

A HERITAGE STATEMENT FOR HAMPTON QUAY, LITTLEHAMPTON,
WEST SUSSEX.

Archaeology Services Lewes

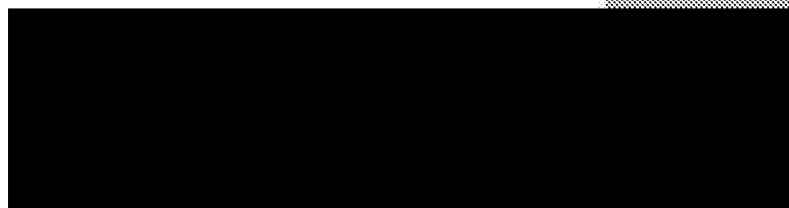
Project number: ASL 187-19



Looking north across the North Sector from the top of the flood defences.

Registered office:

White Cottage, Harts Yard, Boreham Lane, Boreham Street, Hailsham, East Sussex, BN27 4SL



SUMMARY

This Heritage Statement consists of a Desk-Based Assessment (DBA), a preliminary walkover survey and assessment of the potential for archaeology to exist on land at Hawthorn Road, Littlehampton, Arun, West Sussex, BN17 5RA, in advance of proposed development. The Site is currently an unused patch of ground flanking the east bank of the River Arun. It is proposed that the Site is developed to create 105 residential units, 300-400sqm of retail/commercial space and 32 leisure moorings, with the provision of amenity spaces, hard and soft landscaping and parking.

The potential for the discovery of hitherto unknown archaeology has been supported by a review of the known archaeological sites near to the Site which are summarised as follows:

- *Prehistoric – high*
- *Romano-British - low*
- *Anglo-Saxon - low*
- *Medieval - low*
- *Post-medieval – low*

It is recommended that if the proposals are approved by the LPA, then a suitably worded condition could be applied to any permission given, requesting a watching brief targeted at areas of groundworks (especially deep piling) that may contain sealed deposits. A comprehensive borehole data analysis is already available and in particular, British Geological Survey borehole ID numbers 569805; 569856; 19952423 have recorded peat deposits. Not all boreholes were analysed as part of the previous archaeological monitoring. Alternatively, if the County Archaeological officer requires further investigation, a program of geotechnical investigation could be carried out with regards to the potential for deeper, buried Palaeolithic soils which are known to exist on Site. A system of small, geotechnical evaluation test pits could be used to seek further assurances with regards to the buried soils present and the potential to preserve any early human occupation of the Site, if present. It is recommended that this should be discussed with the Archaeological Officer for West Sussex County Council at the earliest opportunity.

There are no setting issues relating to listed buildings or nearby heritage assets as there are none within the Site itself but there needs to be some consideration with regards to the setting of a Scheduled Monument to the west and the wider setting of Arundel to the north. A viewshed analysis would support the application here and provide further information with regards to this.

CONTENTS

1.0 Introduction

2.0 Site topography and geology

3.0 Planning background

4.0 Archaeological and historical background

5.0 Cartographic and aerial evidence

6.0 Walkover survey

7.0 Assessment of archaeological potential

8.0 Existing impacts on archaeological potential

9.0 Assessment of impact of proposed development

10.0 Recommendations and mitigation strategy

11.0 Acknowledgments

1.0 INTRODUCTION

- 1.1 Archaeology Services Lewes (ASL) has been commissioned by Stolon Studio, on behalf of the clients, Robert Boyce & Fiona Boyce, to carry out a Heritage Statement, consisting of a Desk-Based Assessment (DBA), preliminary walkover survey of the land and an assessment for potential archaeology to exist on land at Hawthorn Road, Littlehampton, Arun, West Sussex, BN17 5RA (Figs 1 and 2; herein referred to as the Site). The Site is currently an unused patch of ground flanking the east bank of the River Arun. At present, it is proposed that the Site is developed to create 105 residential units, 300-400sqm of retail/commercial space and 32 leisure moorings, with the provision of amenity spaces, hard and soft landscaping and parking.

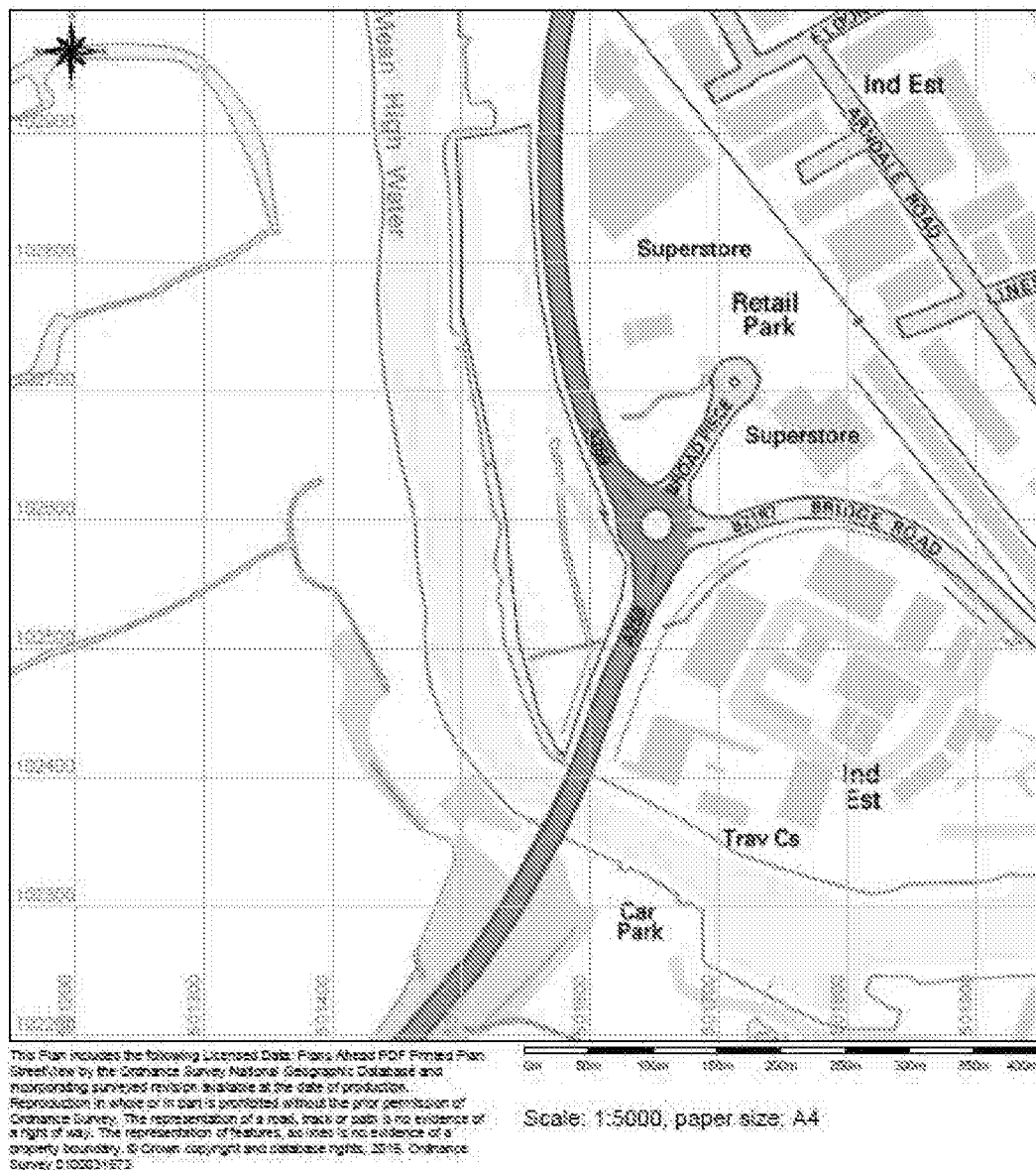


Fig. 1. Site location (Reproduction in whole or in part is prohibited without the prior permission of the Ordnance Survey ©Crown copyright and database rights 2018). OS licence No.: 100055392.

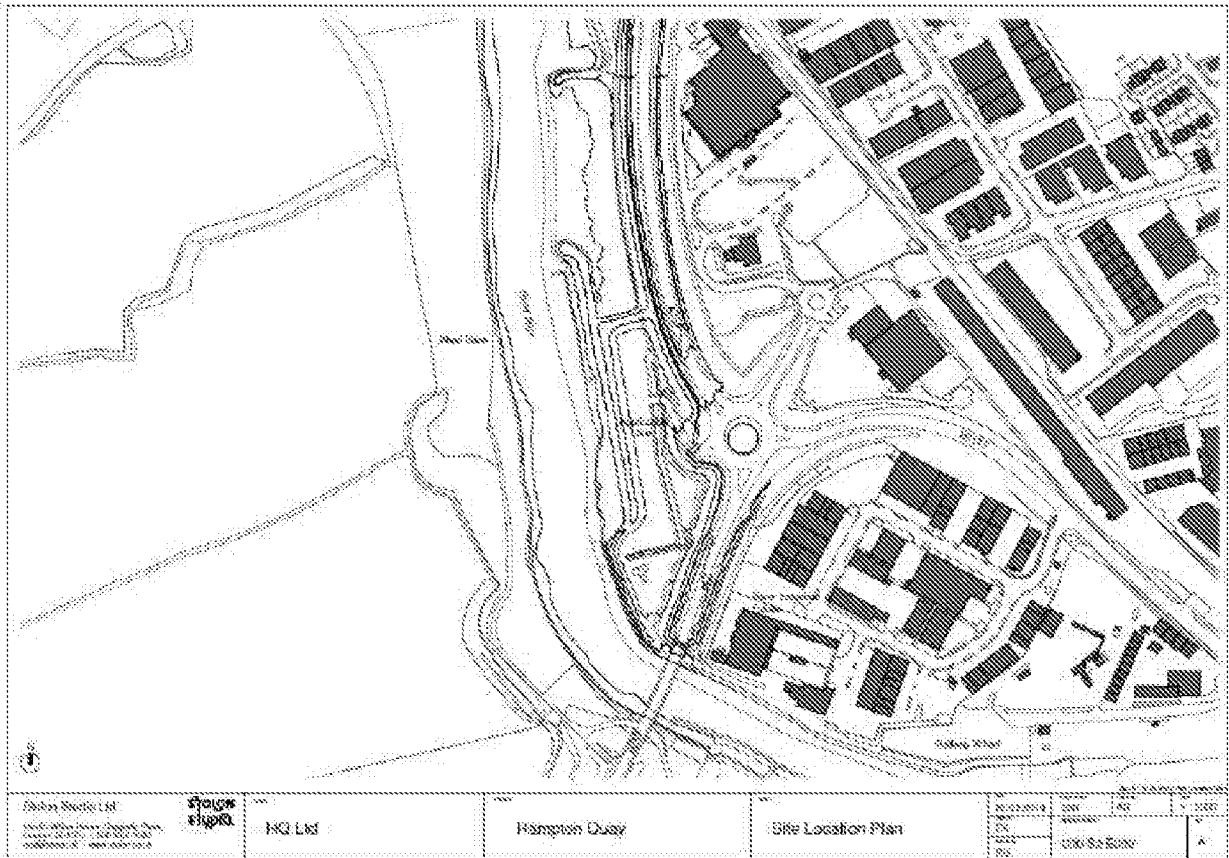


Fig. 2. Site plan with boundary outlined in red (Reproduction in whole or in part is prohibited without the prior permission of the Ordnance Survey ©Crown copyright and database rights 2018). OS licence No.: 100055392.

