

**Belfast Street, Brighton
East Sussex.**

Geoarchaeological Investigation and Watching Brief

Planning Reference: BH2006/01440

NGR 528608 104953

Site Code: SPH 06/Project no. 2577

OASIS ID: archaeol6-26118

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Archaeology South-East

Archaeology South-East is a division of the University College London Field Archaeology Unit. The Institute of Archaeology at UCL is one of the largest groupings of academic archaeologists in the country. Consequently, Archaeology South-East has access to the conservation, computing and environmental backup of the college, as well as a range of other archaeological services.

The Field Archaeology Unit and South Eastern Archaeological Services (which became Archaeology South-East in 1996) were established in 1974 and 1991 respectively. Although field projects have been conducted worldwide, Archaeology South-East retains a special interest in south-east England with the majority of our contract and consultancy work concentrated in Sussex, Kent, Greater London and Essex.

Drawing on experience of the countryside and towns of the south east of England Archaeology South-East can give advice and carry out surveys at an early stage in the planning process. By working closely with developers and planning authorities it is possible to incorporate archaeological work into developments with little inconvenience.

Archaeology South-East, as part of the Field Archaeology Unit, is a registered organisation with the Institute of Field Archaeologists and, as such, is required to meet IFA standards.

Abstract

Matthew Pope was asked by ASE to undertake a Geoarchaeological investigation of deep excavations being undertaken in Belfast Street, Hove. This involved liaising with ASE archaeologists engaged in mounting the standard watching brief and then two days of monitoring when deep excavations were undertaken. The excavations did not get to sufficient depth to expose marine deposits underlying the local head which at this particular location reached a substantial depth. However, the presence of very occasional rounded beach pebbles in the basal units indicates the possibility that underlying beach deposits in the vicinity were being reworked.

Excavation of three trenches for the installation of a storage sewer, pumping station and pipe, produced no archaeological deposits, but did produce residual archaeological artefacts. The artefacts were recovered from a single context of re-deposited natural (context 02), and consisted of an copper alloy coin of roughly 18th century date, tile from the late 18th to 19th century and transfer printed pottery from the 19th century. Residual worked flint was also recovered.

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1.0 Introduction

- 1.1 Archaeology South-East (ASE), a division of University College London Field Archaeology Unit (UCLFAU), were commissioned by 4 Delivery Limited to undertake an archaeological watching brief at the junction of Stirling Place and Belfast Street, Hove, East Sussex (NGR 528608 104953) during works associated with the installation of an underground storage tank with pumping station and kiosk, several new manholes and new sewage pipes (Figs 1 and 2).
- 1.2 Planning permission has been granted by Brighton and Hove City Council (BHCC) for this scheme (Planning Ref. BH2006/01440).
- 1.3 4 Delivery consulted the Geoff Bennett, Planner, BHCC who recommended that an archaeological watching brief should be maintained during construction groundworks as the site lies within an archaeologically sensitive area. This recommendation does not form a condition of the planning consent.
- 1.4 In view of 4 Delivery's commitment to maintain a high regard to local heritage and environmental issues, an archaeological watching brief will be maintained during specific groundworks associated with the improvement scheme in accordance with the advice of BHCC.
- 1.5 Dr. Matthew Pope (The Boxgrove Project, University College London) was invited by ASE to undertake a Geoarchaeological investigation of deep excavations being undertaken in Belfast Street. This involved liaising with ASE archaeologists engaged in mounting the standard watching brief and subsequently undertaking two days of monitoring when deep excavations were undertaken. This report presents the results of these investigations.

2.0 Archaeological and Historical Background^{1,2}

- 2.1 The site lies close to the boundary of the cemetery associated with St. Andrew's Church, Church Road, Hove, although the northern extent of the cemetery, nearest to the proposed scheme, has now been developed as a school. The church consisted of a 13th-century nave with aisles on both sides, a chancel and a west tower. In July 1545, during the wars with France, an attack was made on Hove leaving the settlement more or less deserted and gradually the church fell into disrepair. The original tower collapsed in the 16th century and the stone was taken to Goodwood Park for the erection of a sham fort.

¹ *Victoria County History*. Volume VII, 265-68.

² Dr Matt Pope *pers comm.*

- 2.2 With the growth of popularity of Brighton and the adjoining village of Hove attracting residents (swelling the population of Hove from a mere 101 in 1801 to over 4,000 in 1851), it became apparent that there was a lack of a church of sufficient size and condition in September 1833, a Vestry Meeting was held to consider rebuilding it. It was decided to rebuild the church as nearly as possible to its original design and the church re-opened for worship on 18th June, 1836. Although the exterior of the church dates from only 1836 the whole of the interior between and including the pillars is contemporary with the original foundation.
- 2.3 Residential development associated with Belfast Street and the eastern half of Stirling Place are in existence by the time of the 1st edition Ordnance Survey, which also depicts the Brighton and Hove Gas Works immediately to the south of the Stirling Place tenements, adjoining the boundary of St. Andrew's Church and cemetery.
- 2.4 There was potential for palaeoarchaeological remains to be preserved at depth at the proposed development's location. It is possible that underlying the head gravels a marine sequence comprising raised beach deposits over sand may have been present, although these are thought to lie beyond the maximum depth of intrusive ground works. Borehole data in the wider area has revealed that a preserved may be encountered that might include organic and faunal remains. Pleistocene peats have also recently been revealed in borehole cores retrieved from Church Street, Hove.
- 2.5 The site is located at NGR 528608 104953 , immediately to the south of Blatchington Road. The ground level of the site (which is currently residential) is some 10.5m above sea level and covers approximately 100m². The local Topography forms part of the West Sussex Coastal Plain and is therefore low-lying, flat, with a gentle incline dipping seawards to the south. The Coastal Plain is relatively narrow at this point being only 1km wide from north to south. The site is situated approximately 0.5km to the south of the inferred cliff line of the Brighton-Norton Raised Beach (see below). Given the altitude of the site it is was considered highly likely that deposits forming part of the terrestrial and marine facies of the Norton Formation (Bates et al 1997) would be present at the site. The rapid narrowing of the Coastal Plain at this point is of interest as it is suspected that structural elements in the Chalk Anticline led to the formation of a headland, or partially enclosed marine bay in this area some 250,000 years B.P. The 'St Anne's Well Headland' hypothesis suggest that a minor embayment would have formed as sea action differentially eroded softer Tertiary Bed Rock remnants in a superficial synclinal structure in preference to higher and more resistant topography of the Chalk anticline.

The Belfast Road investigation offers an opportunity to investigate this possibility further.

