

Appendix 1 – Historic Environment Record Data (HER 015/22)

Author – Andrew Ward with data supplied by East Sussex County Council Historic Environment Record.

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Table 1 - Tabulated HER Monument Data

HER Reference	Site Name	Monument Type	Period
MES3005	Seven Sisters	Field System	Bronze Age – Roman
MES3047	NE of Bailey’s Hill	Findspot - Handaxe	Palaeolithic
MES3056	Went Hill	Findspot – Coins	Iron Age
MES3057	Went Hill	Findspot – Sickle	Neolithic
MES3068	Bailey’s Hill	Linear Barrow Cemetery	Bronze Age
MES3069	Mitchdean	Findspot – Flints	Neolithic
MES3072	Crowlink Gap and Farm	Findspot – Flints	Palaeolithic
MES3048	Seven Sisters	Findspot – Cores	Mesolithic
MES3085	Flagstaff Brow	Earthwork	?Modern
MES3086	Crowlink	Findspot – Axes	Mesolithic
MES3087	Crowlink	Findspot – Axes	Mesolithic
MES3091	Crowlink Area	Findspot – Flints	Neolithic
MES8680	Flagstaff Brow	Findspot – Flints	Bronze Age
MES16128	Seven Sisters	Findspot – Flake	Bronze Age
MES19147	Went Hill	Sunken Track	Undated
MES19148	Went Hill	Track	Prehistoric
MES20074	Birling Gap	Trackway	Late Prehistoric
MES20075	Crowlink	Munitions Dump	Second World War
MES20077	Flagstaff Bottom & Flat Hill	Lynchet	Early Bronze Age – Roman

MES20078	Crowlink	Hamlet	Medieval
MES20208	Bailey's Hill	Findspot – Pottery Sherd	Mid to Late Bronze Age
MES21010	Crowlink	Findspot – Flint	Early Neo – Late Bronze Age
MES23973	The Granary, Crowlink	Granary	18 th Century
MES24470	Flat Hill, Crowlink	Gun Emplacement	Second World War
MES24471	Flat Hill, Crowlink	Barrow	Bronze Age
MES24472	Went Hill	?Gun Emplacement	Second World War
MES24473	West of Crowlink	Barrow	Bronze Age
MES24475	West of Crowlink	Barrow	Bronze Age
MES25767	Birling Gap	Memorial	First World War
MES26097	Bailey's Hill, Seven Sisters	Firing Range	Second World War
MES27202	Bailey's Hill, Seven Sisters	Barn (Site of)	19 th century
MES32967	Crowlink, East Dean	Farmstead	18 th century
MES32972	Northwest of Birling Farm	Outfarm	19 th century
MES33652	Seven Sisters Country Park	Findspot – Flints and Pottery	Bronze Age
MES33833	Michal Dene, Crowlink	Memorial Obelisk	20 th Century
MES35179	Bailey's Hill, Seven Sisters	Features	Second World War
MES35288	Land south of Gayle's Farm, Friston	Geophysical Anomalies	Undated
MES35410	Gayles Farm, Cuckmere	Quarry	Post Medieval
MES35411	Gayles Farm, Cuckmere	Quarry	Post Medieval
MES35413	Gayles Farm, Cuckmere	Trackway	Post Medieval
MES35414	Gayles Farm, Cuckmere	Barrow	Prehistoric
MES35444	Gayles Farm, Cuckmere	Lynchet	Undated
MES35446	Gayles Farm, Cuckmere	Earthwork	Undated
MES35447	Gayles Farm, Cuckmere	Lynchet	Undated
MES35448	Gayles Farm, Cuckmere	Lynchet	Undated

MES35449	Gayles Farm, Cuckmere	Lynchet or Field Boundary	Undated
MES35451	Seven Sisters Coastguard Cottages, Birling Gap	Coastguard Cottages (Site of)	19 th century
MES35452	Gayles Farm, Cuckmere	Structural Remains	Post Medieval
MES35453	Gayles Farm, Cuckmere	Gun Emplacement	Second World War
MES35454	Gayles Farm, Cuckmere	Earthwork	Undated
MES35469	Gayles Farm, Cuckmere	Dew Pond	Post Medieval
MES35470	Gayles Farm, Cuckmere	Memorial Stone	20 th century
MES35471	Gayles Farm, Cuckmere	Earthwork	Undated
MES35631	Bailey's Hill, Seven Sisters	Ditch and Bank, Pottery	?Saxon
MES36557	Bailey's Hill, Seven Sisters	Ditch and Bank, Pottery	?Medieval
MES37801	Crowlink Cottages and Crowlink End, East Dean	Buildings	19 th century
MES37810	Seven Sisters Coastguard Cottages, Friston	Findspot – Flints	Neolithic

Table 2 - Tabulated Event Records

Event Number	Site Name	Organisation	Event	Dates	Results
EES14 106	Bailey's Hill, Crowlink	Ancient Monuments Laboratory	Geophysical Survey	01/01/1998	a series of significant anomalies related to associated barrows to the N and a two-phase pattern of field systems.
EES14 212	Bailey's Hill, Crowlink	Archaeology South East	Excavation	1998	pre barrow Late Neolithic/early Bronze Age cremation cemetery overlain by a later Bronze Age cairn containing an inhumation.
EES15 466	Crowlink, Friston	Sussex Archaeological Society	Excavation	1846	Barrow Cemetery

EES15 919	The Granary, Crowlink, Friston	David Gibson Architects	Heritage Statement/ Desk Based Assessment	April 2014	Recording of an 18 th century building
EES16 995	East Dean to Birling Gap EDF Electric Cable	Museum of London Archaeology Service	Watching Brief	September – December 2008	Medieval Activity
EES17 101	The Granary, Crowlink	Archaeology Services Lewes	Historic Building Recording	November 2014	Recording of 18 th century building.
EES17 158	The Granary, Crowlink	Archaeology Services Lewes	Watching Brief	10/03/2015	CBM, Animal bone and pottery sherds beneath 18 th century floor surface
EES17 327	Bailey's Hill, Friston	C.G. Archaeology	Geophysical Survey	01/08/2015	Magnetometer survey conducted of section of field on Bailey's Hill as part of the National Trust Seven Sisters Archaeology Project
EES17 328	Bailey's Hill, Friston	David Stavely	Geophysical Survey	20/06/2016	Magnetometer survey conducted of section of field on Bailey's Hill as part of the National Trust Seven Sisters Archaeology Project
EES17 425	Bailey's Hill, Seven Sisters	C.G. Archaeology	Evaluation	01/08/2015 – 11/08/2015	remnants of a prehistoric lynchet and possible peri-glacial feature, a later prehistoric (or perhaps Saxon) ditch and bank and a second ditch and bank of likely medieval or post – medieval origin. A walkover survey was also conducted as part of the excavation and identified 26 features. These consisted almost exclusively of possible WWII features. One feature was identified as a prehistoric lynchet, subsequently confirmed through excavation.
EES17 697	Seven Sisters Country Park	Allen Environmental Archaeology	Geotechnical Investigation	11/04/2015 – 05/10/2015	Overall the valleys contain relatively shallow and late colluvial sequences; ie typically 1m of less and typically later prehistoric in date. This preliminary work suggests significant contrasts between the occupational and land-use

