

**ARCHAEOLOGICAL MONITORING AND RECORDING REPORT:
CENTRICA PLANT, SCAWBY BROOK, BRIGG, NORTH LINCOLNSHIRE**

NGR: SE 9880 0608
Planning Refs.: PA/2009/0334; PA/2012/0710; APP/Y2003/A/10/2133721
PCAS Site Code: BBSM12 (BESM12)
N. Lincs. Site Code: SWBE (SWBG)
PCAS Job Ref.: 883 (922)

Report for

Eco2

By

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Non-technical summary

Pre-Construct Archaeological Services Ltd (PCAS) were commissioned by Eco2 to undertake a programme of archaeological monitoring and recording during groundworks associated with the creation of a renewable energy plant (REP) and the erection of an electricity substation at Scawby Brook, c. 1.5km to the southwest of Brigg, North Lincolnshire.

Due to the geographical overlap of two separate planning areas, the archaeological monitoring scheme for the electricity sub-station (PA/2012/0710) was carried out as part of the REP monitoring scheme (PA/2009/0334); this report combines the results of both areas, centred on NGR: SE 0855 0608.

The archaeological monitoring and recording identified a single, north-south aligned ditch within the north-facing excavation section. The feature was undated and cut into the natural substrate.

The monitoring confirmed that any archaeological remains on the site had been extensively disturbed, or were previously removed by the construction of the former Brigg Sugar Refinery in the early 20th century.

1.0 Introduction

- 1.1 Pre-Construct Archaeological Services Ltd (PCAS) were commissioned by Eco2 to undertake a programme of archaeological monitoring and recording during groundworks associated with the creation of a renewable energy plant (REP) and the erection of an electricity substation at Scawby Brook, c. 1.5km to the southwest of Brigg, North Lincolnshire, centred on NGR: SE 0855 0608. The proposed development lies within the site of the former British Sugar refining plant.
- 1.2 Archaeological monitoring by a team of PCAS Field Officers took place on the site between November 2013 and March 2014. Due to the geographical overlap of two separate planning areas, this report combines the results of two approved monitoring schemes: the electricity sub-station (PA/2012/0710) and the REP (PA/2009/0334).

2.0 Site location and description

- 2.1 The former British Sugar refining plant at Scawby Brook is located approximately 1km to the east of the village of Scawby and 1.5km to the southwest of Brigg – the latter situated 12km southeast of Scunthorpe, within the administrative area of North Lincolnshire (**Fig. 1**). It lies to the south of the Scawby Beck stream and an existing access road; and to the north and west of Glanford Brigg power station (**Fig. 2**). The area of the two designated watching briefs comprised a rectangular area of c. 5.26 hectares, occupying the southwestern corner of the larger planning application boundary, centred on NGR: SE 0855 1806 (**Fig. 2**).

3.0 Planning background

- 3.1 On 18 October 2011, planning permission was granted on appeal (Ref.: APP/Y2003/A/10/2133721) by HM Planning Inspectorate and North Lincolnshire Council (NLC) and for a renewable energy plant in the form of a biomass fired power station, fuelled by straw; and comprising four main buildings, a stack (chimney); and associated buildings, facilities, parking and infrastructure (Ref PA/2009/0334).
- 3.2 Three archaeological conditions attached to the 2011 planning permission (nos. 13, 14 and 15) requested a mitigation strategy, reporting and deposition of the project archive in accordance with a Written Scheme of Investigation. A WSI was subsequently prepared by PCAS (May 2012) in accordance with the conditions issued; and with a standard brief for archaeological observation, assessment and recording, issued by NLHER and approved by North Lincolnshire Council in advance of the works.
- 3.3 On 27 July 2012, full Planning Permission (PA/2012/0710) was also granted by North Lincolnshire Council for, *'the erection of an electricity substation required in connection with the approved proposal for the Brigg Renewable Energy Plant (Planning reference - PA/2009/0334 at land at Former British Sugar Site access roads to PowerStation, Scawby Brook, Scawby, DN20 9LT.'*
- 3.4 Planning Permission PA/2012/0710 for the electricity substation (which is located within the geographical area of the previous planning permission, PA/2009/0334, was granted subject to three archaeological conditions (nos. 5, 6 and 7). These requested the submittal of a second archaeological mitigation strategy to be carried out in accordance with the approved details and timings; and the deposition of the project archive with North Lincolnshire's Historic Environment Record within six months of the completion of

the development. A mitigation strategy document was subsequently prepared by PCAS (Francis, September 2012) in accordance with the conditions and with a standard brief for archaeological observation, assessment and recording, issued by NLHER and approved by North Lincolnshire Council in advance of the works. ***Due to the geographical overlap of the two separate planning areas, the archaeological monitoring scheme for the electricity sub-station (PA/2012/0710) was carried out as part of the REP monitoring (PA/2009/0334); This report combines the results of both.***

- 3.5 Details of the planning applications and appeal, including related plans and documents of the development, are available on North Lincolnshire Council's web site: www.northlincs.gov.uk.