- 2.6 The BGS Sheet 318 (1984) shows the site to be underlain by Cretaceous Chalk and Quaternary Head deposits. The latter can be readily seen in the Black Rock raised beach section, 5.5 km to the east, and form a series of bedded colluvial deposits comprising red to pinkish silts supporting consolidated beds of sub-angular chalk and flint gravel. Some of these beds are orientated in relation to the remnant chalk cliff of the Brighton Raised Beach and will have bedding angles of up to 45 degrees orientated on a ne-sw axis. Others are of dry valley origin and will have generally horizontal bedding angles and form the fill of north-south oriented valley profiles.

3.0 Background to the wider Pleistocene resource

3.1 Overview

- 3.1.1 The sediments mapped in the Brighton and Hove area form part of a wider sequence of deposits spread across 30km of the Coastal Plain of Sussex (Figure 3) and eastern Hampshire. Together they provide a detailed record of environmental change and the activities of extinct human species during alternating periods of warm and cold climate. In West Sussex these deposits are currently being mapped and investigated through Mapping Surveys, funded directly by English Heritage.

3.2 Nature and extent of the resource.

- 3.2.1 Brighton and Hove is situated on a low-lying coastal plain. This plain is an area of low relief, rising from sea level at the current channel coast to 50m OD. where it meets the foot of the South Downs. The plain narrows substantially to the east, being less than 1km wide at Hove and terminates at the Black Rock cliffs behind the Brighton Marina. The plain is underlain by Upper Chalk and Tertiary bedrock, which forms a continuous platform covered by sediments deposited during the past 0.5 million years. These overlying deposits include sands and gravels relating to a series of raised beaches which formed during warm intervals between longer periods of sub-arctic conditions (glacial).

- 3.2.2 The Brighton Raised Beach has been documented at a number of localities within West Sussex, being represented by sands, silts and beach deposits overlying a platform at between c.8-12m above sea-level. The beach itself has been traced along the foot of the Downs at Sussex Pad, north of Shoreham (Bates *et al* 1997), through Worthing close to the north of the railway line (Young and Lake 1988). New dating methods utilizing amino-acid ratios from shells preserved within the sediments have dated the Brighton-Norton formation to 0.2 million years ago (Davies 1985).

Archaeological finds are admittedly rare from the Brighton-Norton formation, although flint tools have been found occasionally from these deposits in West Sussex and the Brighton and Hove area attesting to human (Neanderthal) occupation at this time.

3.3 ***Distribution in City Council area***

- 3.3.1 Within the Brighton and Hove area are a number of known localities demonstrated to preserve archaeologically sensitive deposits. Of these, the most important is the established SSSI at Black Rock, where the Brighton Raised Beach and overlying cold-stage deposits are preserved in an exposed section. This site is one of recognised national importance, being the best preserved natural exposure of a raised beach in the UK and preserving a sequence rich in faunal remains, environmental evidence and archaeology. The remaining section of cliff is now all that remains of an more extensive 4km section, originally stretching east to Rottingdean and west towards the Brighton Pier, where it has been built over as part of the esplanade (Ulliyott *et al* 2000). The site is today protected as a SSSI, overseen on behalf of English Nature by John Cooper of Brighton and Hove City Council. The section, which can be seen in figure 4, preserves a flint cobble beach overlying a chalk platform at 8m above sea level. The beach deposits are overlain by 'coombe-rock' lain down in subsequent cold stages, this being a marly chalk rubble eroded from the Downs by thawing ice. These overlying deposits appear to preserve a rich assemblage of faunal remains including mammoth, horse and rhinoceros, yet they still await systematic scientific study.
- 3.3.2 Another important exposure has been documented at Portslade (Prestwich 1887), where chalk and flint rubble was recorded overlying raised beach deposits at 4.5m above sea level. Exposures were also made during the laying of the main Brighton-Hove sewer in the late 19th century, where organic remains underlying cold-stage deposits (Prestwich 1887). While at West Street deposits were exposed suggesting the cliffline ran approximately along the line of the modern Western Road. During the nineteenth century this beach line could still be traced as a 'low-cliff' through Portslade to Southwick and today presumably follows a line close to the Old Shoreham Road in the west of the City Council area.
- 3.3.3 The map in Figure 3 shows the likely extent of archaeologically sensitive Quaternary deposits in the City area. To the north, the chalk Downlands mapped as being devoid of Quaternary deposits form a clear limit to the distribution of these deposits. South of this line the whole area must be considered sensitive.

3.4 **Threats to the resource**

- 3.4.1 The Quaternary heritage of the Brighton and Hove area is under threat from two prime agents: development and weathering. The effects of weathering have been mitigated in the short term by remedial works at the Black Rock site. The effects of development can be easily mitigated by the application of archaeological conditions set-out and enforced through the implementation of PPG16.
- 3.4.2 Experience of management and planning strategies employed by West Sussex County Council suggests that the starting point for mitigation is the assuring the presence of a trained Geoarchaeologist during the initial Geotechnical ground investigations. Witnessing of trial trenching and borehole surveys will usually be sufficient to characterise the sediments, allow the taking of basic samples and to provide suggestions for further work should it be required. In reality it is often the case that sensitive deposits are at sufficient depth to avoid destruction from foundation laying but this must be demonstrated in each individual case, not assumed. The geo-technical investigation alone often provides valuable scientific data in its own right, even where it simply allows the absence of sensitive geology to be mapped. Access to the site during geotechnical investigations is therefore often all that is required to assess the archaeological/scientific potential of the underlying geology, while simple desktop assessments can be employed to anticipate the need for further work.

3.5 **Development Control**

- 3.5.1 Currently planning policy on mitigation likely to impact upon Palaeolithic archaeology is under review, but draft planning policy has been drawn up. In the case of large redevelopment schemes and infrastructural projects affecting Pleistocene deposits, the following condition is attached to planning permissions:

“Provision shall be made for the presence of a qualified Geoarchaeologist, with experience of Quaternary raised beach sediments, to be present during geotechnical site investigations. The Geoarchaeologist shall be allowed access to log both boreholes and tests pit undertaken at the site, have access to the results of previous geotechnical investigations where these results are public domain and witness the excavation of foundation trenches. The Geoarchaeologist shall produce detailed geoarchaeological logs of witnessed excavations, take bulk samples of fine grained and marine sediments encountered and provide and assessment report with suggestions for further mitigation should it be deemed necessary. Geoarchaeologists employed shall liaise with active research Quaternary research teams

*including Dr Martin Bates (Lampeter) and the Boxgrove Project (UCL)",
Draft Planning Conditions 2006.*

4.0 Results of the Geoarchaeological Investigation

4.1 During the 9th and 10th of February the contractors began work on a deep excavation in Belfast Street. The extent of the hole (see Fig. 5 : Trench 1 - Pumping Station) was approximately 2m x 2m in plan and was excavated to an eventual depth of 3.2m. During these works the hole was monitored by Matthew Pope and Andrew Maxted of Archaeology South-East. The following stratigraphic sequence was recorded.