					history of the downlands of Seven Sisters Country Park and Bullock Down, as well as within the Seven Sisters Country Park
EES18 361	Birling Gap & Seven Sisters	Archaeology South East	Archaeological Management Plan	April 2017	
EES18 362	Seven Sisters Coastguard Cottage, Friston	Eastbourne Heritage Service	Excavation	November 2015	A community excavation was carried out by members of the Seven Sisters Archaeology Project alongside professionals from Eastbourne Heritage Service. Evidence of the 19th century Coastguard Cottages as well as a small scattering of Neolithic flints were recorded.
EES18 363	Crowlink Coastguard Station, Friston	Seven Sisters Archaeology Project	Desk Based Assessment	2015	
EES18 366	Land south of Gayle's Farm, Friston	Archaeology South East	Magnetometry Survey	13/03/2017 – 17/03/2017	ASE was asked to conduct a magnetometer survey on a site totalling approximately 10.5ha of land south of Gayles Farm, Friston. The majority of detected anomalies were linear in nature and grouped in the east of the survey. These anomalies appeared to correlate with upstanding earthworks noted in previous work.
EES19 124	Archaeology On the Edge	Oxford Archaeological Unit	Desk Based Assessment	November 2019	Identified risks to heritage assets from coastal erosion
EES19 522	Mesolithic and Upper Palaeolithic sites in England	Council for British Archaeology	Finds Gazetteer	1977	List of Mesolithic and upper palaeolithic sites.
EES19 768	Crowlink Cottages, Friston	Archaeology South East	Historic Building Recording	2002	Historic building recording was undertaken in 2002 at Crowlink Cottages, Friston. Nos. 1 & 2 were only viewed externally. Nos. 3 & 4 were viewed internally. For more information on this event please see: http://www.archaeologyse.co.uk/rohas/index.php

EES18 634	South East Rapid Coastal Zone Assessm ent	Wessex Archaeolo gy	Coastal Zone Assessmen t	Septem ber 2012	A rapid coastal zone assessment was carried out by wessex archaeology over six areas. This work resulted in the production of a standalone HBSMR database and associated GIS Layers. The East Sussex work produced a report for 1100 records.
EES93 27	Crowlink Barrow, Baileys Hill	Sussex Archaeolo gical Society	Excavation	1852	