4.0 Geology and topography

- 4.1 The site is situated in the Ancholme Valley to the west of the New River Ancholme. It lies at c.3-4m AOD in an area of low lying land that is within the statistical flood plain for the River Ancholme.
- 4.2 The British Geological Survey maps the site as made ground on marine or estuarine alluvium drift overlying the solid geology of Elsham sandstone of the Ancholme Clay Group of the Upper Jurassic era (BGS 1982). However, the south-western corner of the site appears to lie above an outcrop of exposed solid geology of the Middle Jurassic Redbourne Group, consisting of Kirton Cementstones with Scawby limestones and Santon Oolite (BGS, 1982). Observation of a ploughed field during a 2012 site visit bore out this impression (PCAS October 2012).
- 4.3 The BGS Geology of Britain viewer records the solid (bedrock) geology of the area around the site as Hibaldstow Limestone - Ooidal Limestone: Sedimentary Bedrock formed approximately 169 to 176 million years ago in the Jurassic Period. Local environment previously dominated by shallow carbonate seas.
- 4.4 The Drift geology of the site is recorded as Alluvium - Clay, Silt, Sand and Gravel. These are superficial deposits formed up to 2 million years ago in the Quaternary Period in a local environment previously dominated by rivers (<http://mapapps.bgs.ac.uk/geologyofbritain/>).

5.0 Archaeological and historical context

- 5.1 Evidence for prehistoric settlement in the Scawby area is inferred from concentrations of finds rather than archaeological features; worked flints, stone axes and organic remains dating from the Mesolithic through to the Bronze Age have been recovered from the site of the former Brigg Brickworks, over 1km to the northeast of the site. The Old River Ancholme has produced a number of waterlogged finds, such as prehistoric boats and trackways (May 1976). In 1886, a Late Bronze age log boat known as the Brigg Boat was found during excavations for the Brigg Gas Works, just over 1km northeast of the current site. A slightly later wooden trackway had been found near the site of the log boat in 1884 (Van de Noort and Ellis 1998, 86).
- 5.2 Roman activity in the area, including a possible settlement is focused around the village of Scawby, over 1km from the site.

- 5.3 Medieval remains include the Scheduled site of Castlethorpe moated manor, c.800m to the north of the site. Limited investigations on that site identified a number of ditched and walled boundaries of late Anglo-Saxon and medieval date, overlain by later ditched enclosures and field boundaries.
- 5.4 An archaeological assessment of the proposed development site prepared by PCAS in 2008 found that it was situated away from the foci of activity for all periods; and that the development of the British Sugar Factory in the early 20th century was likely to have destroyed any potential archaeological remains. The archaeological potential of the site was considered to be negligible.
- 5.5 In January 2009, Archaeological Services, University of Durham carried out an auger survey on the proposed development site. Peat deposits and possible evidence of an alluvial deposit from a former course of the river Ancholme were identified. No further palaeoenvironmental work was recommended in relation to the scheme.
- 5.6 In October 2012, an archaeological desk-based assessment of the proposed development site was conducted by PCAS (Savage 2012). The assessment, revised and resubmitted following the earlier report (PCA 2008), revealed that the archaeological potential of the site was negligible, with the exception of a putative Roman and medieval causeway in the southwestern corner. A palaeoenvironmental survey identified the presence of peat deposits in the eastern part of the site, although their limited extent did not warrant further sampling and analysis.
- 5.7 The historic map regression produced for the Centrica site as part of the 2012 assessment (Savage 2012) shows the proposed development site as enclosed agricultural land containing at least four, east-west aligned field boundaries as early as the Scawby parish enclosure award of 1770. The site remained undeveloped until at least 1908: initial development on the site may have occurred during the 1928-29 construction of the adjacent sugar refinery within the same application boundary, by the Lincolnshire Beet Sugar Company. The buildings of the processing factory, which occupied the northern half of the site, were demolished following its 1991 closure (PCAS 2012).
- 5.8 The site is located within an area included in the National Mapping Programme (NMP). An aerial photograph of the site taken in March 1948 shows what appears to be linear buildings and tips of material within the area of the proposed watching brief (PCAS 2012, Figure 9).

6.0 Aims and objectives of the project

- 6.1 The primary aim of the archaeological monitoring for both of the site's two mitigation strategies was to '*preserve by record*' any archaeological remains exposed during groundworks in their respective areas (the REP plant and the electricity substation). The specific aims were to:
- identify and record all archaeological features and artefacts exposed during construction work;
 - determine the form and function of the archaeological features encountered;
 - recover dating evidence from the archaeological features;
 - establish the sequence of the archaeological remains present on the site;
 - retrieve environmental evidence relating to environment and economy of the site;
 - interpret the archaeological features and finds within the context of the known archaeology of the site and surrounding area.