- 1.2 This report follows the recommendations set out by the Institute for Archaeologists in *Standards and Guidance for Archaeological Desk- Based Assessments* (CIfA 2014; updated 2017) and Historic England’s recently published guidance *Statement of Heritage Significance: Analysing Significance in Heritage Assets* Historic England Advice Note 12, 2019.
- 1.3 The Site is situated at TQ 01555 02671 in the parish and town of Littlehampton, in the Arun District of West Sussex. A wider Study Area of 1km radius has been considered to place the Site in context. The area is divided into three separate areas as follows:
- North Sector; an open river bank area with part tidal zone and part plant cover
 - Middle Sector; an area flanked by the high banks of the flood defences on the west and a ribbon of tree covered banks on the east with the access track leading from the roundabout to the far east side
 - South Sector; a triangular area flanked by the high banks of the flood defences on the west, the Bridge to the south and south-east sides and a ribbon of tree covered banks on the east and north-east sides.
- 1.4 The objective of this report is to provide a brief overview and appraisal, rather than a definitive statement. Therefore, any discussions on the presence or absence of below-ground archaeological remains should be regarded as *an indicator of*

potential. The only way to produce a definitive statement would be for a geophysical survey or trial trenching to define the presence/absence of any archaeological remains within the Site.

2.0 SITE TOPOGRAPHY AND GEOLOGY

- 2.1 The Site is orientated north-south and is located on a fairly flat parcel of land flanking the immediate east side of the River Arun, approximately 1.5km north-west of the centre of the town of Littlehampton. The west sides of the middle and south sector is flanked by the banks of the flood defences, whereas the north sector opens into the tidal river. The east side of all sectors is flanked by a thin ribbon of trees planted on the banks which ascend up to the A259 Littlehampton by-pass beyond, built in the 1990s. The north side is flanked by a further flood defence and to the south is the bridge over the A259, which leads from Chichester c.15km to the West, over to Worthing c.13km to the east.
- 2.2 The underlying geology of the Site is predominantly chalk, and includes the Lewes Nodular Chalk, Seaford Chalk, Newhaven Chalk, Culver Chalk and Portsdown Chalk (undifferentiated). This is a sedimentary bedrock formed approximately 72 to 94 million years ago in the Cretaceous Period. The local environment was previously dominated by warm chalk seas. In addition to the chalk there are superficial deposits of raised marine deposits consisting of clay, silt, sand and gravel, formed up to 3 million years ago in the Quaternary Period. These sedimentary deposits are shallow-marine in origin, generally coarse-grained forming beaches and bars in a coastal setting¹. They have the potential to contain early human deposits dating to the Palaeolithic period.
- 2.3 The Site has been subjected to numerous borehole investigations, initially as part of the Littlehampton by-pass preparatory work and then for the Environment Agency, as part of the preparatory work for the new flood defence project. A selection of the boreholes² has been analysed for this report which are presented in Table 1 below. Samples highlighted in red have the potential to contain ancient artefacts/ecofacts which are referred to in Section 9.3 below.
- 2.4 The development Site lies at an approximate height of 2.5m above Ordnance Datum (aOD).

Table 1; Sample of borehole data from across the Site.

British Geological Survey borehole ID number:	BGS Reference: listed north to south	Ground level:	Borehole profiles and depths of layers:
19952422; Environment Agency Littlehampton Arun tidal defences	TQ00SW285	2.64m aOD	Topsoil 0 -0.20m Made ground 0.20 -0.75m Sandy clay 0.75- 1.20m

¹ <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>

² Ibid

			Gravelly clay 1.20 - 2.85m Chalk 2.85 - 5.45m Base of borehole 5.45m
19952490; Environment Agency Littlehampton Arun tidal defences	TQ00SW304	3.87m aOD	Clay 0 – 0.80m Sandy Clay 0.08 – 1.55m Clayey peat 1.55m – 1.60m Clay 1.60 – 1.85m Void 1.85m – 2.0m Silty, sandy gravel 2.0 -2.35m Silty sand 2.35 – 2.63m Void 2.63 – 9.15m Base of borehole 10m
569853; Littlehampton by-pass (1985?)	TQ00SW128	2.30m aOD	Topsoil 0 – 0.40m Sandy clay 0.40 – 0.60m Brown sand 0.60 – 0.70m Re-formed chalk 0.70 – 3.80m Base of borehole 5.50m
569852; Littlehampton by-pass (1985?)	TQ00SW127	2.50m aOD	Brown, rooted clay 0 – 0.40m Clayey sand 0.40 – 2.50m Re-formed chalk 2.50 – 7m Base of borehole 7m
19952419; Environment Agency Littlehampton Arun tidal defences	TQ00SW282	1.73m aOD	Topsoil 0 – 0.30m Made ground 0.30 -0.70m Silty, gravelly sand 0.70 – 1.40m Sandy clay 1.40 – 1.80m Chalk 1.80 – 5.45m Base of borehole
19952418; Environment Agency Littlehampton Arun tidal defences	TQ00SW281	1.81m aOD	Topsoil 0 – 0.30m Made ground 0.30 -0.75m Sand 0.75 – 0.80m Silty sand 0.80 – 1.0m Chalk 1.0 – 5.45m Base of borehole 5.45m
569856; Littlehampton by-pass (1985?)	TQ00SW131	2.10m aOD	Topsoil 0 – 0.30m Brown, silty clay 0.30 – 1.80m Silty clay 1.80 – 3.0m Silty clay with organics 3.0 – 4.50m Chalk 4.50 – 6m Base of borehole 6m
569805	TQ00SW80 501607E 102611N	1.85m aOD	Topsoil 0 – 0.35m Sandy, silty clay 0.30 – 0.75m Sandy, silty clay with pockets of weathered gravel 0.75 – 1.85m Silty sand 1.85 – 2.10m Clayey, silty sand 2.10 – 3.80m Sandy, silty, organic clay with rootlets 3.80m – 6.60m Sandy, silty clay with chalk and flint 6.60 – 6.90 Chalk 6.90 – 8m Base of borehole 8m

19952423; Environment Agency Littlehampton Arun tidal defences	TQ00SW286	1.61m aOD	Topsoil 0 – 0.10m Clay 0.10 – 0.65m Silty clay 0.65 – 1.20m Sandy clay 1.20 – 1.80m Sand 1.80 – 2.25m Sand with peat 2.25 – 3.45m Sand 3.45 – 5.45m Base of borehole 5.45m
19952415; Environment Agency Littlehampton Arun tidal defences	TQ00SW278	3.96m aOD	Topsoil 0 – 0.10m Gravelly Clay 0.10 – 1.20m Sandy clay 1.20 -1.58m Silty sand 1.58 – 1.67m Sand 1.67 – 2.10m Sandy clay 2.10 – 2.53m Sand 2.53 - 2.67m Sandy clay 2.67 – 2.76m Sand 6.80m Base of borehole 6.80m

3.0 PLANNING BACKGROUND

3.1 Town and country planning legislation and procedures

In June 2018, Government policies relating to planning were defined in the National Planning Policy Framework, which superseded the 2012 version. Section 16 (paragraphs 184-202) of the framework (*Conserving and enhancing the historic environment*) outlines specific policies relating to the historic environment and the role it plays in the Government's definition of sustainable development.

Local planning authorities (LPAs) are required to '*set out in their Local Plan a positive strategy for the conservation and enjoyment of the historic environment*', recognising that '*heritage assets are an irreplaceable resource*' and should be conserved '*in a manner appropriate to their significance*'.

The framework requires that planning applicants should '*describe the significance of any heritage assets affected*' by their application, '*including any contribution made by their setting*'.

- 3.2 In 2019 the NPPF revised the Government's planning policies for England and how these are expected to be applied. It set out the Government's requirements for the planning system only to the extent that it is relevant, proportionate and necessary to do so. It provides a framework within which local people and their accountable councils can produce their own distinctive local and neighbourhood plans, which reflect the needs and priorities of their communities. Section 16 of the NPPF relates to conserving and enhancing the historic environment and requires LPAs to set out in their Local Plan, a positive strategy for the conservation and enjoyment of the historic environment, including heritage assets most at risk through neglect, decay or other threats. In doing so, the LPAs recognise that heritage assets are an

irreplaceable resource and that they should be conserved in a manner appropriate to their significance. In developing this strategy, LPAs should take into account:

- the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;
- the wider social, cultural, economic and environmental benefits that conservation of the historic environment can bring;
- the desirability of new development making a positive contribution to local character and distinctiveness;
- opportunities to draw on the contribution made by the historic environment to the character of a place.

The following sections of the NPPF relate to this planning application and we believe that the application, along with this Heritage Statement, addresses the following sections:

187. Local planning authorities should maintain or have access to a historic environment record. This should contain up-to-date evidence about the historic environment in their area and be used to:

- a) assess the significance of heritage assets and the contribution they make to their environment; and*
- b) predict the likelihood that currently unidentified heritage assets, particularly sites of historic and archaeological interest, will be discovered in the future.*

Proposals affecting heritage assets

189. In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.

190. Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this into account when considering the impact of a proposal on a heritage asset, to avoid or minimise any conflict

Considering potential impacts

193. When considering the impact of a proposed development on the significance of a designated asset, great weight should be given to the asset's conservation (and the

more important the asset, the greater the weight should be). This is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance.

194. Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification. Substantial harm to or loss of:

a) grade II Listed Buildings, or grade II registered parks or gardens, should be exceptional;

b) assets of the highest significance, notably scheduled monuments, protected wreck sites, registered battlefields, grade I and II Listed Buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional*

196. Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use.

199. Local planning authorities should require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible. However, the ability to record evidence of our past should not be a factor in deciding whether such loss should be permitted.

4.0 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

- 4.1 A full search of the Historic Environment Record (HER), stored at the Environment & Heritage Planning Services, West County Council, was obtained (reference number 2019/075) which is summarised below. Listed building data was acquired from Historic England. Details were taken of all archaeological sites, Heritage Assets and listed buildings within the defined Study Area of one kilometre radius.
- 4.2 The Site does not lie within a Conservation Area although the Study Area for this report extends into the River Road Conservation Area.
- 4.3 The Site is located within the SSSI Climping beach impact zone.
- 4.4 There are no Historic Battlefields within the Study Area.
- 4.5 There are no Registered Parks and Gardens within the Study Area.
- 4.6 The northern half of the site is within 'The Setting of Arundel'.
- 4.7 Key archaeological receptors include an old lime kiln noted on historic OS maps and potential buried palaeo-environmental deposits.

- 4.8 West Sussex County Council, which advises the local planning authorities on archaeological matters, has identified various Archaeological Notification Areas (ANAs) throughout the county which are plotted onto a map (Fig. 3). These ANA maps are to be considered during the process of planning applications, in association with the County Archaeologist acting as consultant, but the areas have no statutory status or protection. Although the development is not situated within an Archaeological Notification Area, there are seven ANAs within the Study Area.