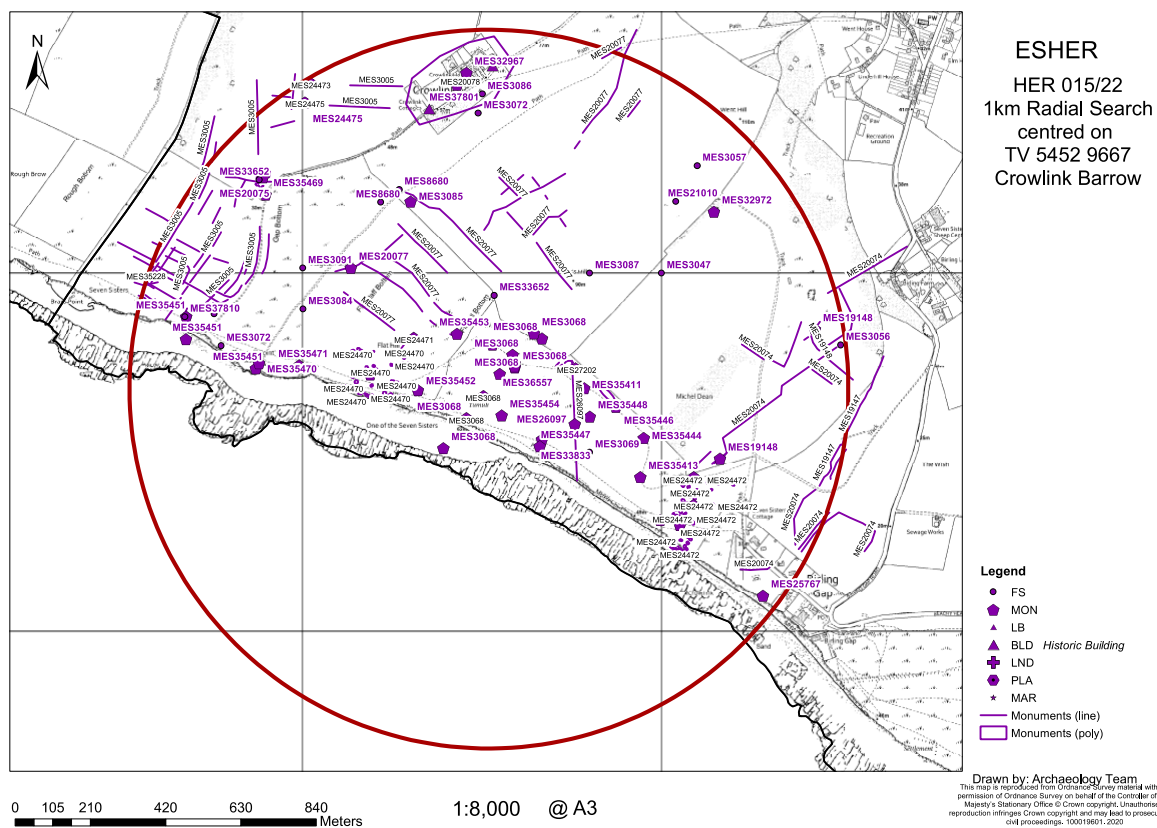


Figure 1 - Monument Data

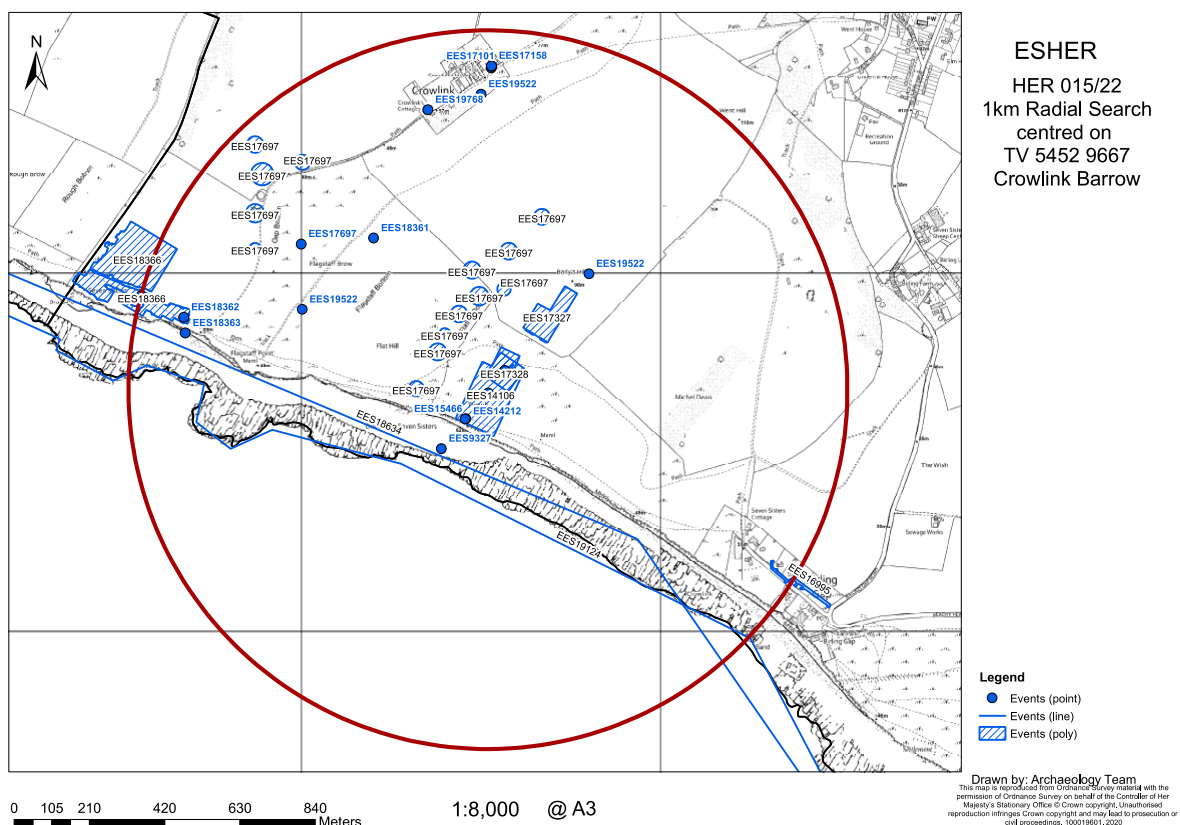


Figure 2 - Event Data

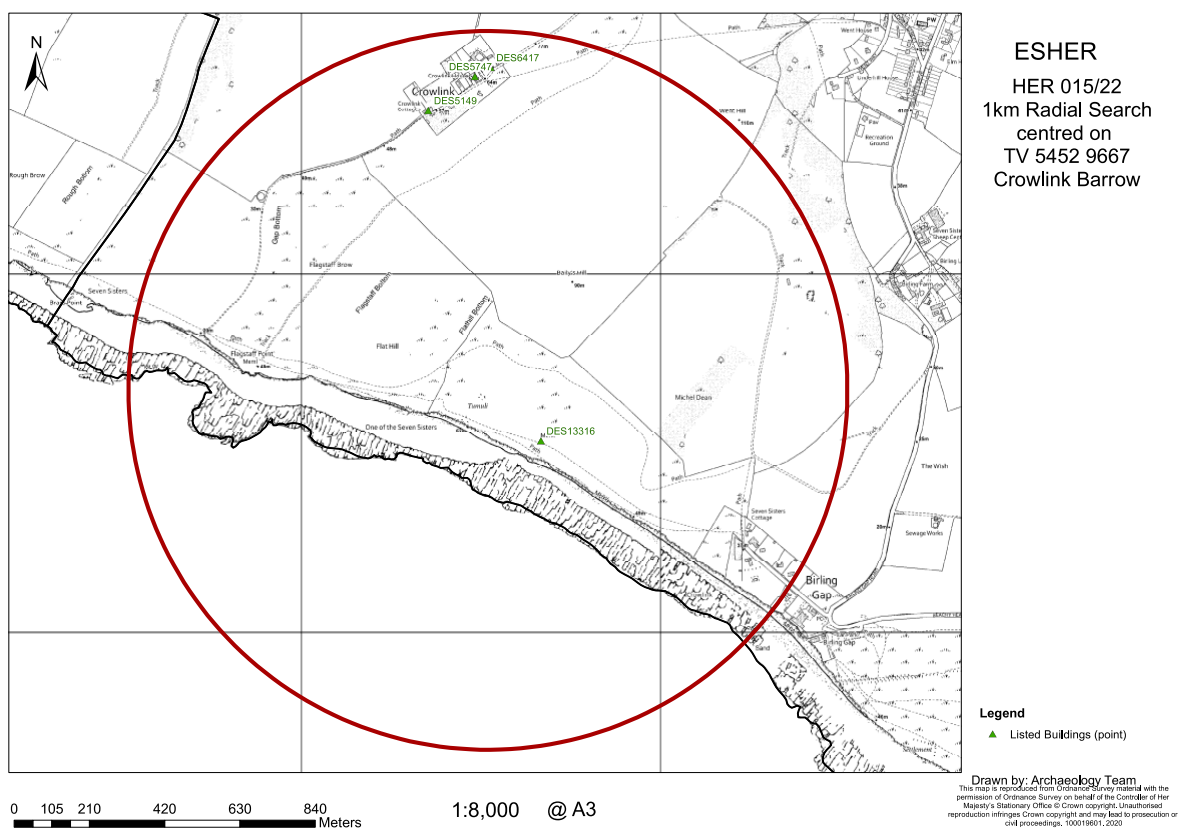


Figure 3 - LB Data

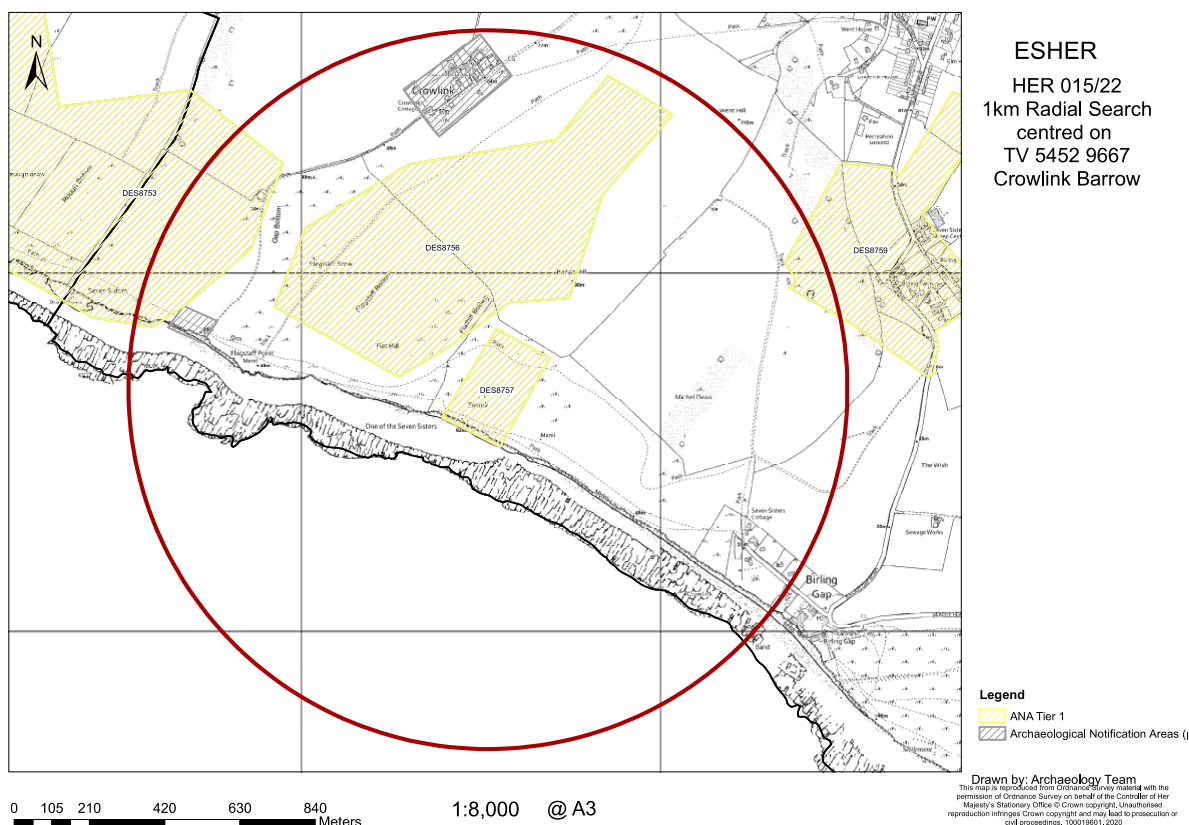


Figure 4 - ANA Data

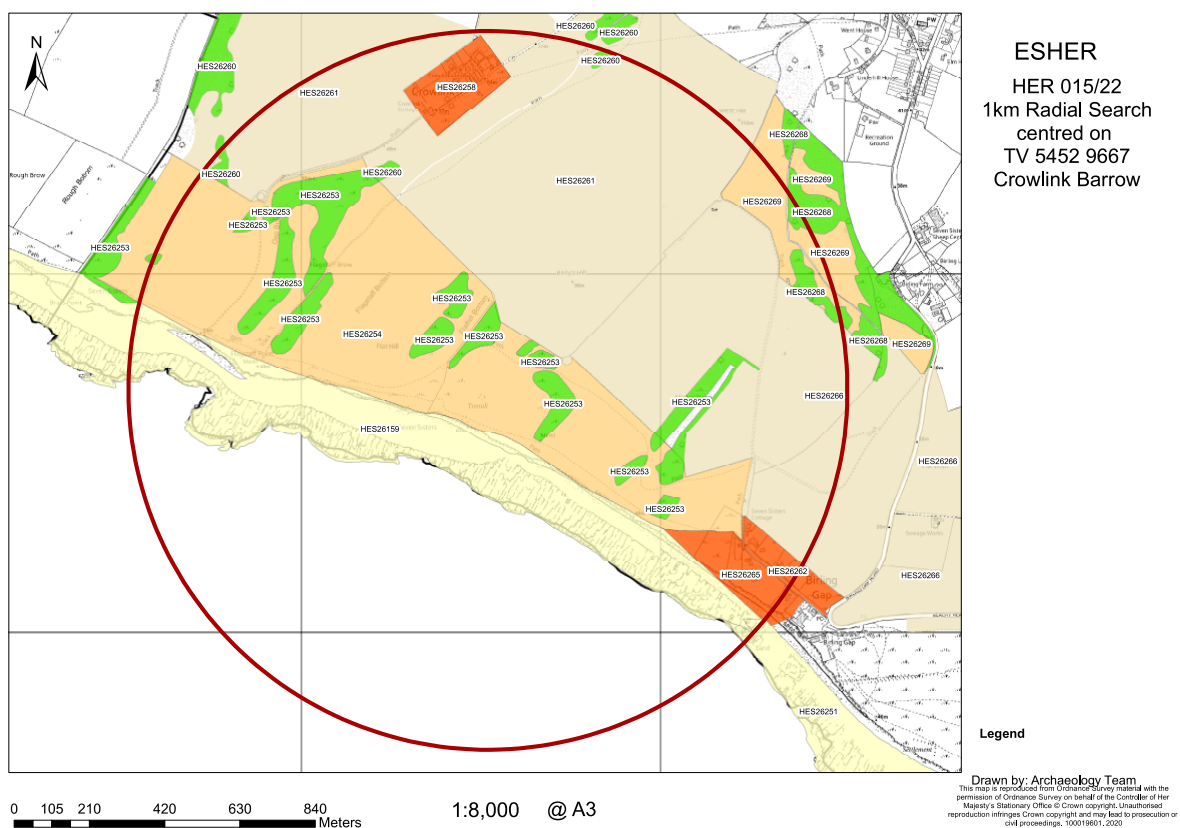


Figure 5 - HLC Data

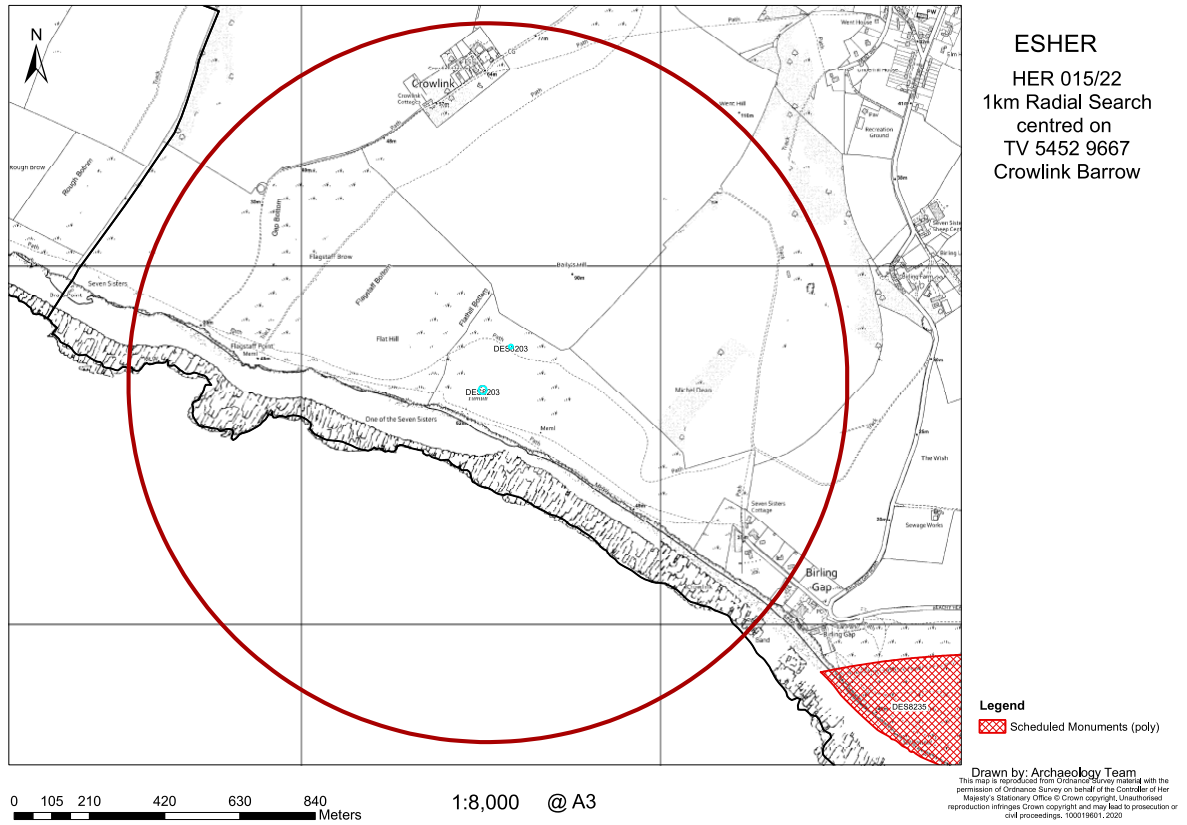


Figure 6 - SAM Data

From: Andrew Ward Andrew.Ward@eastsussex.gov.uk 
Subject: FW: Brief for Crowlink Barrow Excavation
Date: 13 April 2022 at 10:52
To: 2112922@student.uwtsd.ac.uk



You don't often get email from andrew.ward@eastsussex.gov.uk. [Learn why this is important](#)

RHYBUDD: Deilliodd yr e-bost hwn o du allan i system E-bost Prifysgol Cymru Y Drindod Dewi Sant. Peidiwch ag ateb, na chlicio ar ddolenni nac agor atodiadau oni bai eich bod yn adnabod cyfeiriad e-bost yr anfonwr ac yn gwybod bod y cynnwys yn ddiogel.

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Andrew Ward, BA (Hons), PCIfA

Historic Environment Record Assistant

Archaeology, Community, Environment and Transport (CET)

Pronouns: He/His

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My working days are Monday - Thursday. I am working from home most days.

From: Chris Greateorex <Chris.Greateorex@eastsussex.gov.uk>

Sent: 13 April 2022 10:48

To: Andrew Ward <Andrew.Ward@eastsussex.gov.uk>

Subject: Brief for Crowlink Barrow Excavation

Dear Andrew

BRIEF FOR ARCHAEOLOGICAL WORK.

Total excavation of a barrow mound located on Baily's Hill, near Crowlink, Eastbourne.