Depth	Stratigraphic Interpretation	Lithology	Colour/ Consistency	Coarse Components
0-0.45m	<i>Made Ground</i>	-	-	<i>Tarmac and brickwork.</i>
0.45- 1.72m	<i>Head Gravel with Brickearth Matrix</i>	<i>Silty Clay</i>		<i><5% Sub-Angular flint gravel 5-60mm</i>
1.72- 2.56m	<i>Head Gravel with Brickearth Matrix</i>	<i>Clay with Sand</i>		<i><40% Angular/Subangular flint gravel 5-15mm</i>
2.56- 3.2m	<i>Brickearth</i>	<i>Clay with Sand</i>		<i>Rounded Beach Pebbles Noted</i>

Table 1: Stratigraphic Summary For Belfast Road TP1

4.2 The hole did not get to sufficient depth to expose marine deposits underlying the local head which at this particular location reached a substantial depth. However, the presence of very occasional rounded beach pebbles in the basal units indicates the possibility that underlying beach deposits in the vicinity were being reworked during the deposition of these deposits.

4.3 Samples were taken of the Brickearth for micropalaeontological examination. It was hoped that surviving, forams, ostracods and other environmental indicators might provide some circumstantial evidence for the depositional context of these Brickearth. Unfortunately the samples

taken were barren, presumably due to decalcification. This is a useful observation as it is usually the case that decalcification does not extend to quite such depths (>3m) in parts of Raised Beach sequences situated so close to the inferred cliffline. It may be that here, the cliff is cutting into Tertiary deposits giving rise to non-calcareous head coverage and discriminating against the preservation of microfossils. Conversely these decalcified clayey Brickearth, can provide good preservational conditions for plant and insect remains. This was seen at Slindon (Roberts and Pope In Prep) and gives a contextual basis for believing that Prestwich's account of peat horizons within the Brickearth in Hove were genuine accounts of Pleistocene organic remains associated with the Norton Formation, a tantalising prospect.

5.0 Recommendations for future work and forward research strategy.

- 5.1 No further recommendations are made for further developer funded work at this site. Adequate provision was made for access to the site and for a detailed record of the sequence to be made and for samples to be taken. The shallow depth and decalcified nature of the recorded sequence renders scope for further elucidation of this sequence limited.
- 5.2 However the exercise has been of enormous value from a research point of view allowing the first modern investigation of Quaternary sediments in central Hove, close to the line of the Brighton-Norton raised Beach. It has confirmed suspicions that there is a significant Tertiary character to Head Deposits in the area and has provided contextual evidence to help in our continued investigations into coastline evolution in the locality and in identifying the location of previously recorded Pleistocene organic sedimentary facies.
- 5.3 The details of the site investigation will be added to the Brighton and Hove Quaternary GIS Database which is currently being developed by the Boxgrove project to provide a comprehensive and up-to-date record of the distribution and nature of Quaternary Deposits in the City. This database is being used to directly guide planning decisions and to formulate strategies to manage this unique resource.
- 5.4 Geological samples and documentation are being stored within the Boxgrove projects archive and are available upon request.

6.0 Archaeological Methodology

- 6.1 New ground works excavations undertaken by engineering contractors were monitored at all times by an archaeologist until it became clear beyond reasonable doubt that no archaeological remains were present (e.g. once excavation reached undisturbed natural subsoils, below which there were no archaeological remains present - after the recording of any significant remains if present at higher levels). The machine used for removal of material above undisturbed natural subsoil was fitted with a toothless bucket of 600mm width whenever practicable.
- 6.2 Once stratigraphic deposits were exposed, machine or hand excavation by contractor's staff ceased, and these were hand excavated and recorded to archaeological standards by the archaeologist in attendance. Exposures were hand cleaned by archaeologists as necessary to clarify the nature of deposits. Adequate time was made available for appropriate archaeological excavation by hand to identify and record the deposits. A specialist geoarchaeologist attended the site to ensure that geoarchaeological deposits were recorded to professional standards (see above).
- 6.3 All deposits, disturbed during the proposed works, were recorded in line with the Written Scheme of Investigation prepared by ASE (Griffin 2006) and approved by the County Archaeologist, ESCC in advance of the fieldwork.
- 6.4 The spoil from the excavations was inspected by archaeologists to recover any artefacts or ecofacts of archaeological interest.
- 6.5 The County Archaeologist, ESCC was kept informed of progress so that he could monitor the archaeological work or inform the Local Planning Authority (LPA) of developments if necessary.
- 6.6 All archaeological features were recorded according to standard UCLFAU practice. The site planned at 1:200 with section drawings at 1:10. Drawings were on plastic draughting film. Deposits were described on standard pro-forma recording sheets used by UCLFAU. A photographic record was maintained in both monochrome and colour transparency.
- 6.7 The following intrusive groundworks were monitored by an archaeologist.
- Excavations for the new storage sewer
 - Excavations for new manholes
 - Excavations for new pumping station
 - Any other significant intrusive groundworks associated with the scheme

7.0 Archaeological Results

7.1 The excavations for the 4m x 7m storage sewer (see Fig. 2 Trench 2) were monitored on 9th November and 10th November 2006 by Archaeologist Alice Thorne, down to a depth of 1 metre. The excavation of a further 300mm was monitored on 15th November by Andy Margetts. The contexts exposed were as follows:

- **120mm Tarmac** underlain by:
- **120mm Hardcore** underlain by:
- **Context (01)** (see Fig. 6) a 400mm thick deposit of re-deposited natural, described as a mid- orange / brown, slightly silty clay, compact with frequent inclusions of flint gravels, flint nodules and occasional inclusions of brick rubble, chalk and tar. Underlain by:
- **Context (02)** (see Fig. 6) a 360mm thick deposit of greyish brown clayey silt, friable in consistency frequent inclusions of flint nodules and occasional inclusions of tile and brick pieces, and blue and white china. Pottery and a coin were recovered from this late post-medieval / modern deposit. Underlain by:
- **Context (03)** (see Fig. 6) at 1 metre depth, a 300mm deep deposit of mid orange brown, sandy flint gravel, firm in consistency with very common inclusions of flint nodules less than 100mm in dimension.