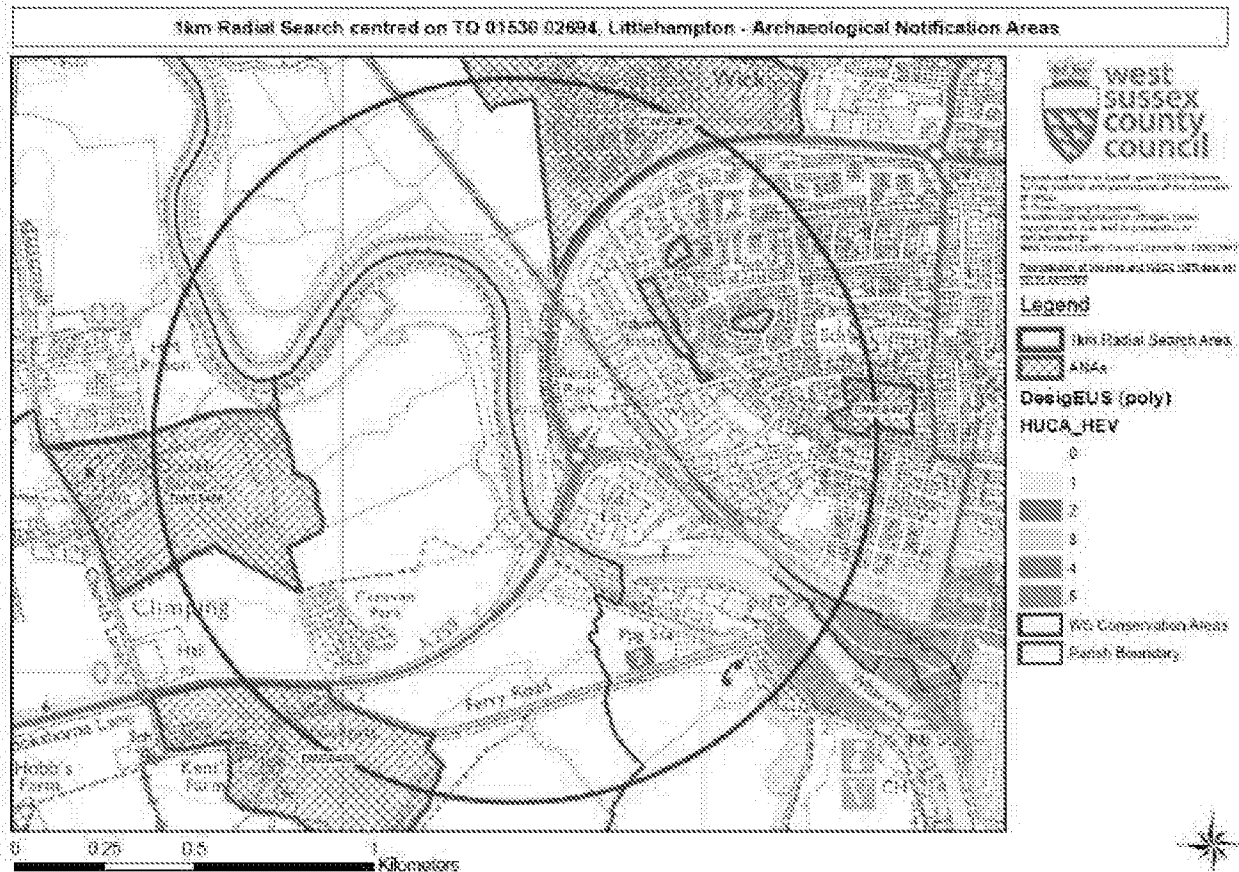


Fig. 3. ANA map of the Study Area.

- 4.9 A suggested timescale of the archaeological periods referred to in this report is shown below.

Prehistoric: Palaeolithic (c. 750,000–10,000 BC)
 Prehistoric: Mesolithic (c. 10,000–5,000 BC)
 Prehistoric: Neolithic (c. 5,000–2,300 BC)
 Prehistoric: Bronze Age (c. 2,300–700 BC)
 Prehistoric: Iron Age (c. 700 BC–AD 43)
 Romano-British (AD 43–c. AD 410)
 Anglo-Saxon (c. AD 410–1066)
 Medieval (AD 1066–1540)
 Post-medieval (AD 1540 to date)

- 4.10 There are forty archaeological sites recorded (Fig. 4) and eight archaeological events (Fig. 5), with one scheduled monument (Fig. 6) plus three listed buildings (Fig. 7) within the within the 1km radius search. These have been condensed below. The

Extensive Urban Survey produced for Littlehampton was consulted, but this does not extended as far north as the development Site.

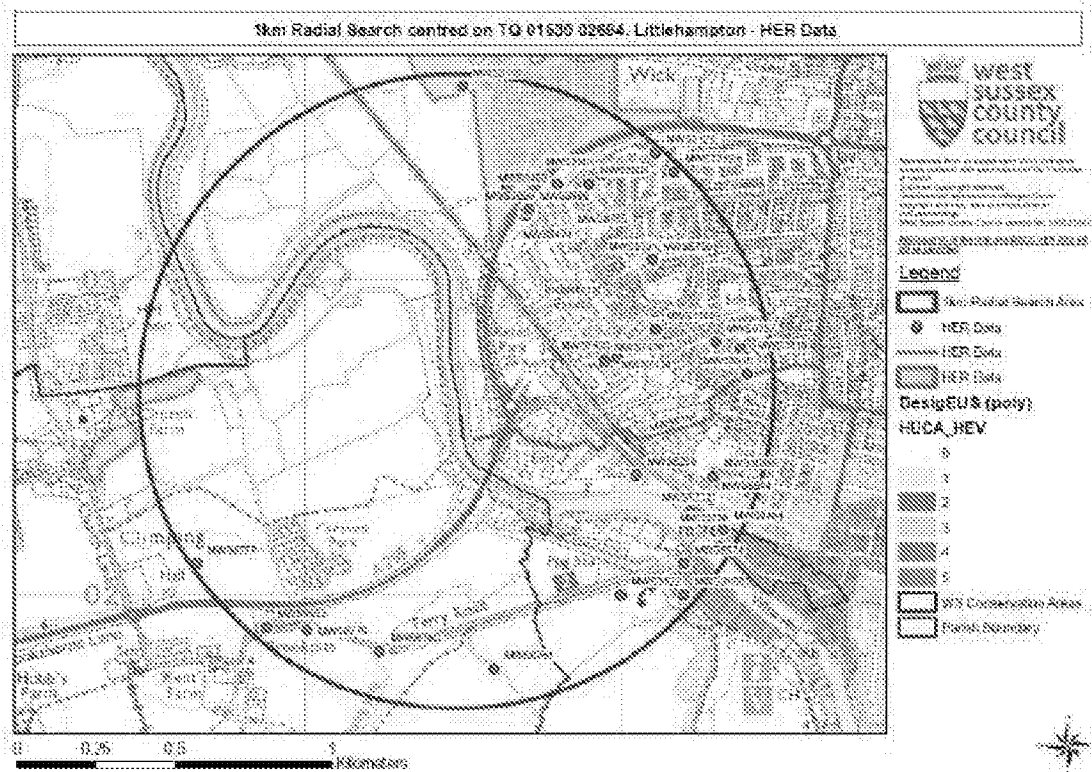


Fig. 4. Archaeological sites within the Study Area.

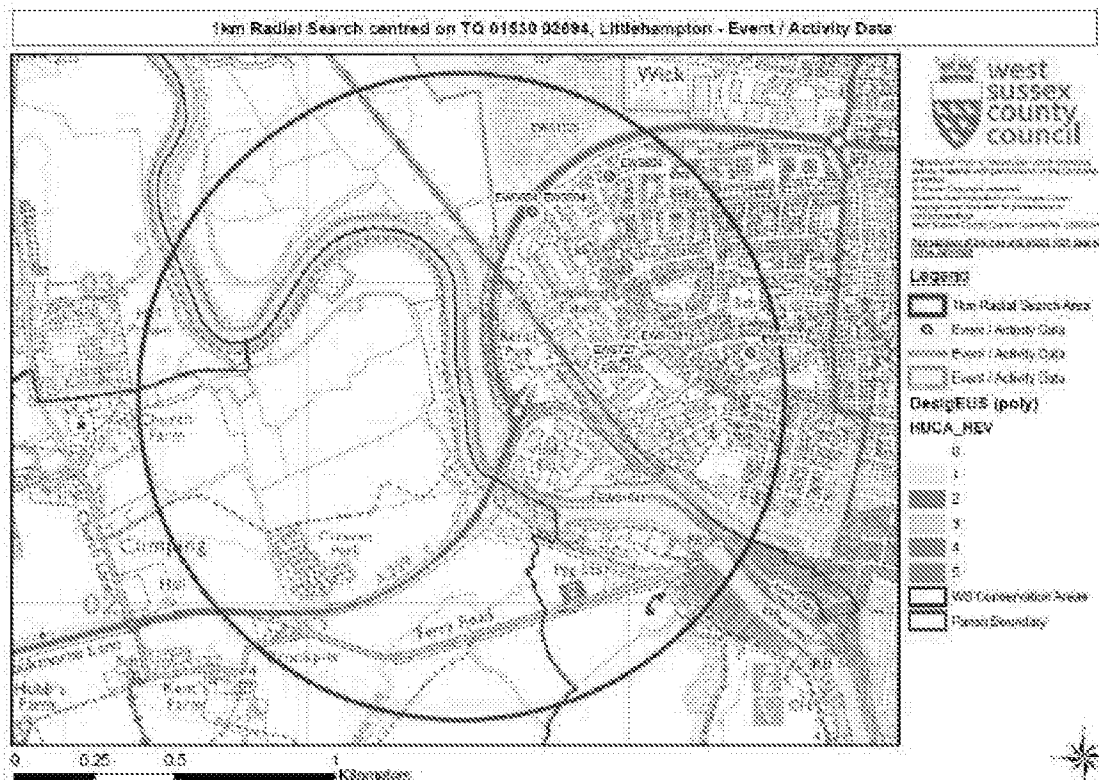


Fig. 5. Archaeological events within the Study Area.

4.11 Prehistoric period

An Iron Age-Romano British settlement site (ANA number DWS8497) was excavated in advance of development west of Wick Farm, some 750m east of the Site. The features comprised a hut, a gully, postholes and six pits, a rectangular ditched enclosure with pottery from the earlier ditch indicating a c.2nd century BC date. Two Middle Bronze Age vessels (MWS5757) were previously found when the Wick Estate was being developed in 1949-52. A bucket urn and a collared urn, both with slashed cordon were found immediately north of the Iron Age enclosure during development at Wick Farm Road, c.550m east of the Site.

At Courtwick Lane, a multi-period site was excavated (ANA number DWS8498) with features dating mainly from the Bronze Age, Late Iron Age and Roman periods, c. 200m north of the Site. Prior to this, in 1990, an extensive spread of occupation (MWS3899) with a number of pits and postholes was observed. Limited excavation in one of these produced pottery of Park Brow tradition, suggesting the existence of an Early Iron Age settlement, c. 600-800 BC. A number of flint flakes and a quantity of calcinated flint were also recovered from this site. There is also probably a Bronze Age settlement within the same location, with concentrations in the south-western corner and with scattered features (probably prehistoric) elsewhere, including a concentration of burnt flint along the northern edge.

A Bronze Age circular ditch and postholes (MWS7434) were found during excavations at the Arunside Industrial estate, approximately 600m east of the Site. The earliest phase of activity on the site dates to the Bronze Age, with one semi-circular ditch found near the centre of the site. Postholes were found in the termini on either side of an entrance way through this ditch which probably held gate posts. The fill of the ditch contained Early Bronze Age pottery sherds, including a beaker sherd with cord-impressed decoration, Middle to Late Bronze Age pottery sherds and a flint end/side scraper. Two small pits were also found within the enclosure, which may have been agricultural or a boundary rather than settlement, as no settlement evidence was recovered.

To the South of Courtwick Lane, approximately 350m north-east of the Site, Mesolithic flint tools were found (MWS3118), including large numbers of pot-boilers, scrapers, burins, axes and a polished axe.

An archaeological watching brief (EWS1281) was undertaken at Wickbourne Swan Public House, c.600m east of the Site. A small number of ditches and post holes were excavated, containing an assemblage of Late Bronze Age pottery, struck flint flakes and a broken flint axe. A single sherd of Late Iron Age pottery was also recovered.

A sherd of Neolithic pottery (MWS3119) and a sherd of Bronze Age pottery (MWS3120) were found in a field, approximately 1km north-east of the Site.

Late Iron Age, Belgic type carinated pottery (MWS5731) was found during the development of the Wickbourne Housing Estate, approximately 650m north-east of the Site.

4.12 Romano-British period

The Iron Age-Romano British settlement site (ANA number DWS8497) at Wick Farm discussed in Section 4.11 above, also recovered occupation from about 20AD to c.2nd century BC or later, and a later field system. All of these features represent phases in the development of the farmstead.