Thank you for your email regarding the proposed archaeological excavation of Crowlink barrow.

This monument is located near to the edge of a rapidly crumbling cliff and thus requires total archaeological excavation in advance of its destruction from coastal erosion.

The total archaeological excavation of the monument should.

- Survey and record the upstanding remains prior to intrusive works.

- Determine the physical characteristics of the barrow and the techniques employed during its construction.
- Ascertain the chronology of monument development and date sequential phases of barrow construction.
- Elucidate the activities undertaken at the site. The treatment and disposal of the dead should be a central focus of the excavation.
- Consider the 'cultural' history / significance of the monument into the historic period.
- Examine the immediate locale of the mound. Characterise and date any archaeological features discovered external to the mound, especially those associated with monument construction and function.
- Verify if the mound overlies a buried land surface and / or cultural horizon and scrutinise any sealed layer predating the barrow's formation for signs of human influence, including exploitation of the environment.
- Ascertain if scientific dating techniques could be applied to any sealed layer, or other deposits and fills discovered during the investigation.
- Ascertain if there are any human remains suitable for scientific analysis.
- Recover suitable palaeoenvironmental remains in order to clarify the development of the local landscape and explicit aspects of natural resource utilisation. The environment prior to barrow establishment and that contemporary with its use to be of particular importance. The picture of regional land-use to be refined.
- Subject all artefacts and ecofacts to a detailed programme of post-excavation assessment and analysis.
- Prepare a post-excavation assessment of the excavation results for consideration by the County Archaeology Team at East Sussex County Council.
- The post-excavation assessment should include provision for further post-excavation analysis of the fieldwork results (if required) and eventual publication of the results in a suitable refereed archaeological journal.

Prior to the start of fieldwork we will need to see a Written Scheme of investigation that defines the methodology proposed to address the project objectives outlined above. All archaeological work should conform to 'Sussex Standards 2019'.

Please do not hesitate to contact us for further information or advice on this matter.

Yours sincerely

Chris Greatorex

Archaeological Officer

Environment Advice

Communities, Economy and Transport

01273 336178 | 07702 152468

eastsussex.gov.uk

Please note that I only work from Monday to Wednesday 9.00am to 5.00pm



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CITATION

County: East Sussex

Site Name: Seaford to Beachy Head

District: Lewes; Wealden; Eastbourne

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981 (as amended).