7.2 A 2.2m x 2m trench (see Fig. 2 – Trench 1 Pumping Station) was excavated and monitored on the 6th January by Deon Whittaker and on 8th January 2007 by Senior Archaeologist Jon Sygrave down to a depth of 500mm. This trench was further reduced and monitored by geoarchaeologists Matthew Pope and Andrew Maxted, The results are as presented earlier (see **4.0 Results of the Geoarchaeological Excavation**)

7.3 A pipe trench (see Fig. 2 – Trench 3 Pipe Trench) running from TR1 to TR2 was monitored on 25th January 2007 by Archaeologist Clive Meaton to a maximum depth of 1.8 metres. Stratigraphical deposits were recorded as follows:

- **100mm Tarmac** underlain by:
- **400mm thick deposit of re-deposited natural**, described as a mid- orange / brown, slightly silty clay, compact with frequent

inclusions of flint nodules. Occasional thin deposit of compacted chalk at interface with tarmac. Very similar to Trench 2 Context 1. Underlain by:

- **500mm thick deposit of greyish brown clayey silt**, friable in consistency frequent inclusions of flint nodules and occasional inclusions of tile and brick pieces, and blue and white china. Very Similar to Context 2 Trench 2. Underlain by:
- **600mm deep deposit of mid orange brown, sandy flint gravel**, firm in consistency with very common inclusions of flint nodules less than 100mm in dimension. Very similar to Context 3. Deposit not bottomed.

8.0 The Finds by Elke Raemen and Lucy Allott

8.1 *Spot Date*

Context [2] 19th century with some residual 18th century

8.2 This watching brief produced only a few finds, all of which were recovered from [2] (dumped deposit).

Table 2. Finds - Pottery

Context	Pottery	Weight (g)	CBM	Weight (g)	Flint	Weight (g)
[2]	2	<2	2	22	4	92

Table 3. Small Finds

SF no.	Context	Material	Object
SF 1	[2]	Copper alloy	coin

8.3 Only two sherds of pottery were recovered. A green transfer printed china plate fragment dates to the 19th century and a blue transfer printed pearlware fragment can be dated to the first half of the 19th century.

8.4 The ceramic building material consists of two tile fragments. These are probably peg tile fragments and date to the later 18th to 19th century. One fragment is medium to hard fired with a sand tempered fabric containing a

- few iron oxide inclusions to 2 mm and white/chalk? inclusions to 1 mm, while the other, hard fired tile fragment is tempered with sparse fine sand and contains white/chalk? inclusions to 1mm.
- 8.5 This context also produced four worked flints. Three of these are side struck flakes. One flake is cortical and has a natural break along the right lateral. A semi-cortical flake has some retouch and possible use damage at the proximal end. A scraper, measuring 72 x 40 x 15mm, made on an end struck flake is present. The majority of retouch is focused at the proximal end and the proximal lateral surfaces. This tool has some cortex on the right dorsal surface.
- 8.6 In addition a copper halfpenny (SF1) weighing 8g was recovered from the dumped deposit (context [2]). This coin probably dates to the 18th century and is probably residual in the context.
- 8.7 The current assemblage is not considered to hold any potential for further analysis.

9.0 Summary and Discussion

- 9.1 Excavation of three trenches for the installation of a storage sewer, pumping station and pipe, produced no significant archaeological deposits, but did produce residual archaeological artefacts. The artefacts were recovered from a single context of re-deposited natural (context 02), and consisted of an copper alloy coin of approximately 18th century date, tile from the late 18th to 19th century and transfer printed pottery from the 19th century. The flint artefacts are clearly residual.
- 9.2 The geoarchaeological results show that the excavations did not get to sufficient depth to expose marine deposits underlying the local head which at this particular location reached a substantial depth. However, the presence of very occasional rounded beach pebbles in the basal units indicates the possibility that underlying beach deposits in the vicinity were being reworked. It has confirmed suspicions that there is a significant Tertiary character to Head Deposits in the area and has provided contextual evidence to help in our continued investigations into coastline evolution in the locality and in identifying the location of previously recorded Pleistocene organic sedimentary facies.

10.0 Bibliography

- Bates, M.R., Parfitt, S.A. and Roberts, M.B.** 1998. The chronology, palaeoecology and archaeological significance of the marine Quaternary record of the West Sussex Coastal Plain, Southern England, UK. *Quaternary Science Reviews*. **16**: 1227-1252.
- Bates, M.R., Bates, C.R., Gibbard, P.L., Macphail, R.I., Owen, F.J., Parfitt, S.A., Preece, R.C., Roberts, M.B., Robinson, J.E., Whittaker, J.E. and Wilkinson, K.N.** 2000. Late Middle Pleistocene deposits at Norton Farm on the West Sussex coastal plain, southern England. *Journal of Quaternary Science*. **15** (1): 61-89.
- Griffin, N.** 2006. *Belfast Street and Stirling Place, Brighton, East Sussex. Archaeological Watching Brief. Written Scheme of Investigation.* ASE Unpublished document. Project Ref. 2577.
- Parfitt, S.A. and Sutcliffe, A.J.** In press. Pleistocene channels of the Selsey Peninsula and Bracklesham Bay, West Sussex, UK. *Journal of Quaternary Science*.
- Prestwich, J.** 1859. On the Westward Extension of the old Raised Beach of Brighton; and on the extent of the Sea-Bed of the same Period. *Quarterly Journal of the Geological Society*. **15**: 215-221.
- Roberts, M.B.** 1998. Middle Pleistocene sediments and archaeology at ARC Eartham Quarry, Boxgrove, West Sussex. In *The Quaternary of Kent and Sussex Field Guide* (J.B. Murton, C.A. Whiteman, M.R. Bates, D.R. Bridgland, A.J. Long, M.B. Roberts and M.P. Waller eds.). London: Quaternary Research Association. 187-213.
- Roberts, M.B.** 1999. Geological Framework. In Roberts, M.B. and Parfitt, S.A. 1999. *Boxgrove: A Middle Pleistocene hominid site at Eartham Quarry, Boxgrove, West Sussex.* London: English Heritage Monograph Series. Archaeological Report **17**. 21-37.
- Roberts, M.B. and Parfitt, S.A.** 1999. *Boxgrove: A Middle Pleistocene hominid site at Eartham Quarry, Boxgrove, West Sussex.* English Heritage Monograph Series. Archaeological Report **17**. London: English Heritage. 456pp.
- Roberts, M.B. and Pope, M.I.** 2000. *Report on Geological Test Pits at Brooks' Field 2185 at Tangmere, West Sussex.* Unpublished report for Chichester District Council.