7.0 Methodology

7.1 Two approved Written Schemes of Investigation (PCAS May 2012; PCAS September 2012) were designed and approved in collaboration with the Historic Environment Officer for North Lincs. Council. The two strategies and this report were prepared in accordance with current best practice and appropriate national guidance including:

- *IFA Code of Conduct (1994 as revised)*;
- *IFA Standards and Guidance for Archaeological Watching Briefs (2008)*;
- *Management of Research Projects in the Historic Environment (MoRPHE)*;
- *National Planning Policy Framework*. Department for Communities and Local Government. March 2012.

7.2 An online OASIS record (**ID: 177470**) was initiated before field work commenced (<http://ads.ahds.ac.uk/project/oasis>). This will be submitted to the NHER as part of this report (Appendix 4). In accordance with current guidelines, arrangements have been made with the developers and with North Lincs. Museum Services for the forthcoming deposition of the archive, under NLMS Site Codes **SWBE / SWBG**.

7.3 The site was excavated under the PCAS Site Code **BBSM12**, and Job Number **883**. PCAS Site Code **BESM12**, and Job Number **922** (PCAS September 2012), were rendered obsolete, due to the incorporation of the electricity sub-station monitoring area (to which they relate), within the area of the REP monitoring. The scope of the monitoring works comprised observation of an access road and the site of both the proposed REP and electricity substation (see **Fig. 2**). All archaeological deposits and features were manually cleaned and recorded and sample excavated by hand in accordance with the approved WSI. All context information was recorded on standard PCAS context sheets and is reproduced in Appendix 2. Archaeological plans and sections were drawn to appropriate scales (1:500, 1:200 and 1:20). Photography was conducted in 35mm format supplemented by colour digital.

7.4 The area was excavated by a 30 tonne 360 machine fitted with a toothed bucket (the latter due to the prevalence of reinforced concrete) and a 30-tonne dumper. The groundworks were intensively monitored and all deposits were recorded photographically and by a drawn measured section.

8.0 Results

New Access Road

8.1 Monitoring commenced in November 2013 on the creation of a new access road, c. 500m west of the monitoring area (**Fig. 3** and Appendix 1: plates 1 & 2). Topsoil stripping commenced within an arable field immediately south of the existing factory access road, where a new junction was being created. Two low bunds were formed either side of the road strip: one between the new road and the existing road to the north; and one between the new road and farmland to the south. The new road was c. 55m long, 10m wide and joined the existing road to the east of the kennels. Stripping of this area was conducted in two linear tranches to a maximum depth of 0.30m. Only ploughsoil (100) and the natural substrate (102) were recorded (see **Fig 3, S2**): no archaeological finds or features or any peat deposits were identified.

Designated monitoring area

- 8.2 Monitoring in the south-western part of this area (**Fig. 2**), including the site of the proposed electricity sub-station, commenced in March 2014 and was initially delayed by the contractors' discovery of deep, modern made ground containing unforeseen, reinforced concrete foundations (Appendix 1: Plate 3); following the demolition of the existing buildings, the site had been roughly levelled and covered with loose rubble to form a temporary car park. Once cleared of rubble, the designated monitoring area was defined by the remains of a northern, eastern and southern reinforced concrete wall. Inside these, the monitoring area was traversed by at least three substantial east-west aligned concrete footings containing steel stanchion stubs and with brick foundations. Stratified between the footings were varying deposits of rubble and mixed made ground, including sand and pebbles (**Fig. 4, S4**). In the centre of these linear deposits was a strip of re-deposited natural clay (Appendix 1: plates 4 - 8). It appeared that any potential archaeological deposits had been previously removed prior to the construction of the former sugar factory.
- 8.3 The designated monitoring area was gradually stripped from east to west, with reduction shallowest to the south. Conditions were often difficult, with deep excavations and the presence of concrete and metal foundations preventing the methodical and gradual reduction of made ground, as well as safe access; and often necessitating the use of toothed machine buckets. Nevertheless, a possible north-south aligned ditch [104] was identified within the north-facing excavation section, cut into the light orange clay natural substrate (101). The ditch profile had fairly steep and even sides (**Fig. 4, S5**). The sandy fill (105) contained only charcoal. Ditch [104] was sealed by dark horizon of buried topsoil (103) containing the remains of two, relatively recent, sawn wooden fence posts or stakes (Appendix 1: Plate 9) and a few sherds of late post-medieval / modern pottery (Appendix 3). The uppermost deposit was modern made ground (102).
- 8.4 The south-facing section of the south-western part of the site contained 0.75m of modern hardcore and made ground containing small stones above the remains of a concrete factory floor, 0.30m thick. Below this was over a metre of made ground to the limit of excavation, comprising dark brown clay (**Fig. 4, S6**).
- 8.5 The last area to be reduced was the northern 'annexe' of the designated monitoring area. A concrete floor identified here overlay made ground deposits containing a large amount of brick rubble (Appendix 1: Plate 10).