Local Planning Authority: Lewes District Council; Wealden District Council; Eastbourne Borough Council

National Grid Reference: TQ 540970

Area. 1102 ha

Ordnance Survey Sheet: 1:50,000: 198, 199

1:10,000: TV59 NE, NW; TQ50 SW;
TQ40 SE; TV49 NE,- TV69
NW

Date Notified (under 1949 Act): 1953

Date of last Revision: 1965

Date Notified (under 1981 Act): 1986

Data of last Revision: 1988

Date of current notification: 15 November 1999

Reasons for Notification:

Seaford to Beachy Head is an outstanding site of national importance for its biological and geological features. The diverse range of habitats includes herb-rich chalk grassland, chalk heath (a unique, rare habitat on chalk soils), maritime grassland, foreshore and chalk cliffs, river meanders, and Greensand reef. Together, these habitats support a number of nationally rare, nationally scarce and nationally significant plants, invertebrates and birds.

The cliffs and chalk platform beneath, the Greensand reef, and the chalk escarpment at Cow Gap are identified in the Geological Conservation Review as outstanding for their geological and geomorphological interest.

General Description:

The site lies at the eastern end of the South Downs which terminate in the chalk cliffs of the Seven Sisters. The majority of the site, therefore, lies on chalk but the River Cuckmere breaches the cliffs to form a broad alluvial valley. There is also a distinct coastal zone which includes all of the geological interest.

Biology

(a) Terrestrial Chalk Habitats

These habitats include species-rich chalk grassland, scrub and woodland and a small area of the rare chalk heath. The chalk grassland flora is variable, due to local differences in climatic influence but the dominant species include sheep's fescue *Festuca ovina*, upright brome

Bromus erectus, for grass *Brachypodium pinnatum* and glaucous sedge *Carex flacca*. A characteristic feature of the site is the unusual predominance of southern elements of the British flora: these include rock sea lavender *Limonium binervosum*, sea radish *Raphanus maritimus* and rock samphire *Cerithium maritimum* on the steep chalk cliffs. On the cliff top, and further inland, species characteristic of this southern flora are round-headed rampion, *Phyteuma orbiculare*, burnt orchid *Orchis ustulata*, field fleawort *Senecio integrifolius*, moon carrot *Seseli libanotis*, small hare's-ear *Bupleurum baldense* and early spider orchid *Ophrys sphegodes*. The site also represents the most easterly location in Britain of several plants which have a predominantly south western distribution.

Chalk heath communities have developed at this site on neutral loess soils and contain both plants adapted to growing in acidic soils (calcifuges) and those adapted to growing in basic soils (calcicoles). This rare habitat is characterised here by species such as heather (ling) *Calluna vulgaris* and occasional bell heather *Erica cinerea* growing amongst typical downland herbs.

Belts of pure gorse *Ulex europaeus* dominate much of the scrub but mixed scrub is also present with blackthorn *Prunus spinosa*, hawthorn *Crataegus monogyna*, wayfaring tree *Viburnum lantana* and wild privet *Ligustrum vulgare*. Horseshoe Plantation is the only well developed wood find consists of sycamore *Acer pseudoplatanus*, ash *Fraxinus excelsior* and English elm *Ulmus procera*.

The invertebrate fauna includes two nationally rare species: the crane fly *Gonomyia conoviensis*, and the moth *Adscita globulariae*. The scrub and downland also support important invertebrate populations, including colonies of the silver-spotted skipper and adonis blue butterflies and several uncommon moths. The site is also important for its breeding bird populations, including peregrine falcon, fulmar, green woodpecker, stonechat, lesser whitethroat and yellowhammer, and is nationally significant for the numbers of passage birds, which use the Downs as a route-finding landmark. Over two hundred species of birds on passage have been recorded from Beachy Head alone. .

(b) Alluvial Habitats

The River Cuckmere has been canalised in its lower reaches but the meanders have been retained, although they now receive little tidal water. The alluvial meadows, and drainage ditches which dissect them, are important for the number of unusual plants they support. The main components of the meadows are sea barley *Hordeum marinum*, cocksfoot grass *Dactylis glomerata* and rye grass *Lolium perenne*. Also present are the nationally rare red star thistle *Centaurea calcitrapa* and the locally uncommon adder's tongue fern *Ophioglossum vulgatum* and slender hare's-ear *Bupleurum tenuissimum*. The drainage ditches are generally freshwater or brackish and prominent species include round-fruited rush *Juncus compressus*, common reed *Phragmites australis* and sea club-rush *Bolboschoenus maritimus*. More unusual plants are golden dock *Rumex maritimus*, marsh dock *Rumex palustris* and the water star-wort *Callitriche truncata*. Common reed dominates the 5 hectare Charleston reed bed and forms the ground flora beneath a small area of crack willow *Salix fragilis* woodland.

Saltmarsh communities, developed over clays and silts, line the canalised and upper reaches of the river. Bare muds by the water's edge have been colonised by glassworts *Salicornia* species, but above this is a mixed community of sea purslane *Atriplex portulacoides*, sea aster *Aster tripolium* and, less commonly, rock samphire *Crithmum maritimum* and annual seablite

Suaeda maritima. On slightly higher ground is a turf of sea couch grass *Elytrigia atherica*, common cord grass *Spartina anglica* and greater sea spurrey *Spergularia media*.

The Cuckmere valley is also important for breeding birds and for the nationally significant number and diversity of birds recorded on passage. The alluvial meadows, although rarely flooded, are also important for overwintering species, including teal, wigeon and snipe. The bush cricket *Tettigonia viridissima* has been recorded in grazing meadows near the sea.

(c) Coastal Habitats

These comprise the shingle bank which has developed either side of the mouth of the Cuckmere, and the cliff and foreshore with their attendant geological interest. The shingle is sparsely vegetated but supports a representative flora, with curled dock *Rumex crispus*, sea beet *Beta vulgaris* ssp. *maritima*, yellow horned-poppy *Glaucium flavum* and sea bindweed *Calystegia soldanella*. The shingle bank carries a number of uncommon centipedes, some of which have been recorded from nowhere else in the UK.

(d) Marine Habitats

Large areas of chalk foreshore are found in this site with a good representation of the main intertidal habitats characteristic of this shore type in the south east. The chalk shores of the Biding Gap area are particularly rich in algae and amongst the best, phycologically, in Sussex. A few elements of algal assemblages characteristic of the splash zone on chalk are present on the cliffs and in caves. Upper mid littoral levels are dominated by barnacles and limpets, but a dense furoid (wrack) canopy with foliose algal understorey is present from the middle shore downwards and the rock bored by several species of piddock and the worm *Polydora* spp. Large rock pools and runnels with flowing water often contain prolific algal growths with a considerable variety of green, brown and red seaweeds present. Deep, steep-sided gullies on the lower shore have 'interesting algal and invertebrate communities with characteristic algal assemblages found in sandy and muddy areas.