Shephard-Thorn, E.R. 1995. *Portsdown-Arun Project*. Unpublished report for English Heritage.

West, R.G. and Sparks, B.W. 1960. Coastal interglacial deposits of the English Channel. *Philosophical Transactions of the Royal Society of London*. B **243**: 95-133.

Woodcock, A. 1981. *The Lower and Middle Palaeolithic Periods in Sussex*. Oxford: British Archaeological Reports, British Series: **94**. 418pp

SMR Summary Sheet

Site Code	SPH 06					
Identification Name and Address	Belfast Street and Stirling Place , Hove, East Sussex					
County, District &/or Borough	East Sussex, Hove					
Full 12 Fig. OS Grid Refs.	NGR 528608 104935					
Archaeology South-East Proj. No.	2577					
Type of Fieldwork	Eval.	Excav.	Watching Brief ✓	Standing Structure	Survey	Geoarch ✓
Type of Site	Green Field	Shallow Urban ✓	Deep Urban	Other		
Dates of Fieldwork	Eval.	Excav.	WB.6/11/06 - 25/1/07	Other		
Sponsor/Client	4 Delivery LTD					
Project Manager	Neil Griffin					
Project Supervisor	Deon Whittaker					
Period Summary	Palaeo.	Meso.	Neo.	BA	IA	RB
	AS	MED	PM ✓	Prehist. ✓		
<p>100 Word Summary.</p> <p>Excavation of three trenches for the installation of a storage sewer, pumping station and pipe, produced no archaeological deposits, but did produce residual archaeological artefacts. The artefacts were recovered from a single context of re-deposited natural (context 02), and consisted of an copper alloy coin of roughly 18th century date, tile from the late 18th to 19th century and transfer printed pottery from the 19th century. Residual worked flint was also recovered.</p> <p>The excavations did not get to sufficient depth to expose marine deposits underlying the local head which at this particular location reached a substantial depth. However, the presence of very occasional rounded beach pebbles in the basal units indicates the possibility that underlying beach deposits in the vicinity were being reworked.</p>						

APPENDIX – OASIS SUMMARY

OASIS ID: archaeol6-26118

Project details

Project name Belfast Street Hove

Short description of the project Excavation of three trenches for the installation of a storage sewer, pumping station and pipe, produced no significant archaeological deposits, but did produce residual archaeological artefacts. The artefacts were recovered from a single context of re-deposited natural (context 02), and consisted of an copper alloy coin of approximately 18th century date, tile from the late 18th to 19th century and transfer printed pottery from the 19th century. The flint artefacts are clearly residual. The geoarchaeological results show that the excavations did not get to sufficient depth to expose marine deposits underlying the local head which at this particular location reached a substantial depth. However, the presence of very occasional rounded beach pebbles in the basal units indicates the possibility that underlying beach deposits in the vicinity were being reworked. It has confirmed suspicions that there is a significant Tertiary character to Head Deposits in the area and has provided contextual evidence to help in our continued investigations into coastline evolution in the locality and in identifying the location of previously recorded Pleistocene organic sedimentary facies.

Project dates Start: 09-11-2006 End: 25-01-2007

Previous/future work No / Not known

Any associated project reference codes 2577 - Sitecode

Type of project Recording project

Site status None

Current Land use Residential 1 - General Residential

Investigation type 'Watching Brief'

Prompt Direction from Local Planning Authority - PPG16

Project location

Country	England
Site location	EAST SUSSEX BRIGHTON AND HOVE HOVE Belfast Street Hove
Postcode	BN3 3
Study area	36.00 Square metres
Site coordinates	TQ 28608 04953 50.8292345244 -0.173640163147 50 49 45 N 000 10 25 W Point

Project creators

Name of Organisation	Archaeology South East
Project brief originator	Archaeology South East
Project design originator	Archaeology South-East
Project director/manager	Neil Griffin
Project supervisor	Jon Sygrave
Type of sponsor/funding body	Developer
Name of sponsor/funding body	4 Delivery Limited

Project archives

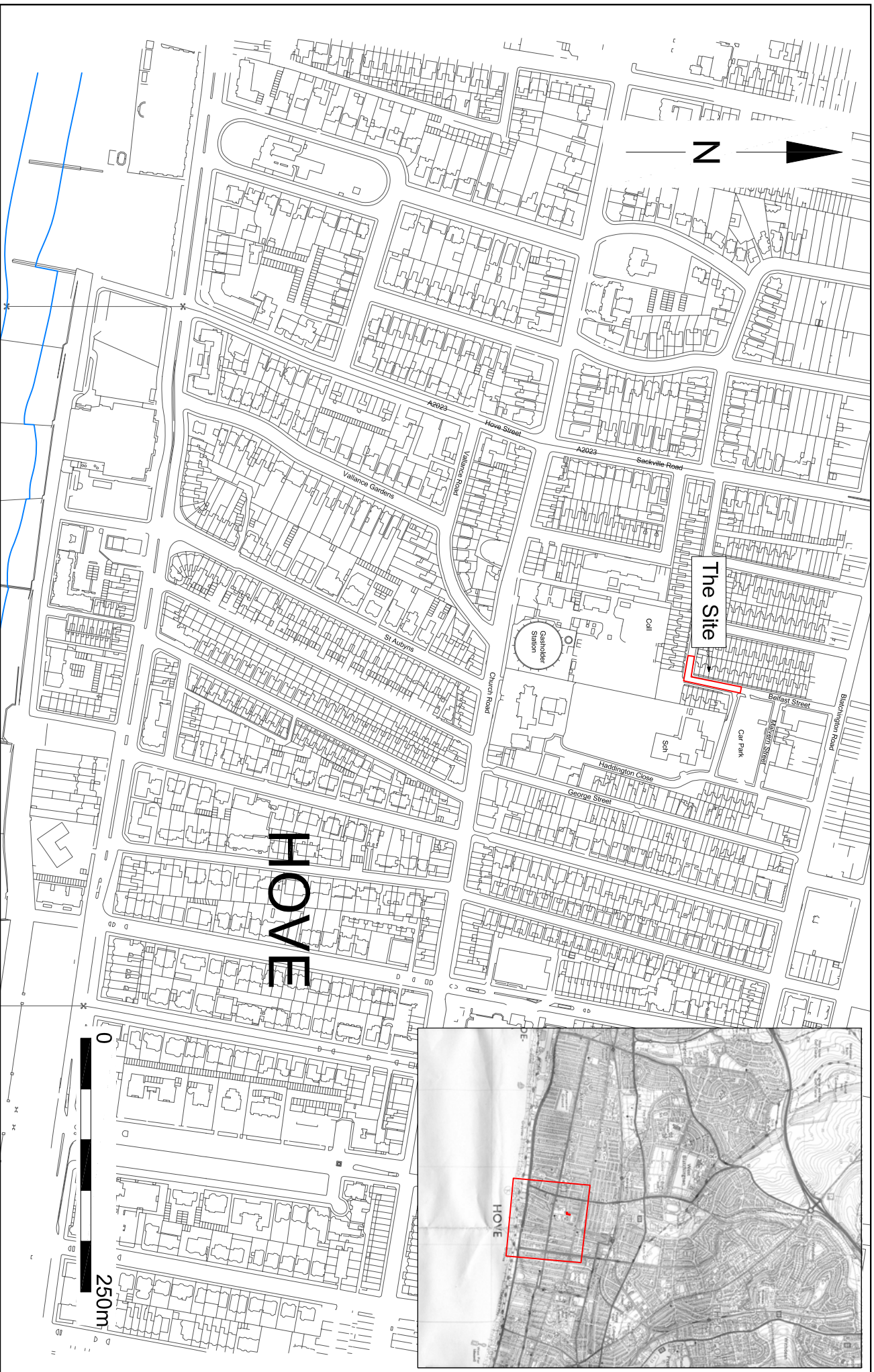
Physical Archive recipient	Local Museum
Physical Contents	'Ceramics','Worked stone/lithics','other'
Digital Archive recipient	Local Museum
Digital Contents	'other'
Digital Media available	'Images raster / digital photography','Spreadsheets'
Paper Archive recipient	Local Museum
Paper Contents	'other'
Paper Media available	'Context sheet','Notebook - Excavation',' Research',' General Notes','Plan','Report','Section','Unpublished Text'