At Courtwick Lane, (ANA number DWS8498) the majority of the features and finds came from a Late Iron Age to Roman settlement, with a single cremation burial from a small cemetery. The most dominant phase, in terms of features and finds recovered, is the Roman period with a concentration of features of this date in the eastern part of the site, and particularly in the south-eastern corner of the development area. Prior to this, in 1990, (MWS3899) a feature(s) of Roman date was destroyed during the digging of a cutting. This is most likely to have been a rubbish pit as no sign of the feature was seen in the roadside section. Pottery of 1-2 century date was recovered.

Three Romano-British type corn drying ovens (MWS5756) were exposed when Belloc Road was built c.650m north-east of the Site. In addition, two L-shaped ditches were exposed and a quantity of 3rd – 4th century pottery was recovered. The clay floors were heavily burnt a few grains of burnt wheat were found.

Six ditches possible Roman ditches (MWS3916) were excavated and three concentrations of burnt flint were found at 'Roman Acre', just off Wick Farm Road some 800m east of the Site.

Late Iron Age to Early Roman pottery (MWS7435) was found during excavations at the Arunside Industrial estate, approximately 600m east of the Site. A system of rectilinear fields survived as parallel, narrow, shallow ditches. The ditches contained small and abraded pottery sherds of Late Iron Age to Early Romano-British date. A line of four post-holes ran parallel to a more substantial ditch and probably formed part of a fence line. The site appears to have been agricultural land during this period and may have well been associated with settlement on the north, east, and west sides of the site as no domestic activity was found. In the Late Romano-British period, the general alignment of the field system altered slightly with three new parallel ditches created (MWS7436). The most easterly of the Roman ditches may have formed a boundary between arable land to the west and the settlement at Wick.

4.13 Anglo-Saxon period

The only evidence for this period is a small quantity of Middle Saxon pottery, which was found in pit/gully features at Courtwick Lane (ANA number DWS8498) which may indicate possible settlement at this location.

4.14 Medieval period

During the building of the Littlehampton by-pass, c.650m north-east of the Site, a 13th century, silver penny of Edward I (MWS3903) was recovered by metal detector survey.

The Deserted Medieval Village of Climping lies approximately 160m east-south-east of St Mary's Church and situated c.800m west of the Site. This is a Scheduled Monument (SM; DWS315). Such traditional villages usually comprised of houses, gardens, yards, streets, paddocks, possibly with a green, a manor and a church, and with a community devoted primarily to agriculture. The 12th century cruciform church (ANA number DWS8486) survives, with a tower to the south. The area to the east of the church is under pasture and no foundations of buildings are visible, but earthworks including rectangular house platforms, hollows and banks up to 1.2m high can be seen. An area of exposed flint metalling is considered to be a trackway associated with the village. A test pit revealed brick and stone walling as well as medieval pottery sherds. In 1999, an archaeological watching brief nearby at Church Farm Cottage recorded pits of medieval and post-medieval date, filled with medieval pottery and animal remains.

The likely location of a second Deserted Medieval Village (ANA number DWS8488), formerly known as Islesham and now called Brook pits, lies c.700m south-east of the Site. It is an extinct parish, disappeared either by deliberate demolition or through slow decay.

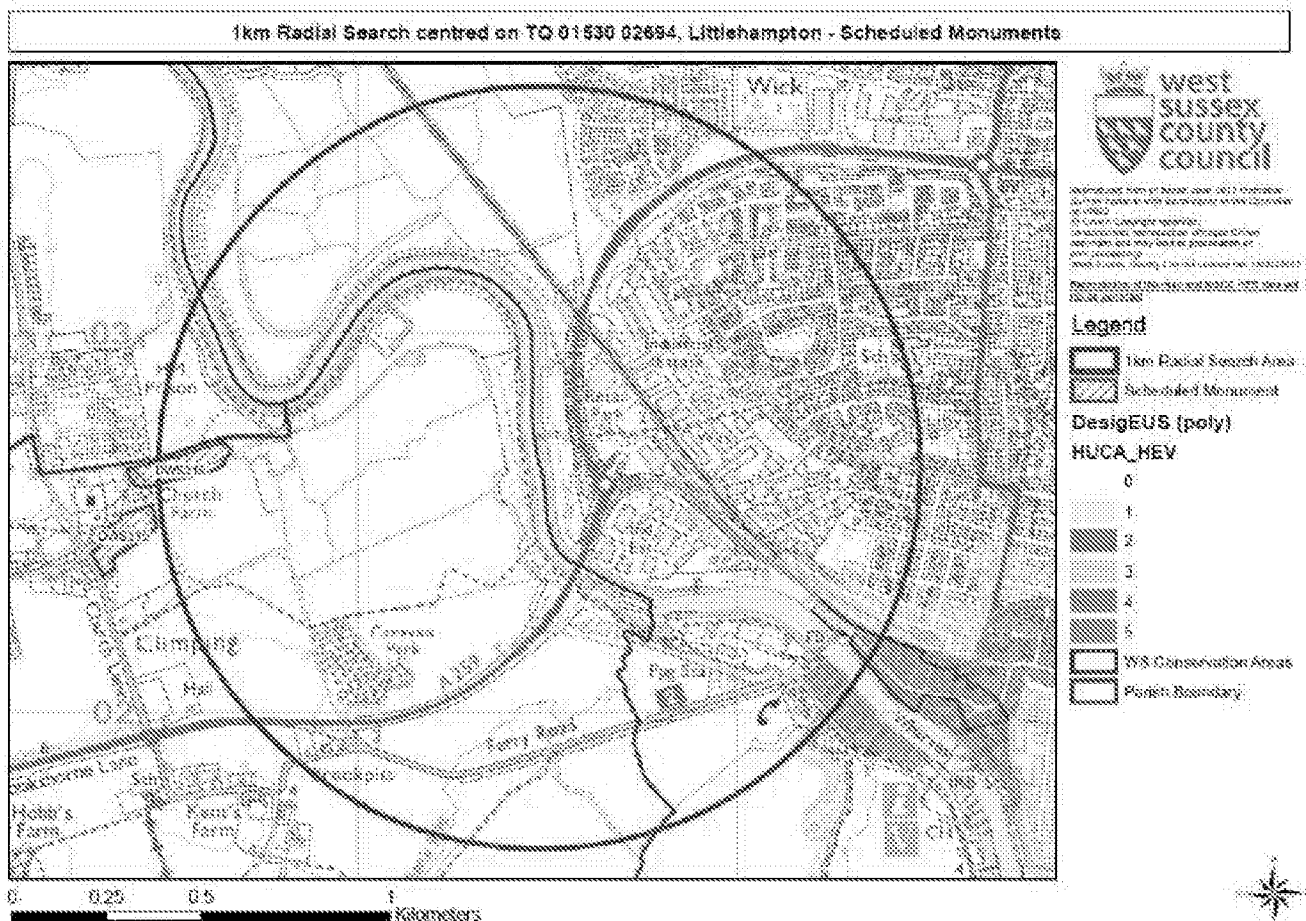


Fig. 6. Medieval Scheduled Monument within the Study Area.

4.15 Post-medieval period

The Climping Shipyard (MWS3108) was laid out in 1839 c.750m south-east of the Site. It was purpose built as a boatbuilding and repair yard, owned by Hillyard and Osborne, where in the last century vessels of up to 600 ton were built. The two-storeyed building housed a steam sawmill as well as the machinery for a ropewalk which was located inside the building.

During the watching brief for the Littlehampton by-pass, a flint feature (MWS3901) was observed running diagonally across the road in a north-south direction. Excavation recovered fragments of brick, proving the feature is almost certainly a trackway of medieval/ post-medieval date. An estate map of Wick from 1759 shows a farm track occupying this position, providing access for Courtwick Farm prior to development.

Only three listed buildings are located within the Study Area, none of which have direct views across to the proposed development area. These are Brookpits Manor (DWS1452), a restored 16th century house and Brookpits Cottage (DWS1303) an 18th century thatch and cobble building, both c.900m south-west of the Site. Brookpits Farm (MWS9553) has been identified as an Historic Farmstead dating to the 19th century. Finally a signal box (DWS8439) dating to 1886 is also a listed building, situated c.700m east of the Site, which survives substantially intact with the original operating room windows and eaves valancing.

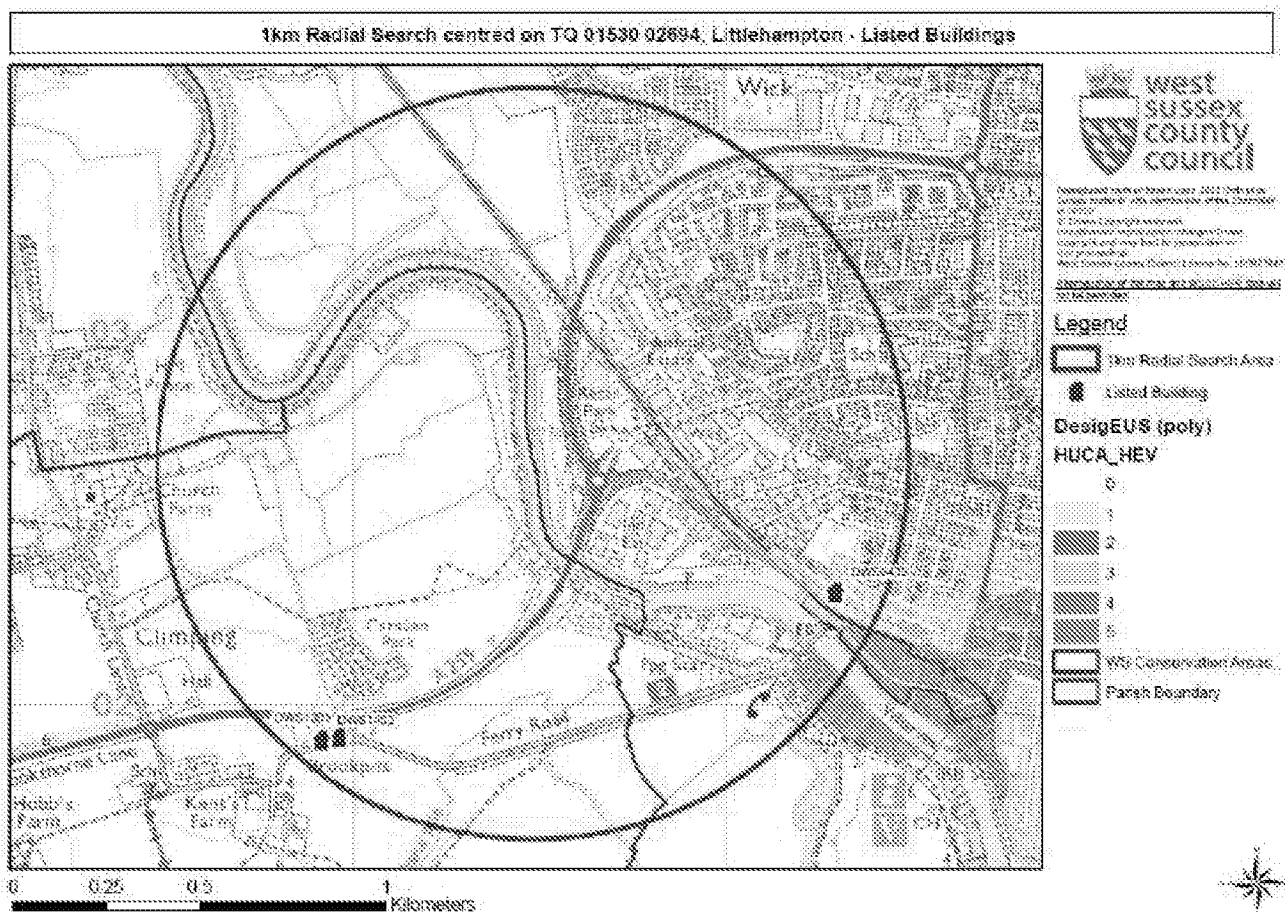


Fig. 7. Listed buildings within the Study Area.