9.0 Discussion and Conclusion

- 9.1 During the monitoring, a single, north-south aligned ditch was identified within the north-facing excavation section. The feature was undated and cut into the natural substrate.
- 9.2 The programme of archaeological monitoring and recording on the proposed development site confirmed that the site was extensively disturbed by the construction of the former Brigg Sugar Refinery in the early 20th century. Consequently, any existing archaeological remains have been destroyed or were previously removed. The intrusive system of concrete channels and walls recorded during the monitoring corresponds with the linear features visible on aerial photographs of the site dating to the late 1940s. The results of the monitoring confirm the findings of the 2008 archaeological assessment, which suggested that the development of the British Sugar Factory on the site in c. 1928 was likely to have destroyed any existing archaeological remains (Rowe 2008).

10.0 Effectiveness of Methodology

- 10.1 The methodology used for this scheme was intended to preserve by record any archaeological remains situated beneath the remains of the modern sugar refinery. The monitoring demonstrated that the site had been heavily disturbed during the construction of the factory. Nevertheless, the archaeological monitoring was successful in identifying and recording a single ditch feature.

11.0 Acknowledgements

- 11.1 Pre-Construct Archaeological Services Ltd. would like to thank Eco2 for this commission.

12.0 Site Archive

- 12.1 The archive is currently held at the offices of PCAS, Saxilby, Lincolnshire and will be deposited with North Lincolnshire Museums Service under the NLMS Site Code **SWBE / SWBG**.

13.0 References

Centrica Brigg Ltd., 2012a, Centrica Glanford Brigg Biomass Power Station, Brigg, North Lincolnshire: Environmental Impact Assessment Scoping Report. Consulted online 16/10/2012 at http://www.centrica.com/files/pdf/centrica_energy/glanford_brigg_scoping_report_may_2012.pdf

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Gardner, R. D., 2006, *Land off Ancholme Way, Brigg, North Lincolnshire: Archaeological Desk-Based Assessment*. Unpublished client report for Pre-Construct Archaeology (Lincoln).

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PCAS. May 2012. *Specification for a Scheme of Archaeological Monitoring and Recording: Former British Sugar Site, Scawby, Brigg, North Lincolnshire*. Written Scheme by K.D. Francis for Pre-Construct Archaeological Services Ltd.

PCAS. September 2012. *Specification for an Archaeological Mitigation Strategy: Former British Sugar Site, Scawby, Brigg, North Lincolnshire*. Written Scheme by K.D. Francis for Pre-Construct Archaeological Services Ltd.

PCAS. October 2012. *Centrica Plant, Scawby Brook, Near Brigg, North Lincolnshire: Archaeological Desk-Based Assessment*. Unpublished client report by R. D. Gardner for Pre-Construct Archaeological Services Ltd.

Van de Noort, R., and Ellis, S., (eds.), 1998. *Wetland Heritage of the Ancholme and Lower Trent Valleys: an archaeological survey*. The Humber Wetlands Project, University of Hull.

Appendix 1: Selected Photographs



1. Topsoil stripping for the new access road, c. 500m west of the monitoring area, looking east



2. Topsoil stripping for the new access road, looking west



3. The designated monitoring area prior to stripping, looking east



4. General view of the south-western part of the site prior to foundation removal, looking east



5. Excavation between the remnant concrete footings, looking east



6. View east between remnant concrete footings



7. View of the south-western part of the site, looking east



8. East-facing sample section in south-western area showing made ground (see Fig. 4, S.4)



9. North-facing section showing buried topsoil (103) containing two fence posts (see Fig. 4, S.5)



10. View of the north end of the monitoring zone, looking west

Appendix 2. Context Summary

Context	Type	Relationships	Description
100	Layer	above 101	Modern ploughsoil / Topsoil: mid slightly greyish brown clay silt. Firm compaction. Contains irregular small limestone fragments, rare charcoal pieces, plastic and modern glass
101	Layer	below 100, 103; cut by 104	Natural: light brownish orange slightly silty clay. Rare lighter patches of sandy clay. Firm compaction. Frequent irregular limestones <10cm
102	Layer	above 103	Modern made ground: very mixed layer, sterile in terms of finds. Contains patches of dark soily material, light yellow sand & gravel, redeposited natural clay (see 101), and CBM and concrete fragments
103	Layer	below 102; above 101, 104, 105	Buried topsoil: Mottled black / dark brown silty clay with soft, plastic texture. Contains moderate amounts of rounded grit <2mm, and charcoal flecks. Likely derived from modern contamination above. Contained post-medieval and modern pottery sherds and a fragment of clay pipe stem.
104	Cut	contains 105; cuts 101	Possible ditch: cut feature only seen in section. Fairly steep and even sides; narrow concave base. Appears to be orientated N-S.
105	Fill	fill of 104; below 103	Fill of possible ditch. Mid brown loose silty sand (Alluvial silt / sand?). Contains some occasional charcoal fragments and flecks.