Project bibliography

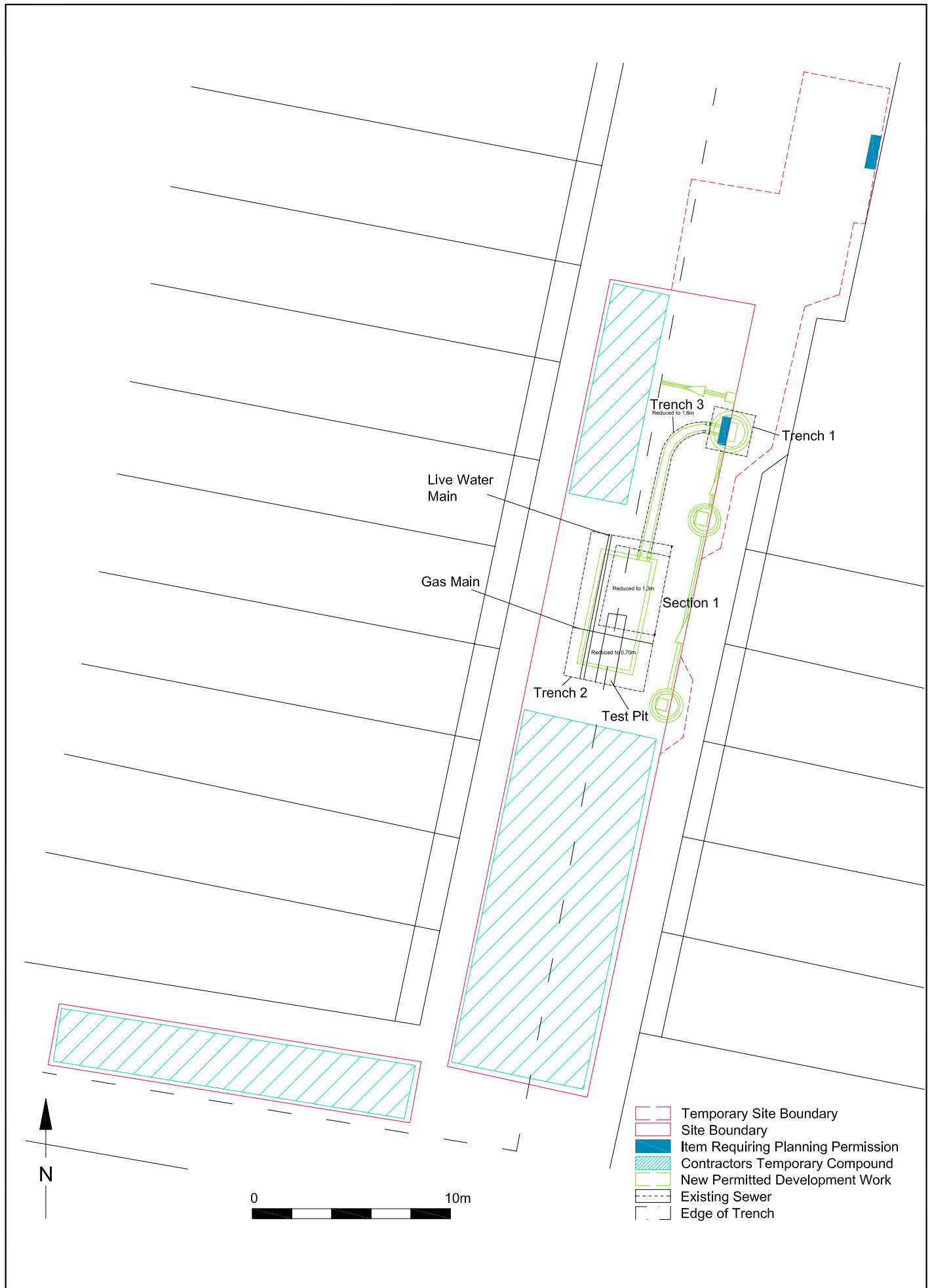
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Publication type	Grey literature (unpublished document/manuscript)
Title	Belfast Street, Brighton Geoarchaeological Survey and Watching Brief
Author(s)/Editor(s)	Pope, M. Whittaker, D.
Other bibliographic details	2577
Date	2007
Issuer or publisher	Archaeology South East
Place of issue or publication	Ditchling
Description	A4 Spiral Bound Card Backed Word Processed