Although recorded on historic mapping, the lime kiln to the north of the Study Area (See Section 5.3 and Fig. 10 below) is no longer extant and is not recorded in the HER data. It is not within the Site itself and the access track that formerly led to this has since been replaced by the by-pass. Consequently no provisional date or any other information regarding this feature can be offered. Additionally, no information regarding the former salt works within the Site boundary are stored in the HER data. No remaining features are visible and would have been removed during the recent construction of the environmental flood defences.

Four of the WWI aircraft hangars (MWS3122) of Rustington United States air station built in 1918 survive. Now developed, only the water tower and converted guard room and officer's mess survive. These were acquired by the company Osbornes and re-erected in 1922, side by side on the banks of Arun Wharf at River Road. They are now occupied as warehouses by Ockendens Ltd., builder's merchants.

A physical and historical survey of the Littlehampton WWII perimeter defences (MWS8184) was carried out in 2005 and is recorded in the West Sussex Record Office. This revealed a defensive structure running across the southern extremes of the Site, although this is not visible today and was likely removed when the flood defences were built recently.

5.0 CARTOGRAPHIC AND AERIAL EVIDENCE

- 5.1 Early map evidence dating to 1778-1783 (Fig. 8) shows no features on the east bank of the Arun. The Site is depicted as marshland or an intertidal zone. Possible embankments are shown on the far eastern border, as a series of hachures.

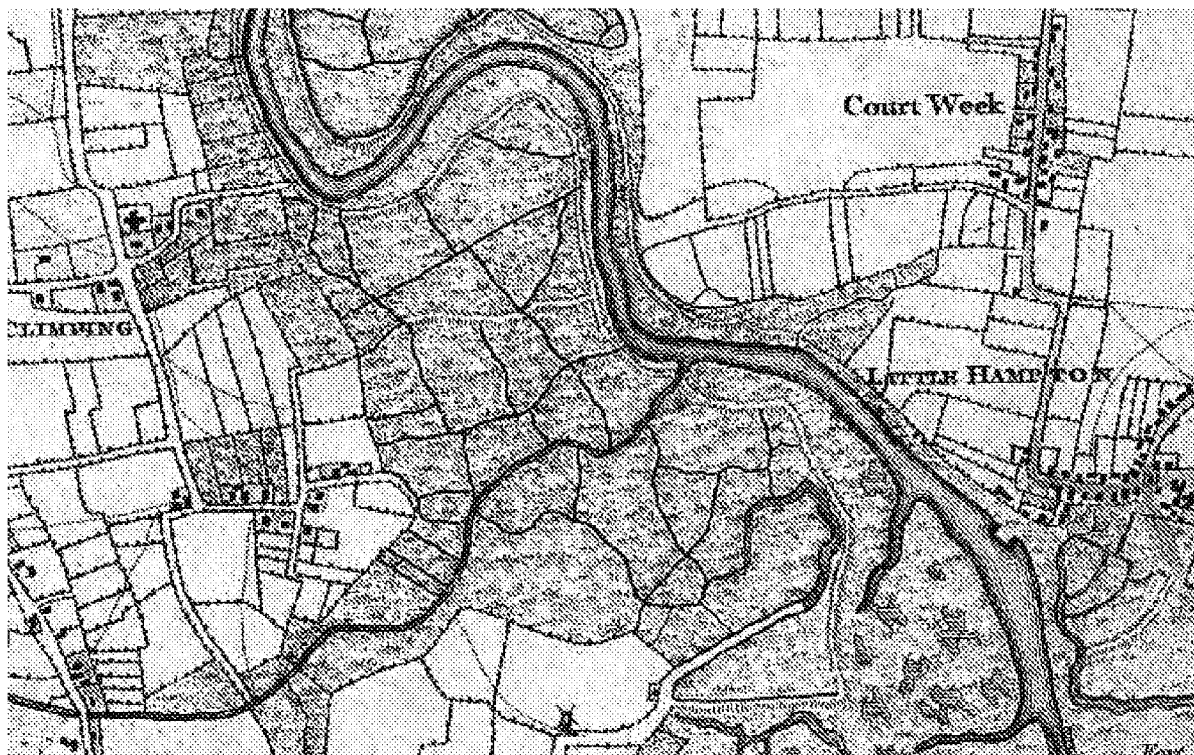


Fig. 8. Yeakell and Gardener's map of Littlehampton from 1778-1783.

- 5.2 The Climping Tithe map of 1841 (Fig. 8) shows no features on the east bank of the Arun.
- 5.3 The Ordnance Survey map of 1876 shows the Site bordered by embankments and divided into two plots; 446 and 453. An old limekiln is marked in plot 445, just north of the Site boundary, accessed via narrow plot 447 which leads to a dotted path giving access to a bigger track on the east side of the railway line. The high tide boundary is marked, as is an area of marshy ground flanking the river in the middle of the Site.

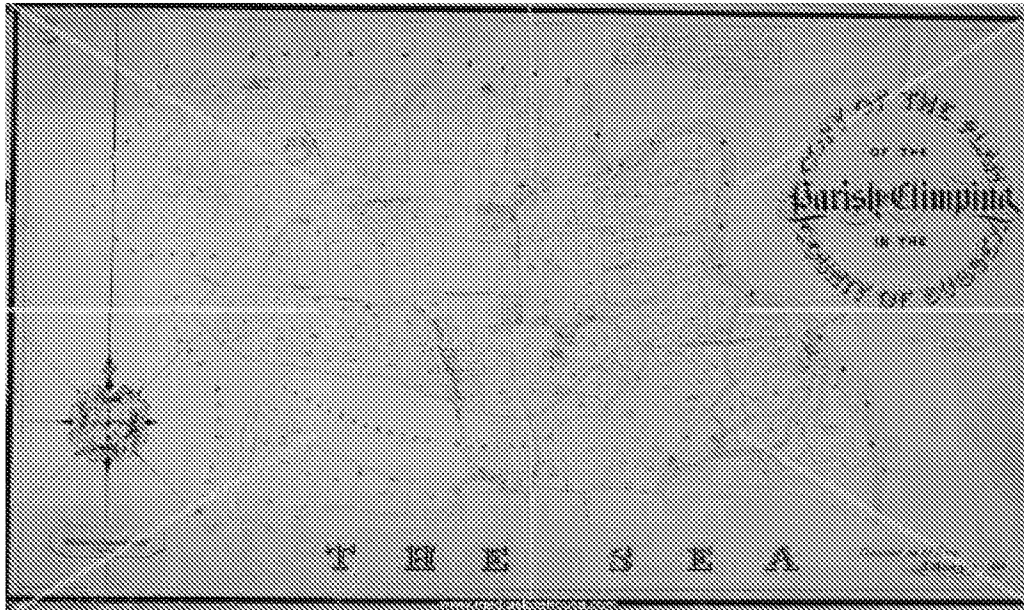


Fig. 9. Climping tithe map 1841.

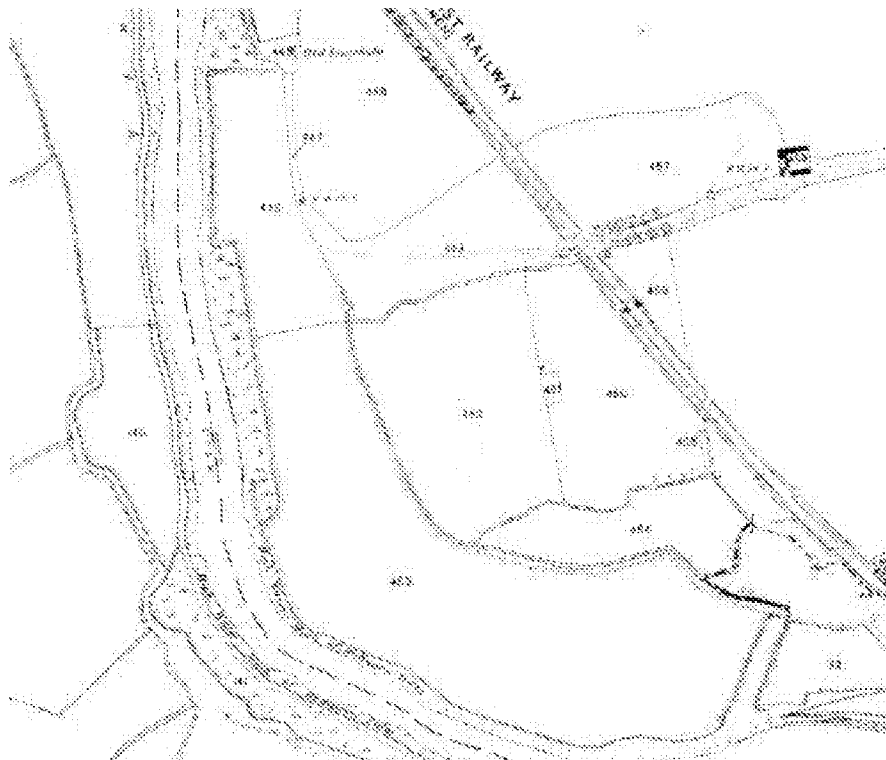


Fig. 10. The OS map of 1876.

- 5.4 The OS map of 1910 (Fig. 11) shows the salt works for the first time, with a banana shaped feature of unknown origin, east of the earthwork banks. It may be connected to the saltings and could be an evaporation pond, with more banks and ponds situated further north outside of the Site boundary. These features do not survive today and the earthworks have been replaced by modern flood defences, as seen in Fig. 12. It is likely that the limekiln fell out of use at this point in time as it is no longer marked on the map. There appear to be more salt works on the opposite west bank alongside a towing path.

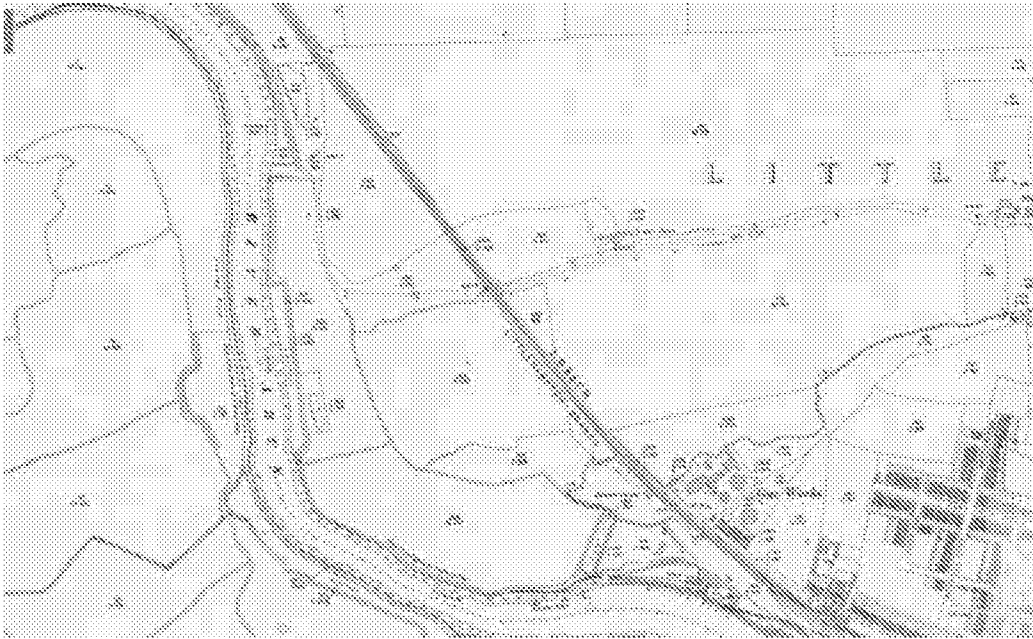


Fig. 11. OS map of 1910.