Appendix 3. Finds Catalogue

Former British Sugar site, Scawby, Brigg, North Lincs (BBSM12) Catalogue

Context	Material	Description	Weight	Date
103	Pottery	Yellow glazed earthenware fragment	4g	19thC
103	Pottery	Pearlware footring from cup/bowl. 2mm diam handpainted star on internal base – cf Lois Roberts, <i>Underglaze Blue Painted Earthenwares 1775-1810</i> , 2006, p117, fig 194 (d)	2g	L18th/19thC

Appendix 4. Oasis Record Summary Sheet

OASIS ID: preconst3-177470

Project details

Project name	ARCHAEOLOGICAL MONITORING AND RECORDING : CENTRICA PLANT, SCAWBY BROOK, BRIGG, NORTH LINCOLNSHIRE
Short description of the project	Pre-Construct Archaeological Services Ltd (PCAS) were commissioned by Eco2 to undertake a programme of archaeological monitoring and recording during groundworks associated with the creation of a renewable energy plant (REP) at Scawby Brook, c. 1.5km to the southwest of Brigg centred on NGR: SE 9880 0608.
Project dates	Start: 01-05-2012 End: 31-03-2014
Previous/future work	Yes / No
Any associated project reference codes	SWBE - Museum accession ID
Any associated project reference codes	BBSM12 - Sitecode
Any associated project reference codes	883 - Contracting Unit No.
Type of project	Recording project
Site status	None
Current Land use	Industry and Commerce 4 - Storage and warehousing
Monument type	N/A None
Monument type	N/A None
Significant Finds	N/A None
Significant Finds	N/A None
Investigation type	""Watching Brief""
Prompt	Planning condition

Project location

Country	England
Site location	NORTH LINCOLNSHIRE NORTH LINCOLNSHIRE BRIGG CENTRICA PLANT, SCAWBY BROOK, BRIGG,
Postcode	DN20 9JL

Study area 5.26 Hectares
Site coordinates SE 9880 0608 53.5418054111 -0.508873691647 53 32 30 N 000
30 31 W Point

Project creators

Name of Organisation Pre-Construct Archaeological Services Ltd
Project brief originator Local Authority Archaeologist and/or Planning Authority/advisory body
Project design originator Pre-Construct Archaeological Services Ltd
Project director/manager Will Munford
Project supervisor R. D. Savage
Type of sponsor/funding body Developer

Entered by k Francis (karen@pre-construct.co.uk)
Entered on 22 April 2014

OASIS:

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Figures

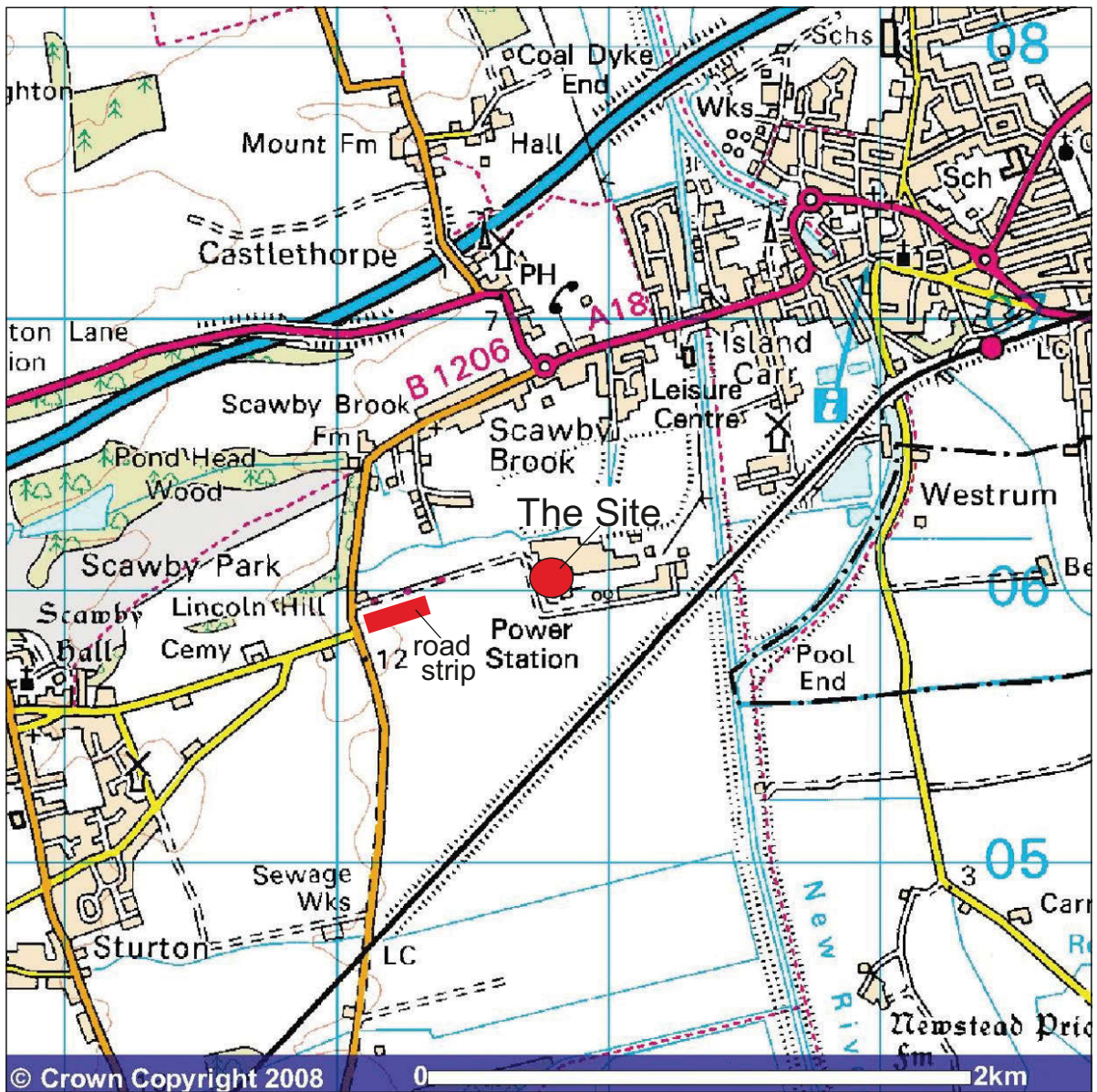


Fig. 1. Site Location. Not to scale. © Crown copyright. All rights reserved. PCAS licence No. 100049278.

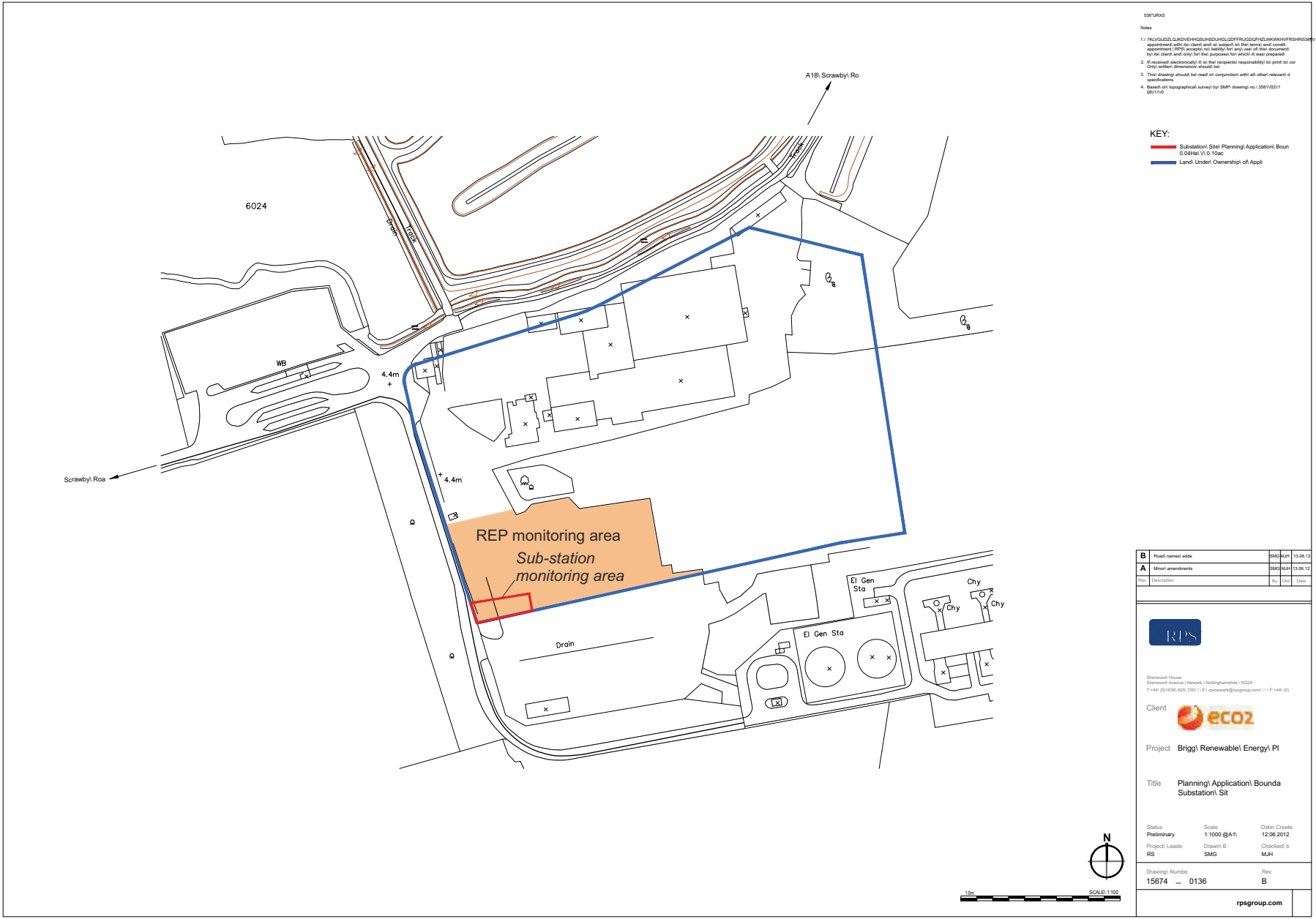
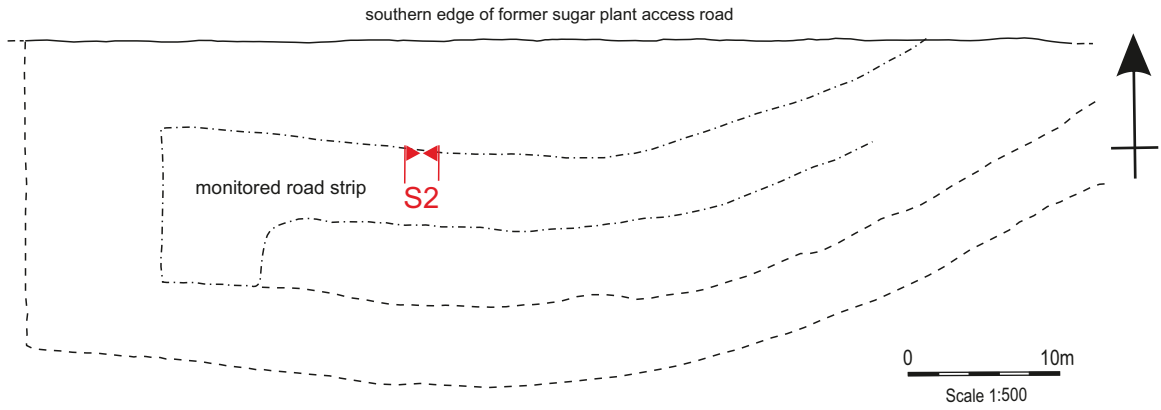