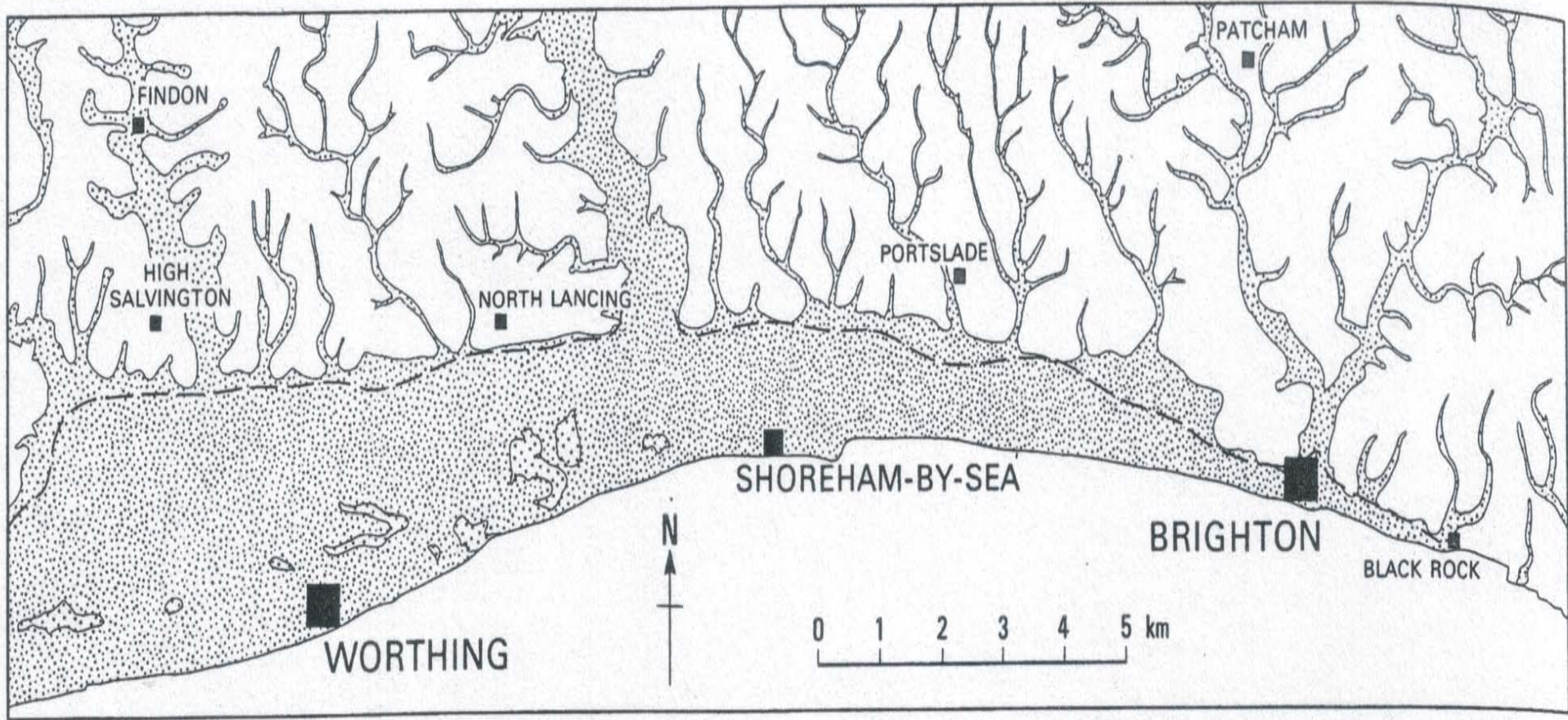
Entered by	Deon Whittaker (mushak@hotmail.co.uk)
Entered on	12 April 2007



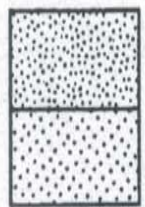
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Ref: 2577	April 2007	Drawn by:	JNC
		Site Location	
		Fig. 1	



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Ref: 2577	April 2007	Drawn by: JNC	Trench Location Plan	