The Pound, at the eastern end of the site, is a very complex foreshore comprising eroded reefs, approximately parallel to the coastline, with channels, pools and lagoons between them floored by soft clay and chalk. The seaward side of the area is bounded by a high barrier reef of Upper Greensand; communities on the outer, wave exposed side of this contrast with those of more sheltered conditions on the inner side. The lagoonal system within this barrier contains interesting and unusual plant and animal assemblages and several species rare for south eastern England. It is one of the most important marine sites in the region. The presence of deep pools on the shore enables shallow and littoral algal species, including the large kelps, to be found. Japanese seaweed *Sargassum muticum* has also invaded the site. The rock overhangs are rich in invertebrates, including sponges and tunicates, as are the undersides of boulders in the lagoons. Piddocks are dense in the soft rock flooring the lagoons and there is a rich sessile and free living fauna.

Geology

The site is important for earth science interests, particularly for its chalk stratigraphy, periglacial geomorphology and the study of chalk landscape evolution.

The cliff section between Seaford and Cuckmere provides extensive stratigraphically complete exposures of Coniacian, Santonian and lowermost Campanian aged Chalk and includes the Lewes, Seaford and Newhaven Chalk Members. The site contains the candidate Global Stratotype sections for the bases of the Santonian and Campanian Stages as well as the recognised stratotypes for the Seaford Chalk and other units of the underlying Lewes Chalk. The section has been well documented over the past hundred years, both for its rich fossil faunas and sedimentological features. The latter includes calcarenite chalks, now interpreted as the product of slumping and synsedimentary tectonics. Recent studies using both fossil faunas and sedimentological data have assisted in the construction and interpretation of Upper Cretaceous sea-level curves and schemes of sequence stratigraphy reflecting both tectonic events within the basin and extra-basinal global changes in sea level.

Birling Gap is a key site for periglacial geomorphology and the study of chalk landscape evolution. The sea cliffs at Birling Gap provide the best example of a complete cross-section through a dry valley anywhere in Britain. A complex series of solifluction deposits on the floor of the valley overlie deeply weathered chalk. The deposits have been affected by large-scale contortions which may have originated when permafrost melted at the end of the Devensian Stage. A well-developed layer of these involutions underlies the valley sides, merging into the solifluction deposits on the valley floor.

Cow Gap is an important site for another aspect of periglacial geomorphology and the study of chalk landscape evolution. It is one of a set of otherwise unique amphitheatre-like embayments cut into the face of the Chalk escarpment between Eastbourne and Beachy Head. These features are thought to have been produced by bodies of snow or ice under very cold climatic conditions, which developed at some stage before the late Devensian. Cow Gap, which is truncated by the cliff line, provides the best known exposure of the deposits related to a scarp face embayment. The infill deposits are the product of solifluction and sediments deposited by meltwater, and preserve an important sequence of Devensian lateglacial and Flandrian molluscan faunas and a late glacial fossil soil.

Beachy Head Cave is the largest and best developed example in Britain of a phreatic conduit in chalk. It is the only cave of this type with any significant length of accessible passage. The cave was formed by water flowing at high pressure beneath the water table. It is therefore important for demonstrating the role and existence of conduit flow in chalk. The age of the cave is unknown, but it is clear that it is a relict example of the passages that extend beneath currently active chalk sinks.

Seaford - Beachy Head is a key site for coastal geomorphology, comprising a cliff-beach-shore platform system developed on chalk. The site includes the classic coastal cliffs of Beachy Head and the Seven Sisters. In contrast with the cliffs at Foreness Point (Kent) and Kingsdown - Dover (Kent) where structural controls prevail, the plan of the Seaford - Beachy Head coastline is controlled primarily by wave energy; with the dominant and prevailing wave energy from the southwest. The beach is one of six major south west facing beaches in southern England and all

of the others differ significantly in geological characteristics. In addition the beach is the most rapidly and consistently fed by flint from cliff falls.

Other Information:

This site occurs within the South Downs Natural Area. Seaford to Beachy Head is described in 'A Nature Conservation Review' (NCR) and will be listed in 'A Geological Conservation Review' (GCR). The site lies within the Sussex Downs Area of Outstanding Natural Beauty (AONB). The Seven Sisters Country Park and part of the Heritage Coast lie within the site and are managed by the Sussex Downs Conservation Board. Seaford Head Local Nature Reserve (LNR) is managed by Lewes District Council.

Appendix 4 – Detailed methodology

Author – Andrew Ward

1.0 Introduction

1.1 This appendix details the full methodology proposed for the investigation of Bailey's Hill Barrow located in the Seven Sisters Country Park, Friston. The proposed works, detailed in the project design (Ward Archaeology, 2022), will comprise a photogrammetric SUA/Drone survey of the extant barrow, an Historic England level 3 topographic survey followed by the full excavation of the barrow in order to investigate the monument in line with the brief set out by the East Sussex County Council Archaeology Team. This document will detail the proposed method for each piece of investigative work alongside the proposed recording scheme for features, sections, and plans.

2.0 Photogrammetric Survey

2.1 Drones, otherwise referred to as unmanned aerial vehicles (UAV) or Small Unmanned Aircraft (SUA), the preferred term used by Historic England and referred to in the project design (Historic England, 2022) are a useful tool for landscape surveys.

2.2 These small vehicles are particularly useful for carrying out surveys in areas which are difficult or dangerous to access, which is why this method has been proposed for the clifftop survey of the barrow.

2.3 The SUA work will be carried out by an appropriately qualified pilot and in line with Civil Aviation Authority (CAA) guidance CAP722. (Civil Aviation Authority, 2020).

2.4 Historic England (HE) produced guidance in 2017 aimed at demonstrating best practice for photogrammetric techniques in cultural heritage management (Historic England, 2017). This guidance will be adhered to during this project.

2.5 The basic procedure for photogrammetric survey, regardless of the method of data capture (i.e., SUA carried digital camera, terrestrial camera mount), is the same. Overlapping images of the subject, in this instance the upstanding barrow, will be captured. Tie points on the image are matched and camera orientations reduced, a dense point cloud is generated comprising all of the possible matches between the images projected in a 3D space. At this stage secondary products can be produced such as Digital Terrain Models (DTM) or Digital Surface Models (DSM) (Historic England, 2017, pp. 4-6).

