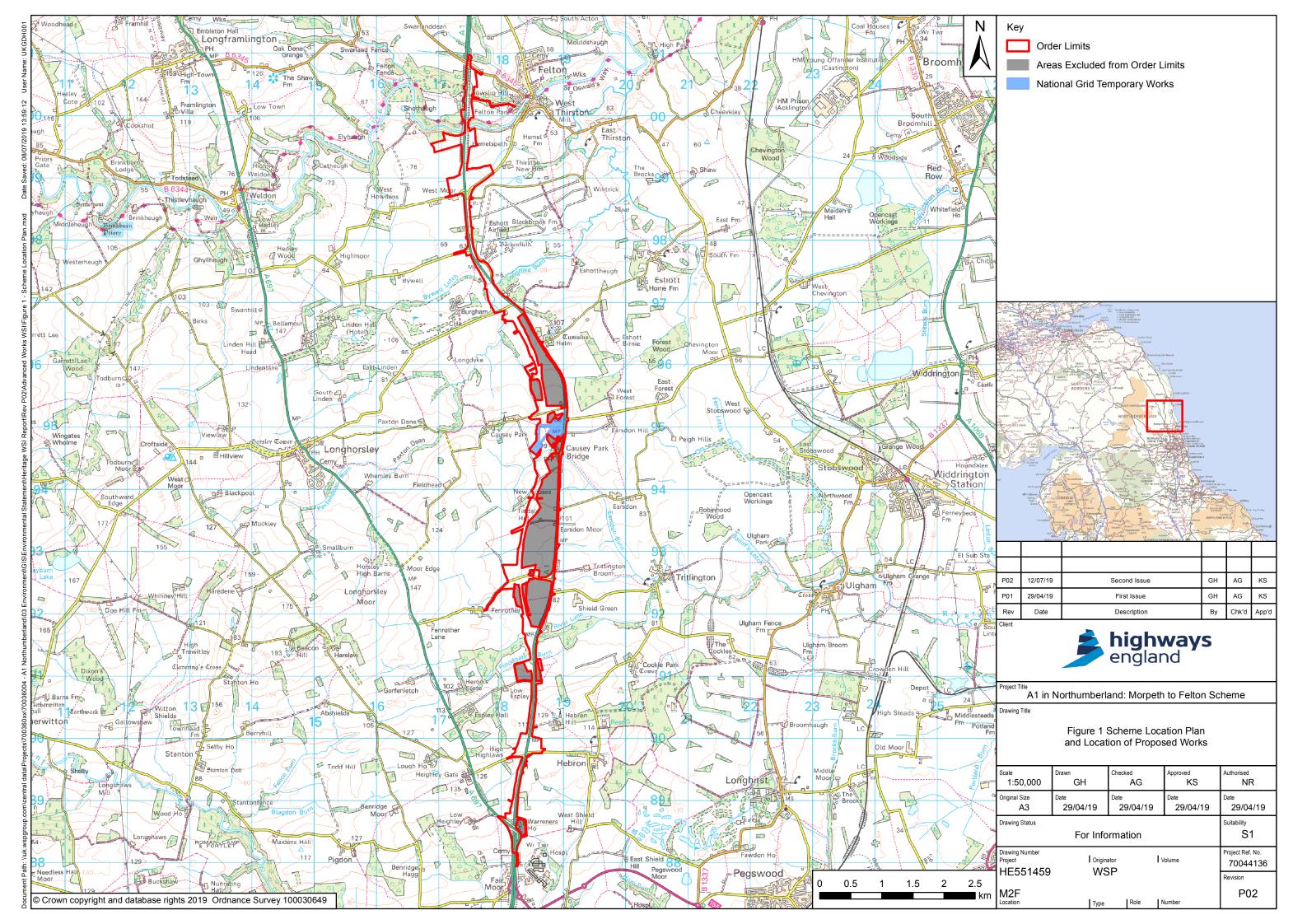
United Kingdom Institute for Conservation, 1990, *Guidance for Archaeological Conservation Practice* 