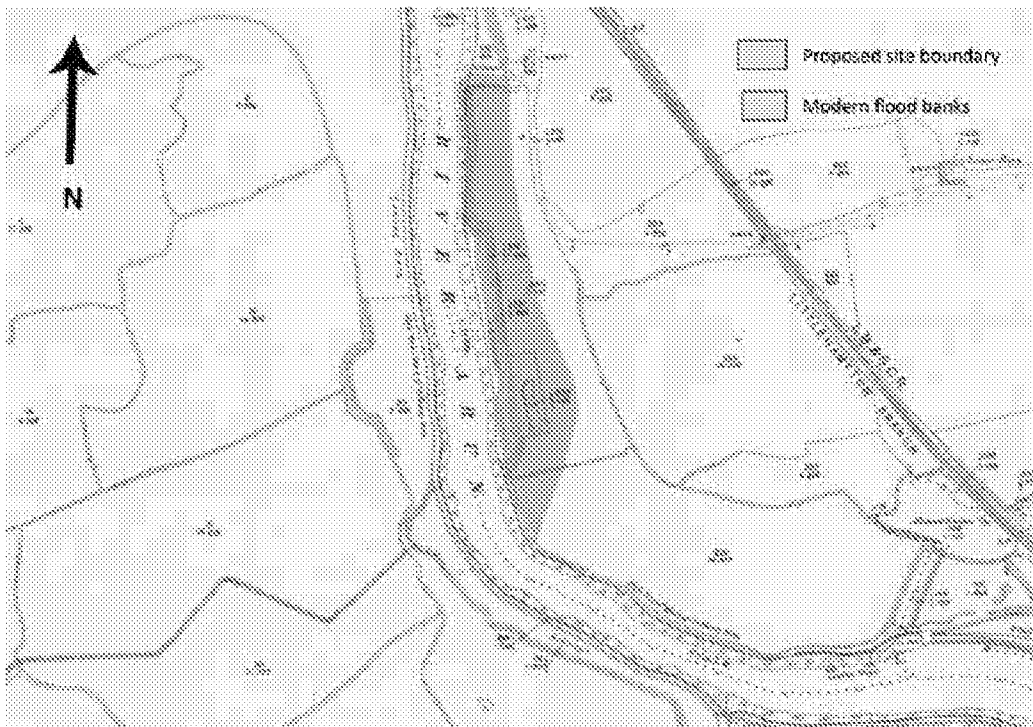


Fig. 12. Modern flood banks superimposed over the approximate location of the former saltings earthworks.

- 5.5 The OS map of 1932 (Fig. 13) shows very few changes, except the west bank salt works have expanded.
- 5.6 The aerial map of 1947 (Plate 1) shows industrial works being built to the south, outside of the Site boundary, with no changes within the Site itself with the salt works pond still evident.

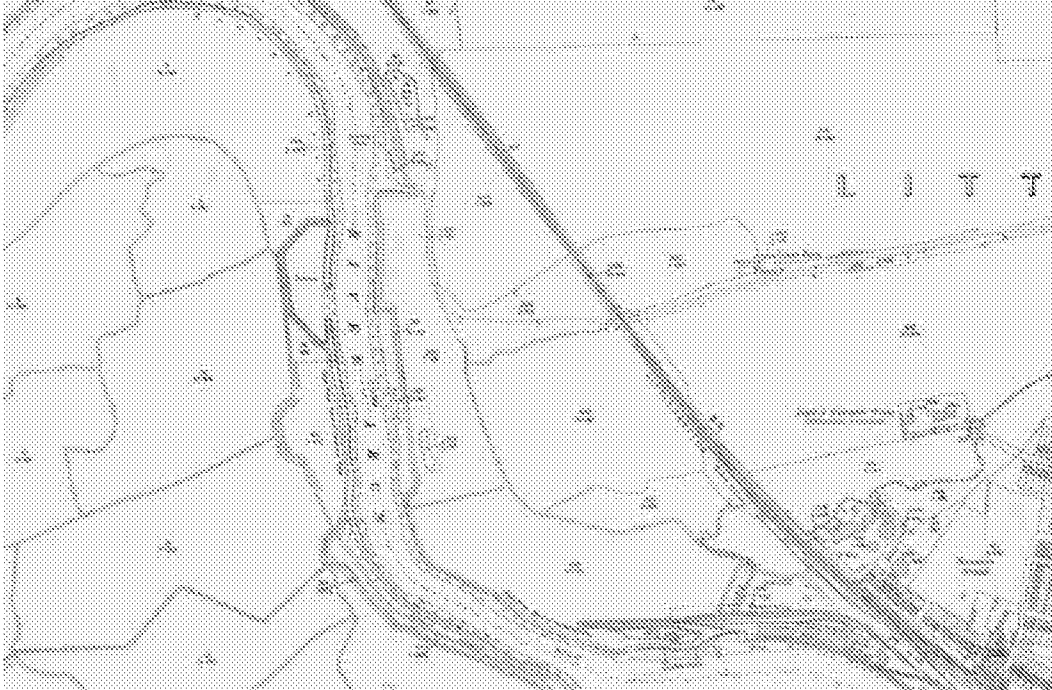


Fig. 13. The OS map of 1932.



Plate 1. Aerial photograph of 1947.

- 5.7 The OS map of 1959 (Fig. 14) shows changes within the Site. A camp site is now marked in the middle sector, with a slipway and winch and four rectangular buildings marked along with what is presumably tent pitches in the south sector. A track still leads to the railway crossing and the salt works have clearly gone out of use by this time. Further industrial buildings have appeared beyond the southern boundary of the Site. A drain and sluice has also been depicted to the far southern boundary and a new track leads through the Site to this. The embankments to the south appear to have been modified.

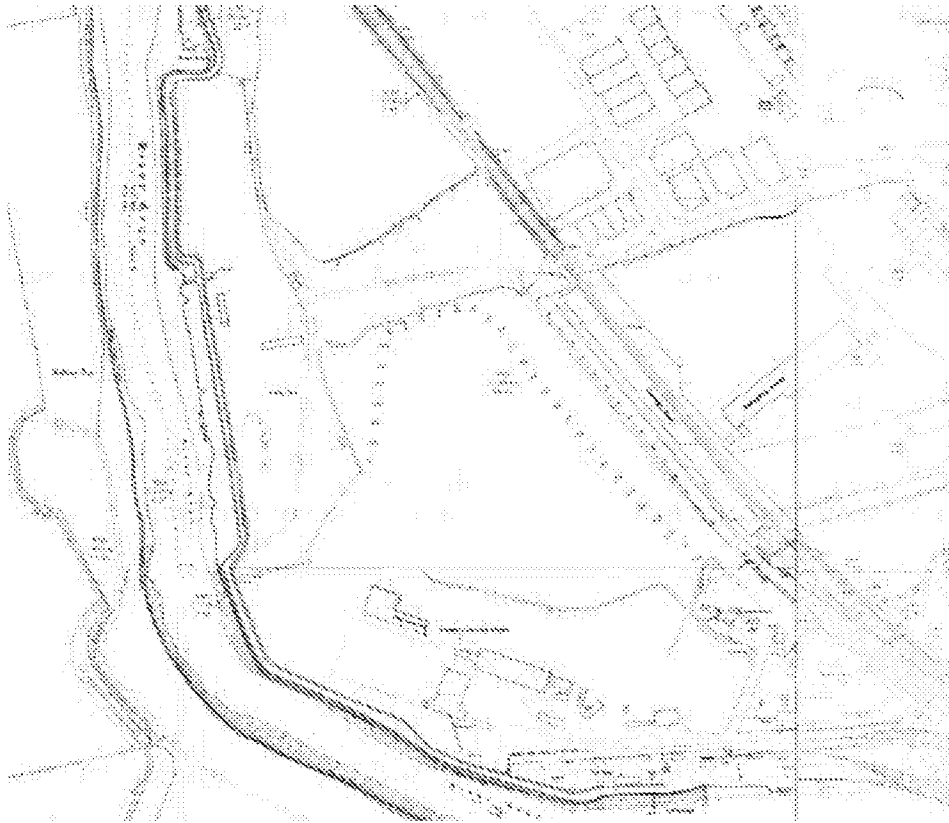


Fig. 14. The OS map of 1959.

- 5.8 The OS map of 1965 (Fig. 15) shows the filter beds in the south sector and one of the rectangular buildings has been extended on the south-west side. Beyond the Site boundary, Bridge Road to the south has been constructed and new housing is being built east of the railway line.
- 5.9 Plate 2 shows the construction of the Littlehampton by-pass in 1991 leading to Wick in the north. The roundabout and new road leading down to the Site were built at this point in time, with no apparent changes to the Site, except the camp site and rectangular buildings have been replaced by the road works.
- 5.10 Plate 3 shows that by 2007 the Site has reverted to scrubland and finally Plate 4 taken in 2018, shows the flood defence earthworks being constructed.



Fig. 15. The OS map of 1965.

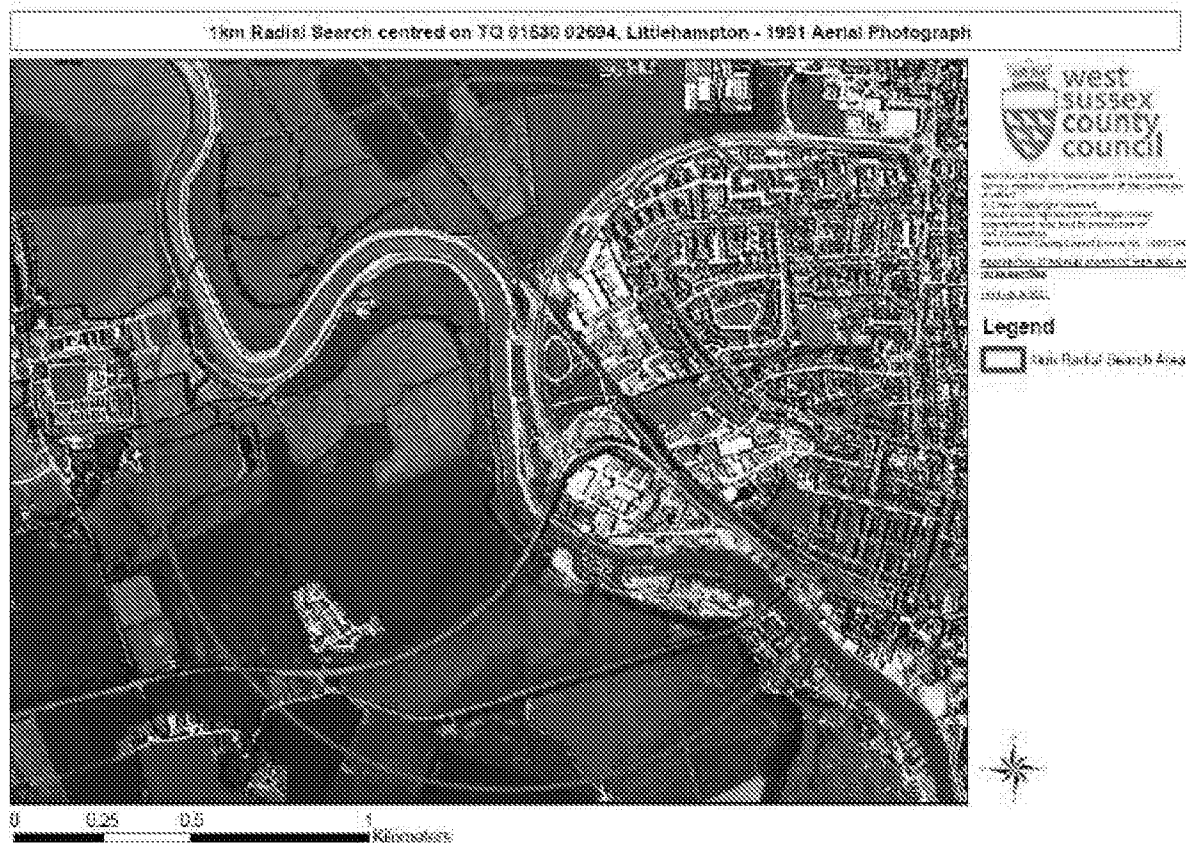


Plate 2. Aerial photograph of the Site in 1991.