Fig. 2. Detailed site plan showing the overlapping REP and Sub-station monitored areas. Courtesy of the client. Not to scale.

Initial road strip



Designated monitoring area

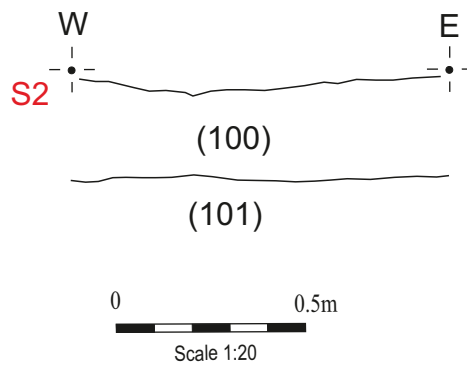
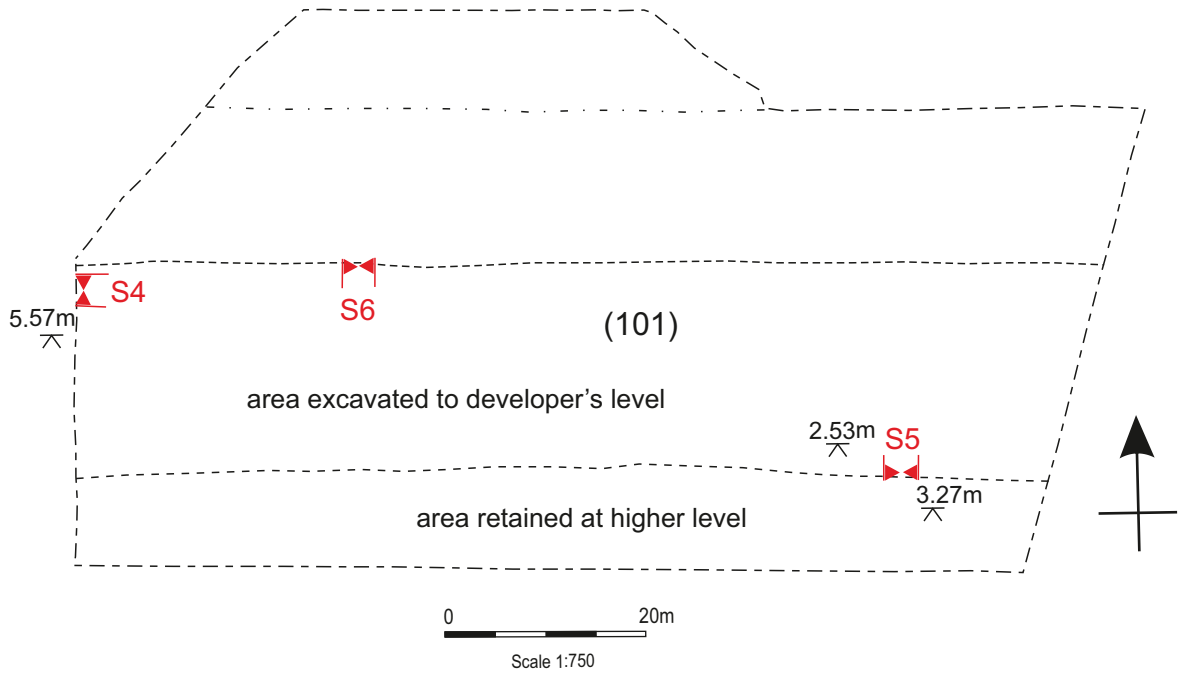