- 2.6 Given the current land use of the barrow site being grassland a DSM will be the most appropriate as photogrammetry can only provide 'first return' images i.e., it cannot see beneath crop or tree cover as is found in Digital Terrain Models (Historic England, 2017, p. 53).

3.0 Topographic (Earthwork) Survey

- 3.1 Topographic surveys are defined as the controlled measurements of natural and man-made landscape features (Andrews, et al., 2015, p. 91).
- 3.2 The barrow will be recorded at 1:20 scale using the conventions detailed in the *Metric Survey Specifications*, section 6.6 (Andrews, et al., 2015, p. 97).
- 3.3 Computer Assisted Design (CAD) drawings will be produced for publication.

4.0 Full Barrow Excavation – Quadrant Method

- 4.1 Excavation is a destructive exercise, at the end of which only the written record and project archive is all that is left of the monument (Bahn & Renfrew, 2012, p. 105).
- 4.2 The aim of the excavation process is 'to identify, define, uncover, date and – by understanding transformation processes – interpret each archaeological context on site.' (Drewett, 2011, p. 100).
- 4.3 There are multiple methods of excavation which can be utilised in the process of an archaeological excavation. Methods include the box-grid process begun by General Pitt-Rivers as well as open-area excavation espoused by Philip Barker, are popular methods in commercial UK archaeology (Bahn & Renfrew, 2012, p. 106).
- 4.4 Due to the nature of the barrow excavation and the desired brief resulting in its total excavation the quadrant method has been proposed. The aim of this method is to expose features within the barrow while retaining baulks for stratigraphic analysis (Bahn & Renfrew, 2012, p. 117).
- 4.5 The excavation will be conducted using hand tools. As the site is located within a SSSI (Ward Archaeology, 2022), all turf will be put to one side, separate from other excavated material, and monitored as per the advice of Natural England. At the end of the excavation turf will be returned to its original state.

- 4.6 The baulks will be kept at 0.75m wide in order to accurately record the stratigraphy of the barrow's construction as well as allow for the safe removal of spoil.
- 4.7 It is hoped that the excavation of the barrow will identify the encircling ditch created during the barrow's construction. In order to better understand the constructional method of the ditch, 1m wide slots will be excavated every 2m around the ditch. These will be recorded in section prior to being fully excavated.
- 4.8 All archaeologically significant artefacts, ecofacts and samples will be retained and, where possible, related to the contexts from which they derived. Sensitive materials will be stored in appropriately stable conditions. Finds will be temporarily stored by Ward Archaeology in stable conditions. All finds, except those deemed to be Treasure, will remain the property of the South Downs National Park as the landowner.

5.0 Recording and Plans

- 5.1 Following discussions with the East Sussex County Council archaeological advisor it was agreed that all cut features will be subject to 100% excavation initially by section.
- 5.2 All deposits will be recorded using standardised context recording sheets, scale drawing, photography, and site notebooks. All deposits will be recorded individually and assigned context numbers. Significant deposits revealed during the excavation will be recorded by scale drawing at no less than 1:20 scale.
- 5.3 The baulks will be recorded in section at 1:10 scale.
- 5.4 Section and plan drawings will be produced of all uncovered features. A multi-feature plan will be produced for any features recorded beneath the barrow as appropriate (Drewett, 2011, p. 113). Sections will be recorded at 1:10 and plans will be drawn to 1:20.
- 5.5 The focus of the excavation of the barrow is to identify any buried land surface which may be present. To this end, the barrow will be reduced to the presence of the buried surface or the natural, whichever is reached first. Any recorded land surface will be recorded in plan after which the Historic England scientific advisor, Jane Corcoran, will be contacted for further advice.
- 5.6 Bulk sampling will be undertaken of cut features to identify suitable palaeoenvironmental contexts that may be suitable for radiocarbon dating and flotation.
- 5.7 Column sampling will be undertaken to identify pollen remains. Advice will be sought from the HE scientific advisor where necessary.

5.8 Human remains are highly likely to be encountered during the excavation of the barrow. Any encountered inhumation burials will be planned individually at 1:10 scale.

5.9 Skeleton recording forms will be used in the field alongside site photography, following cleaning, to allow for accurate office-based drawing to be produced if necessary (Adkins & Adkins, 1989, p. 80).

6.0 Site Photography

6.1 A photographic record of the entire site will be produced before, during and following excavation (Drewett, 2011, p. 131). It is hoped that a video diary can also be kept during the investigation.

6.2 All features will be digitally photographed in RAW format.

7.0 Post-Fieldwork Methodology

7.1 One of the aims of the proposed investigation is to identify suitable layers for scientific dating. These included Carbon-14 dating (C14) for human remains and ecofacts such as charcoal and pollen.

7.2 Optical Spectral Luminescence (OSL) will be aimed to analyse any buried soils found during the reduction of the barrow.

7.3 All finds, written, drawn, and photographic records will be organised and made readily accessible so that an appropriate post-excavation programme can be prepared (Drewett, 2011, p. 137).

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Appendix 5 – Risk Log and Project Timetable

Author – Andrew Ward

Risk Number	Description	Probability	Impact	Countermeasures	Estimated time/cost	Owner	Last Updated
R001	Inclement Weather/Poor Visibility	Medium	Low	Check weather reports prior to the start of each week of work	N/A	Andrew Ward	12/05/2022
R002	Specialists Unavailable	Low	High	Written contractual agreements will be put in place with relevant specialists well in advance of project start date	1 day	Andrew Ward	12/05/2022

Table 1 - Risk Log

Stage Reference	Product	Task(s)	Estimated timescale	Reviewed/Completed
S1	Setting up site	• Creating exclusion zone • Pre-commencement photographs	1 day with 1 day contingency for poor weather	
S2	Drone Survey	• Marking up take off and landing zone • Marking areas of control for photogrammetry	1 day with 1 day contingency for poor weather	To be agreed with SUA specialists
S3	Earthwork Survey	• Control points established • Survey conducted • CAD drawings Produced	2 days + 1 day contingency if required	
S4	Excavation	• Mark out quadrants • De-turf • Excavate quadrants • Sampling and Recording • Reduction of baulks	3 weeks	
S5	Recording	• Full site recording	1 week	

		• Production of physical and digital site plans		
S6	Backfill	• Backfill excavation area • Reinststate turf	3 days	
S7	Archive Preparation	• Organise and identify archive elements • Compile records for dissemination to shareholders	1 week	
S8	Dissemination	• Summary report to local HER • Begin production of article for SAC and/or suitable journal	4 weeks	

Table 2 - Project Timetable