--- approximate position of cliff-line to the raised beach



Younger drift deposits

Raised Beach Deposits

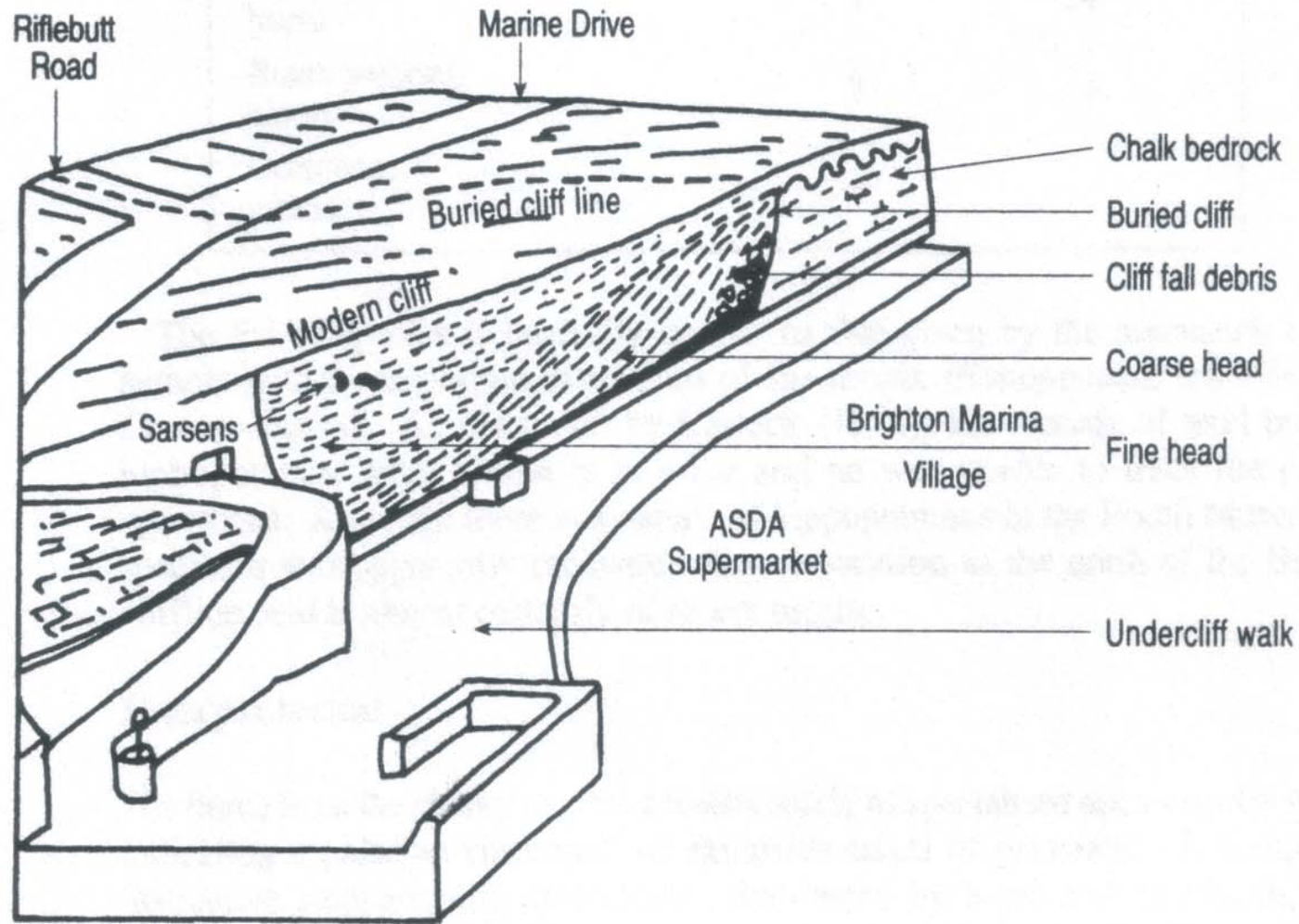
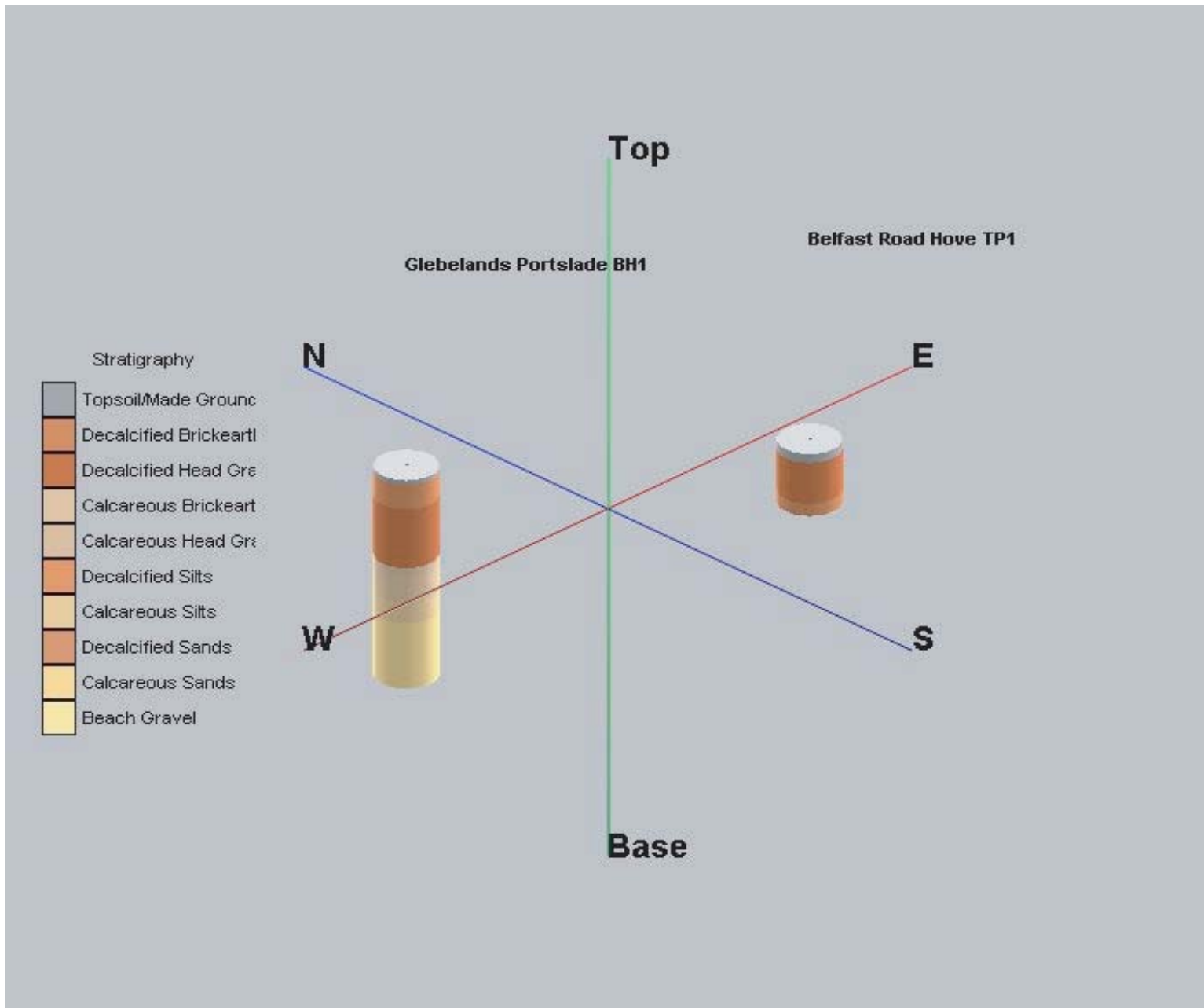
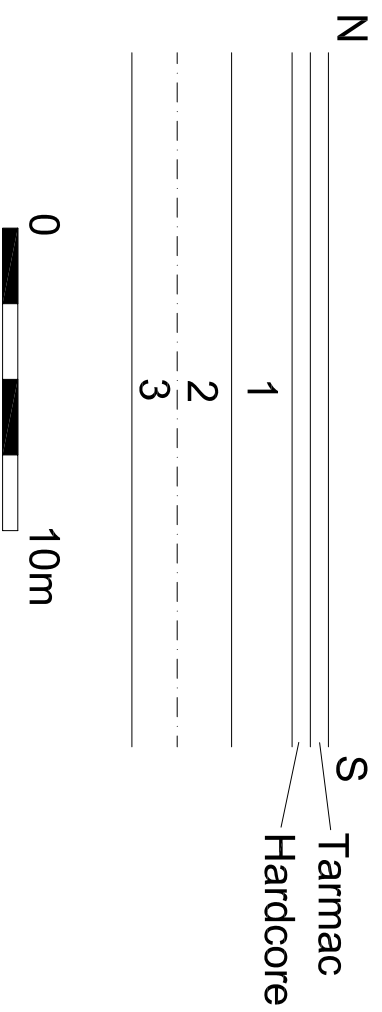


Figure 5.6 Diagrammatic view of Black Rock cliff-section prior to building of the marina, village and supermarket (modified after Williams 1971).



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Ref: 2577	April 2007	Preliminary Modeling of Pleistocene Geology in Hove	

West Facing Section 1



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Ref: 2577	April 2007	Section	
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