Fig. 3. Monitoring plans showing section locations and Section 2. Scales 1:500, 1:750 and 1:20.

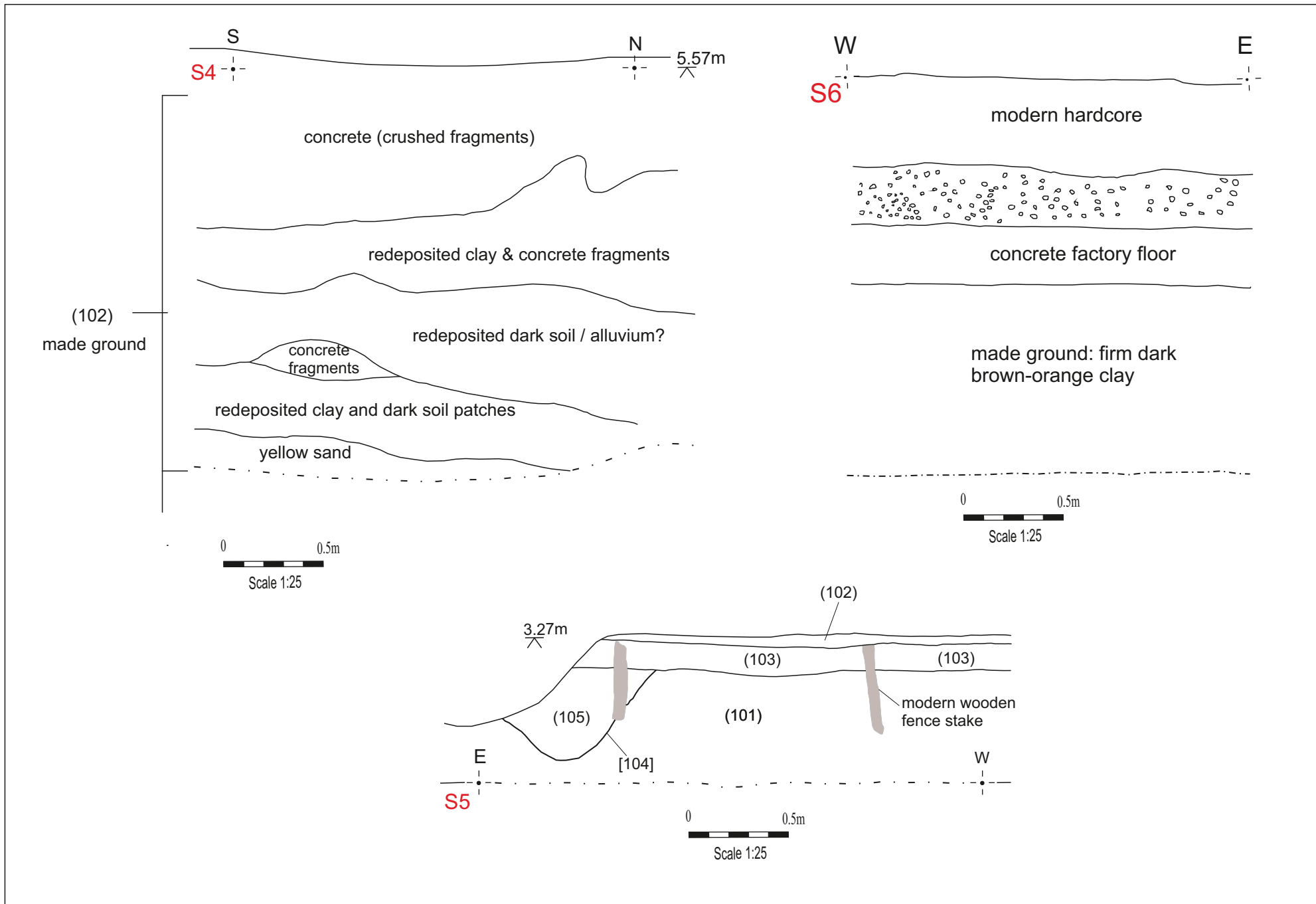


Fig. 4. Monitoring sections 4, 5 and 6. Scale 1:25.