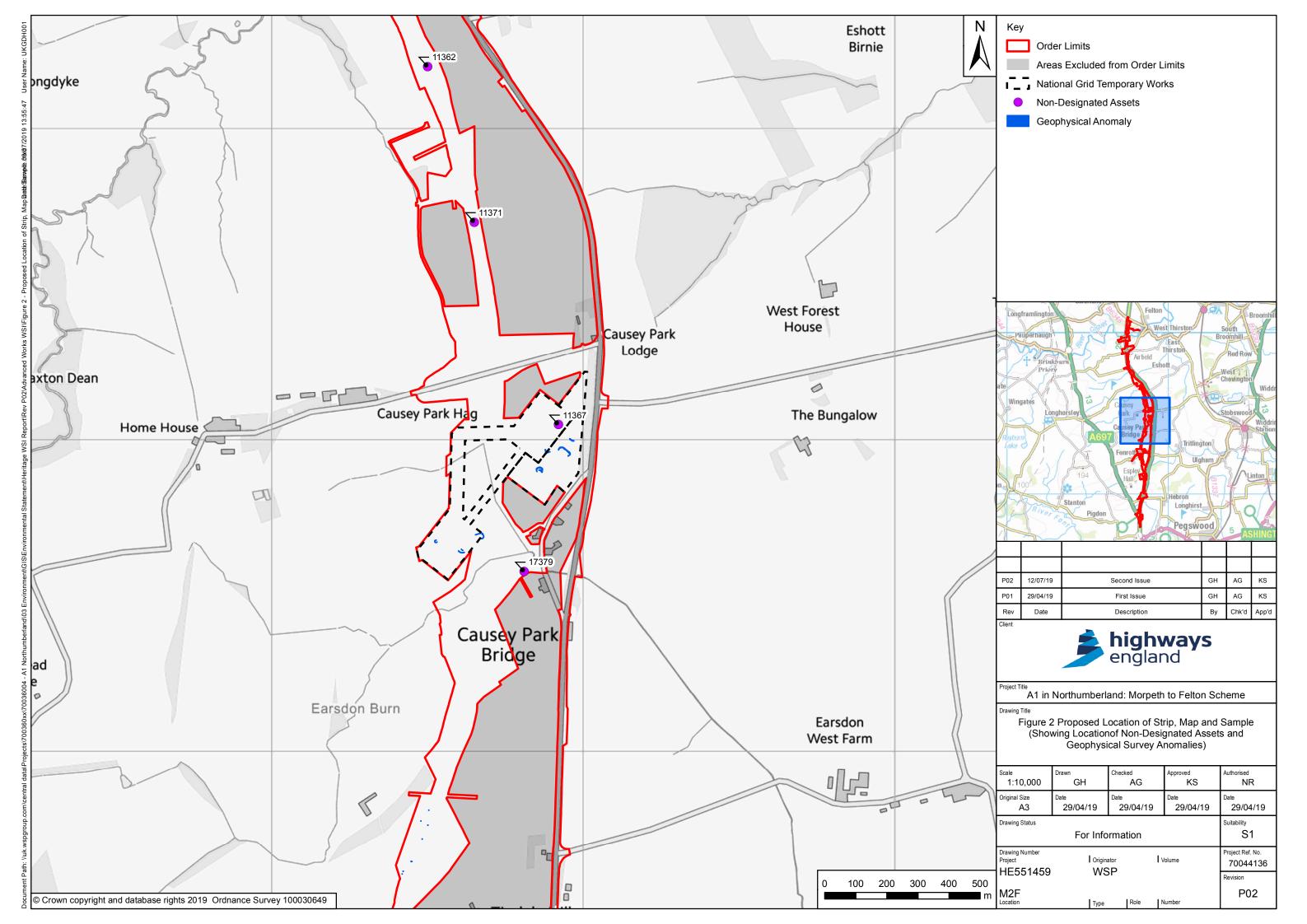
Wessex Archaeology, 2018, A1 Morpeth to Felton: LiDAR Assessment, unpublished report No. 210460.01

WSP, 2018, A1 in Northumberland: Morpeth to Felton Scheme, Historic Environment Desk-Based Assessment, Unpubl. Rep.

## Appendix B

**FIGURES** 





#### © Crown copyright 2020.

You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence. To view this licence:

visit www.nationalarchives.gov.uk /doc/open-government-licence/write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or email psi@nationalarchives.gsi.gov.uk.

This document is also available on our website at www.gov.uk /highways

If you have any enquiries about this document A1inNorthumberland@highwaysengland.co.uk or call **0300 470 4580**\*.

\*Calls to 03 numbers cost no more than a national rate call to an 01 or 02 number and must count towards any inclusive minutes in the same way as 01 and 02 calls.

These rules apply to calls from any type of line including mobile, BT, other fixed line or payphone. Calls may be recorded or monitored.

Registered office Bridge House, 1 Walnut Tree Close, Guildford GU1 4LZ Highways England Company Limited registered in England and Wales number 09346363