6.0 WALKOVER SURVEY

- 6.1 A walkover survey of the Site was undertaken by the author on 15th July 2019. The weather was fine, with bright sunshine.
- 6.2 The objective of the walkover survey was to identify the adjacent topography as well as any landscape or archaeological features not evident on existing maps, and also to assess any areas of disturbance that may have impacted upon any potential below ground archaeology. The walkover survey was rapid with notes taken at the time and was not intended as a detailed survey.
- 6.3 The Site is accessed off the west side of the roundabout on the Littlehampton bypass (Plate 5) which leads to an asphalt road closed by metal six-barred gates.



Plate 5. The access gate leading off the roundabout.

The road leads down into the Site and has lamp posts flanking the each side at the top of the road only (Plates 6-7). A further six barred gate is located at the bottom of the access track which then leads into the level middle sector, with the new flood defence bank in front.

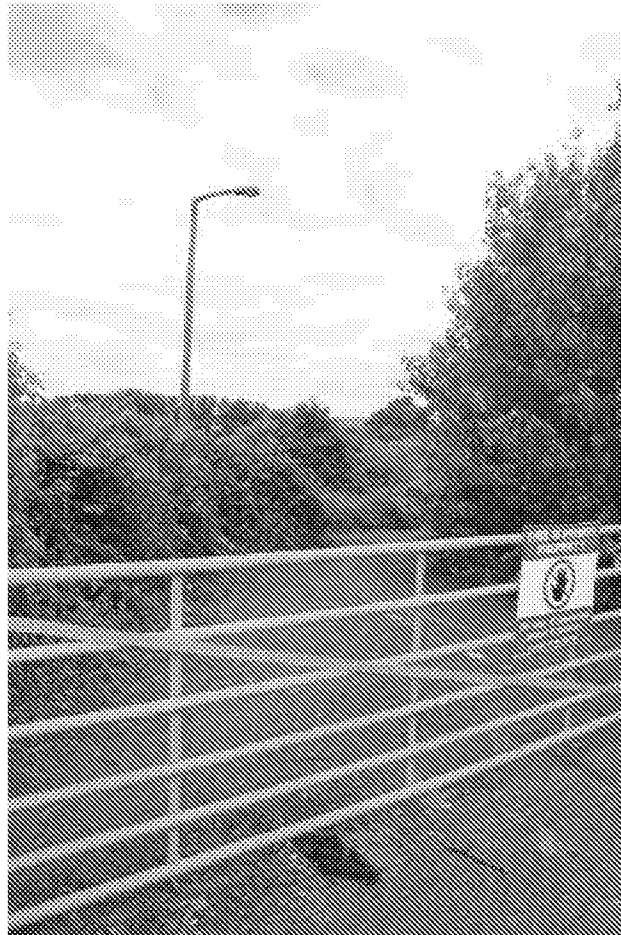


Plate 6. The gate and road leading down to the Site.



Plate 7. The gate leading into the Middle Sector with the flood defence bank behind.

- 6.4 **Middle Sector.** The Middle Sector is separated from the river front by the flood defence bank on the west side, with the east side fairly featureless and flat (Plates 8 -10).



Plate 8. The Middle Sector viewed from the embankment to the west looking east.



Plate 9. The Middle Sector looking north.



Plate 10. The Middle Sector looking south.

There is made ground with which includes rolled flint, brick/tile, worn chalk, pottery, concrete etc (Plate 11). It is not clear how deep this is. The only feature is the small stream on the far east side and a manhole cover in the middle of the area.



Plate 11. Made ground evident in the Middle Sector.

There is a steep bank covered with young trees on the far eastern boundary flanking the main road (Plate 12) and a concrete bridge spans the stream.



Plate 12. Steep bank leading up to the main road on the east side of the Middle Sector.

Once on top of the bank the ground falls away sharply to the river (Plates 13-15).



Plate 13. Looking north on top of the bank in the Middle Sector.



Plate 14. Looking south on top of the bank in the Middle Sector.



Plate 15. Looking west on top of the bank in the Middle Sector.

- 6.5 **North Sector.** The north sector is partially under-water with some salt marsh plants growing within it (Plates 16 – 17) and there is a spread of made ground across the whole area which includes debris as seen before in the Middle Sector.



Plate 16. The North Sector looking north from the bank in the Middle Sector.



Plate 17. Looking north across the North Sector at ground level to the boat winch.

There are new flood defences to the far north of the area which are orientated east to west and dividing the river front is another flood defence running north to south (Plate 18), although most of the west side of the sector is open to the river (Plate 19).



Plate 18. Looking south from the end of the bank in the North Sector.

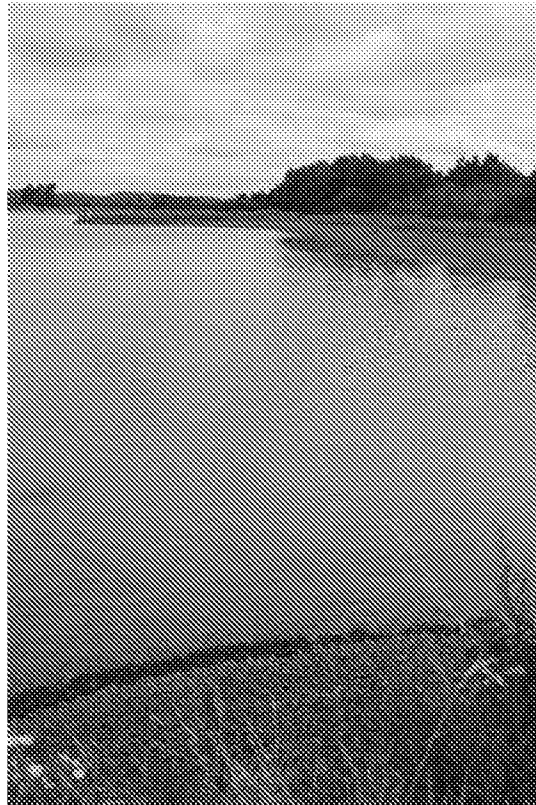


Plate 19. Looking north across the North Sector from the far north end of the bank.

The ground is very flat and featureless apart from a boat winch which sits on a concrete block and has clearly been re-positioned, and a manhole cover against the extreme east boundary (Plate 20).



Plate 20. The re-positioned boat winch.

The majority of this sector has wild plants and some rabbit disturbance. With regards to setting, the Downs and the earthworks of the Trundle can be seen to the north (Plate 21), but not Arundel. There are no nearby houses visible from this level, apart from a few on the very southern edges of the estate north of the by-pass. The main road is very close. The embankment to the west side of the river is banked very high with mature shrubs and no scene of houses or any features. The flood defences are built partly from soil here and concrete blocks facing the river with areas of compacted asphalt (Plates 22-23). It is presumed that sheet steel piling has impacted the banks, which may still contain the remnants of the salting earthworks.



Plate 21. The view looking north across the North Sector towards the South Downs.



Plate 22. The west side of the north-south bank on the edge of the North Sector.



Plate 23. The far north terminal of the north-south bank in the North Sector.

- 6.6 **South Sector.** The south sector is bordered by the bridge with the A259 passing over (Plate 24).



Plate 24. The extreme southern boundary of the South Sector.

This area is also fairly flat on the south-east side and the embankment divides the flat area from the river, with a small area of semi-marshy ground on the west side of the bank forming a salt flat (Plate 25).



Plate 25. Semi-marsh land west of the bank in the South Sector.

There is made ground throughout the flat area east of the bank which continues to the bridge and the metal sheet construction here is exposed (Plate 26).



Plate 26. The exposed metal sheets in the flood defences of the South Sector.

Towards the far south side of the sector there is a gully and a sluice (Plate 27), with concrete filtration tanks filled with slag and a large concrete silo/reed bed for filtering water (Plate 28).



Plate 27. Modern sluice in the South Sector.



Plate 28. Concrete filtration tanks and reed bed in the South Sector, looking south.

There is a small stream which borders the east side of the Site throughout but it is not running and is stagnant. Flanking the west side of the main road which runs

parallel to the Site is a steep bank on the east side of the Site, covered with young trees and shrubs preventing any views across the Site from the road which is at a much higher level (Plate 29), although vehicles passing over the bridge have a view northwards across the Site (Plate 30).



Plate 29. Bank of young trees on the far east side of the South Sector.



Plate 30. Looking south across the South Sector with clear view of the traffic on the bridge.

7.0 ASSESSMENT OF ARCHAEOLOGICAL POTENTIAL

- 7.1 A review of the features and buildings recorded and detailed earlier indicates that the Site has some archaeological potential, although there are sparse known archaeological sites or heritage assets within 200m radius of the Site itself. The nearest known site on the HER map is some 500m distance; the nearest excavation which exposed archaeology is within 350m; the nearest listed building is within 750m and the Scheduled Monument is some 900m to the west out of direct sight. Consequently, the potential is not high but is discussed by period below.

7.2 Prehistoric period

The Study Area has produced medium-high evidence for prehistoric occupation. However, the majority of this lies over 350m away. Borehole data for the area prior to the flood defences being built, recorded peat deposits which have the potential to contain deeper, older and sealed palaeo-environmental deposits, possibly containing artefacts/ecofacts and features.

The potential of the Site for this period is high.

7.3 Romano-British period

The Study Area has produced limited evidence for Romano-British occupation.

The potential of the Site for this period is Low.

7.4 Anglo-Saxon period

The Study Area has produced limited clear evidence for Anglo-Saxon occupation.

The potential of the Site for this period is Low.

7.5 Medieval period

The Study Area has produced limited evidence for medieval occupation.

The potential of the Site for this period is low.

7.6 Post-medieval period

The post-medieval history of the Site has produced medium evidence from this period, with some activity not recorded in the HER. However, recent flood defences have removed the surface features, which are unlikely to survive as deeper deposits. Therefore, it is unlikely that further evidence is likely to survive as buried archaeological deposits.

The potential of the Site for this period is low.

7.7 Summary of potential

This DBA only considers the *potential* of the Site in principle. Often the conclusions, if considered to prove that the potential for archaeology is high, can only be tested by fieldwork in order to confirm whether remains are actually present. It must be stressed that remains of a type for which there is no prior evidence may be encountered during invasive ground works during development.

This potential for the discovery of hitherto unknown archaeology has been supported by a review of the known archaeological sites near to the Site. Therefore the potential for new sites/findspots being located within the proposed development area is summarised as follows:

Prehistoric – high
Romano-British - low
Anglo-Saxon - low
Medieval - low
Post-medieval – low

To conclude, the Site is considered to lie within an area of high archaeological potential for the prehistoric period.

8.0 EXISTING IMPACTS ON ARCHAEOLOGICAL POTENTIAL

- 8.1 The Site was used formerly as a salt work, a semi-industrial process which involved forming embankments to create salt ponds or 'pans' to trap sea-water, thus creating large, natural evaporation 'tanks'. This appears to have extended throughout the whole site, extending to the west bank as well. The creation of the banks may well have disturbed any earlier archaeology, if present.
- 8.2 After the saltings went out of use, part of the Site was used recreationally as a camp site, with buildings being constructed within the Site boundary although it is not known whether these were permanent structures with deep footings. They may have disturbed deeper archaeology, if present.
- 8.3 In more recent years, an asphalt road was built leading down to the proposed Site, off the west side of the main road. Services were installed for a series of lamp posts beside the road. In addition, water filtration tanks and what appears to be a concrete reed bed have been built in the South Sector.
- 8.4 Even more recently in 2015, the Environment Agency embarked on a major project to re-build the banks to create flood defences. This involved the piling of sheet metal, along with concrete blocks and other forms of consolidation to seal the high earthen banks. As part of these works, an archaeological watching brief (EWS1591) was carried out during geotechnical borehole investigations in September 2012 - October 2012, although this included the river banks south of the Site as well, stretching down to the sea. Monitoring visits recorded several investigation pits

which were hand dug at the top of borehole locations, in advance of bore holing. Five visits were made in total and no archaeological finds, features or deposits were identified, only modern made ground and natural deposits were recorded. The watching brief report³ suggests that the whole area monitored consists of modern made ground to varying depths of between 0.75 and 4.50m below ground surface. However, it can be argued that the monitoring exercise did not fully extend across the whole Site, with only one borehole monitored in the South Sector. Initial analysis of the completed boreholes in several parts of the Site recorded the presence of peaty deposits, with preserved organic remains which have the potential to preserve palaeo-environmental deposits as discussed in Section 7.2 above.

9.0 ASSESSMENT OF IMPACT OF PROPOSED DEVELOPMENT

9.1 Statement of Significance

Historic England (formerly English Heritage) provides guidance on establishing the significance of heritage assets and on defining the settings of Listed Buildings. These are the Good Practice Advice Notes in Planning Note 2 (GPAN2) – Managing Significance in Decision-Taking’ and Good Practice Advice Notes in Planning Note 3 (GPAN3) - The Setting of Heritage Assets.

GPAN2 stresses that understanding the significance is important to achieve conservation of the asset and this is further explored in *Statement of Heritage Significance: Analysing Significance in Heritage Assets Historic England Advice Note 12*. An understanding of the extent of the significance will lead to an understanding of how adaptable a site is. The level of significance helps to determine how policies should be applied.

Significance is a collective term for the sum of all the heritage values attached to a place, be it a building, an archaeological site or a larger historic area such as a whole village or streetscape. At least four sets of values can be ascribed to a place:

- Evidential value: the potential of a place to yield evidence about past human activity;
- Historical value: the ways in which past people, events and aspects of life can be connected through a place to the present;
- Aesthetic value and the ways in which people draw sensory stimulation from a place;
- Communal value and the meanings of a place for the people who relate to it, or for whom it figures in their collective experience or memory.

In this case, the significance lies in the historic character of the riverside, but this has been eroded by the creation of the necessary flood defences. Consequently it could be argued that the Site does not have any historic content or significance, especially considering that there are no heritage assets within the Site itself.

9.2 Setting issues relating to the Site.

³ Swift, D., 2012. Archaeological Watching Brief Report Arun Tidal Defences, Littlehampton ASE Project No: 5671, report No: 2012238

Historic England guidance notes GPAN3 provide a structured approach to defining and assessing the setting of an historic asset. This discusses the importance of the character of an area, the context and views. Whilst the setting itself is not a heritage asset, it may have some significance in its own right.

It can be argued that the Site forms part of an historic setting, but as discussed above, this has been significantly eroded. The presence of the by-pass, the addition of the concrete filter beds, along with the modern concrete/steel flood banks have dissolved the sense of space and the wider historic setting here. Immediately south of the Site is a modern bridge and an industrial site, plus Littlehampton Quay, with moorings on the river. It is a moot point whether in-filling of the landscape should continue northwards and it could also be argued that the development may harm the wider setting of Arundel to the north, notwithstanding the SSSI.

The wider setting of the Scheduled Monument on the west bank of the Arun also needs to be considered.

9.3 Impact of proposed development

This section discusses the impact of the proposals on any potential archaeology, as well as the wider setting.

The Site forms part of the historic setting of the river, but as seen above, it is not a harmonious grouping that is dotted with modern structures, street scenes which encroach into the group throughout, interrupting historic settings, views and curtilage. It is therefore not a pristine historic environment. The Scheduled Monument is 750m to the west and cannot be seen from the proposed Site, due to the low lying nature of the ground as well as the encroachment of mature shrubs, trees etc and the west bank of the river Arun (Plate 31). A viewshed/visibility analysis would establish whether the proposals will be seen from the Scheduled Monument, but it is un-likely to impact significantly.



Plate 31. The west bank looking from the top of the flood bank in the Middle Sector.

The wider setting of Arundel is approximately 4.5km north of the Site. The town of Arundel cannot be seen looking north across the Site from any point at current ground levels (Plates 32-33) so any impact on the far setting is difficult to judge. Again, a viewshed/visibility analysis would support the application.



Plate 32. Looking north to the South Downs from the east-west flood bank at the far boundary of the North Sector.



Plate 33. The view of the River Arun proceeding northwards towards the town of Arundel which is not visible beyond.

The views travelling down river into Littlehampton will also be affected, but it could certainly be argued that the view from here has already been impacted by significant development of the river bank (Plate 34). It is believed that some soft landscaping at the water's edge forms part of the proposals, so it could be argued that this may serve to enhance the existing setting.



Plate 34. The bridge at the far southern end of the Site, looking south towards the moorings of Littlehampton Marina and industrial zones.

Finally the impact to any surviving archaeology is considered to potentially affect only deep, buried deposits. Any surface features will already have been removed by the work already undertaken on the Site over the years. The sample of borehole data which is presented in Table 1 (Pages 6-7) has highlighted some *potential* indicators for early human deposits dating to the Palaeolithic period. The raised marine deposits which underlie the Site were formed up to 3 million years ago and these deposits are shallow-marine in origin, generally forming beaches and bars with peat identified in a minimum of three boreholes across the Site. Therefore this raises the possibility of ancient activity being preserved within the low lying river estuary. Any deep piling or foundations for development (Figs 16 and 17) have the *potential* to disturb any deeper deposits. An appropriate form of mitigation is discussed further in Section 10.2 below.

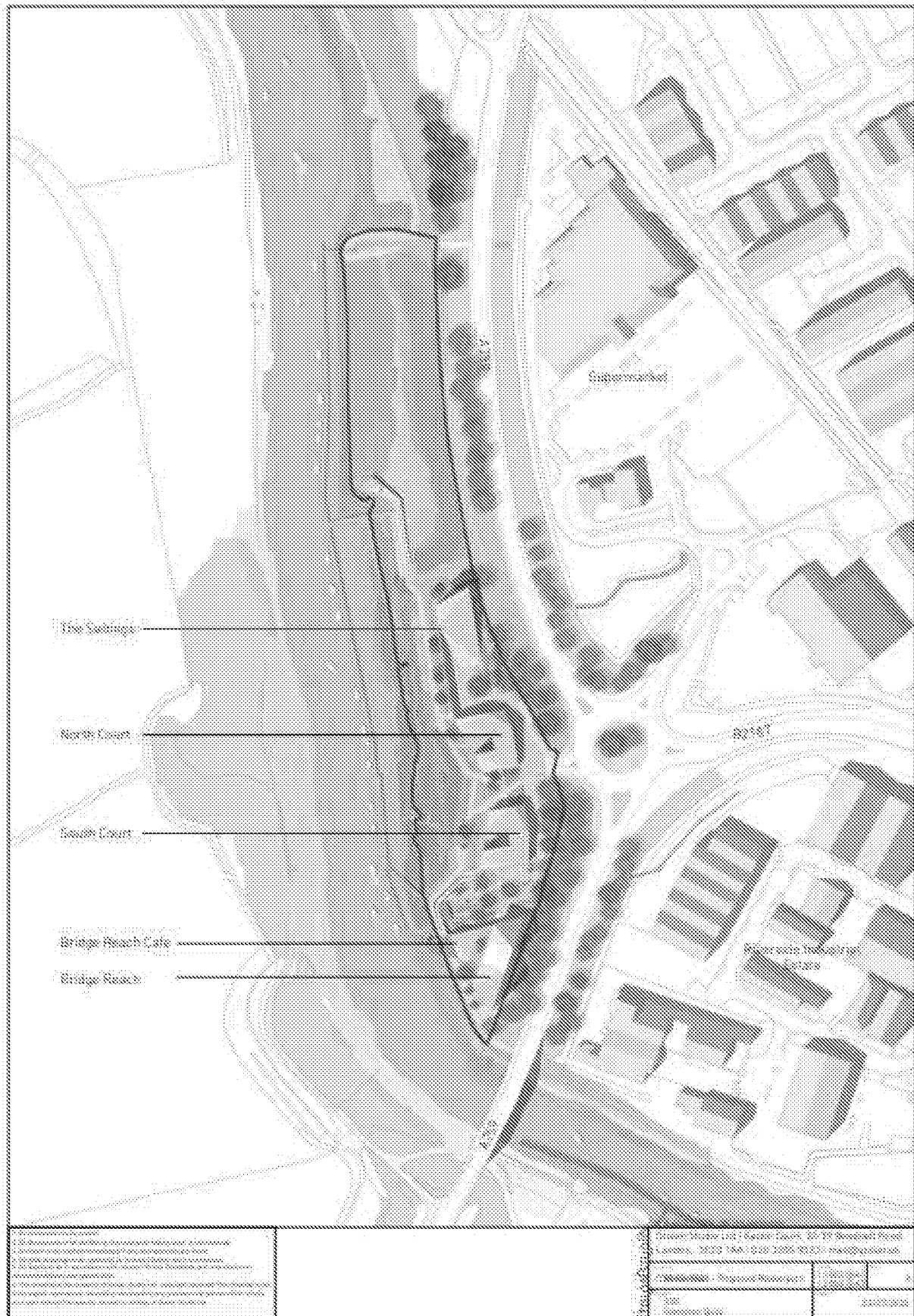
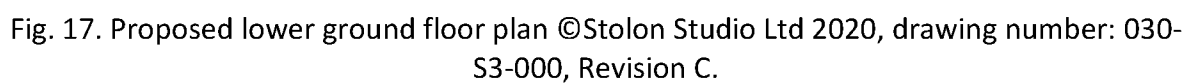


Fig. 16. Proposed Site plan ©Stolon Studio Ltd 2020, drawing number: 030-S3-P001, Revision A.



10.0 RECOMMENDATIONS AND MITIGATION STRATEGY

- 10.1 As noted in section 1.5 above, it necessary to bear in mind that desk based appraisals do not provide a *definitive* statement on the likelihood of archaeological deposits being present within the proposed development area. Therefore we have to stress that this appraisal can only suggest the potential of that area to contain archaeological features/find spots. This is based entirely on this non-intrusive report utilizing the observations made during the walk over survey as well as available historical data. As such the conclusions presented herein can only be proven by the addition of fieldwork techniques.
- 10.2 It is recommended that if the proposals are approved by the LPA, then a suitably worded condition could be applied to any permission given, requesting a watching brief targeted at areas of groundworks (especially deep piling) that may contain sealed deposits. A comprehensive borehole data analysis is already available and in particular, British Geological Survey borehole ID numbers 569805; 569856; 19952423 have recorded peat deposits. Not all boreholes were analysed as part of the previous archaeological monitoring. Alternatively, if the County Archaeological officer requires further investigation, a program of geotechnical investigation could be carried out with regards to the potential for deeper, buried Palaeolithic soils which are known to exist on Site. A system of small, geotechnical evaluation test pits could be used to seek further assurances with regards to the buried soils present and the potential to preserve any early human occupation of the Site, if present. It is recommended that this should be discussed with the Archaeological Officer for West Sussex County Council at the earliest opportunity.
- 10.3 It is not considered that there are major impacts to any heritage assets or the historic setting but a viewshed analysis is recommended with regards to the wider setting of Arundel and the Scheduled Monument as previously discussed.
- 10.4 The report is based on a non-invasive, non-structural survey; as such it can only extend to the items specifically covered. E&OE. Copies of paper OS Maps Reproduced from Ordnance Survey mapping with the permission of the Controller of Her Majesty's Stationery Office © Crown Copyright. OS Licence No.100055392. We wish to point out that there is no guarantee that planning permission will be granted based on the opinion of ASL within this document.

11.0 ACKNOWLEDGEMENTS

Thanks are due to Emma Kingman, from Stolon Studio for her help and information during the fieldwork and thanks are due to the clients, Robert Boyce & Fiona Boyce, for commissioning us to undertake the work.

Lisa Jayne Fisher Cert.Ed., BA (Hons), MA
Principal Archaeologist
Archaeology Services Lewes, July 2020 (Revision E)