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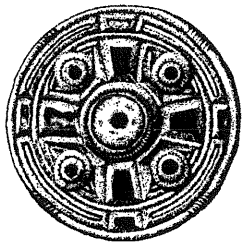

Archaeological Field Unit

Archaeological Monitoring of Geotechnical Investigations on land off Fengate, Peterborough

Andrew Rudge

September 2003

Cambridgeshire County Council

Report No. A238

Commissioned by Elliott Group Ltd

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SUMMARY

A programme of archaeological monitoring was commissioned by Elliott Group Ltd. and undertaken by Cambridgeshire County Council's Archaeological Field Unit in September 2003. The work consisted of the monitoring and recording, by an archaeologist, of a programme of geotechnical investigations carried out by Sub Surface Midlands Ltd. before proposed development. No archaeological remains were identified but significant deposits of peat were encountered along the eastern side of the site.

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INTRODUCTION

This report presents the results of the archaeological monitoring of test pits excavated during the course of geotechnical investigations at Fengate, Peterborough, during September 2003. The site, which covers an area of land c 8.2 ha in size, forms a rough 'T' in shape with the trunk of the 'T' extending west to Fengate, which runs north-north-east–south-south-west along the site's western boundary. To the north and south of this part of the site are modern industrial units; whilst to the east the site is divided by an open drainage ditch running north-east–south-west. Beyond this the site extends further too the south and west where it meets Third Drove. To the south-east and east a narrow strip of woodland, and a drainage ditch known as Cat's Water, form the site's easternmost boundary. To the north, open ground and isolated buildings demark the sites northern boundary. At present the western section of the site, which forms the trunk of the 'T', is made up of waste ground covered by vegetation. The eastern section of the site is used as a motor-cross racetrack.

The geotectnical investigations, which were conducted by Sub Surface Midlands Ltd, and the associated programme of archaeological monitoring, were commissioned by Elliott Group Ltd, in advance of the proposed development of the site. A borehole survey was also undertaken as part of the geotechnical investigation, and, where possible, the results of the borehole survey will be considered in light of the results from test pitting and previous research.

GEOLOGY AND TOPOGRAPHY

The site is located on the fen edge and forms part of the southwestern side of the Fengate/Flag Fen system, a landscape of international importance, well known for its Bronze Age and Iron Age archaeological remains. The site, which is located on land at a height of c 3m AOD, lies on alluvial clays with beds of silt, peat and gravel, in turn these overly the gravels of the First River Nene Terrace; the Kellaways sand (a clayed silt and sand), the Kellaways clay (a grey mudstone deposit), Cornbrash (a fine grained shell detrital limestone), and Blisworth Clay (a mudstone with limestone and marls at the base) (Card Geotechnics, 1995). The land sloped down to the south and east, towards the Cat's Water drain. Heights taken across the site during the geotechnical test pitting indicate a drop of approximately 2.2m from west to east.

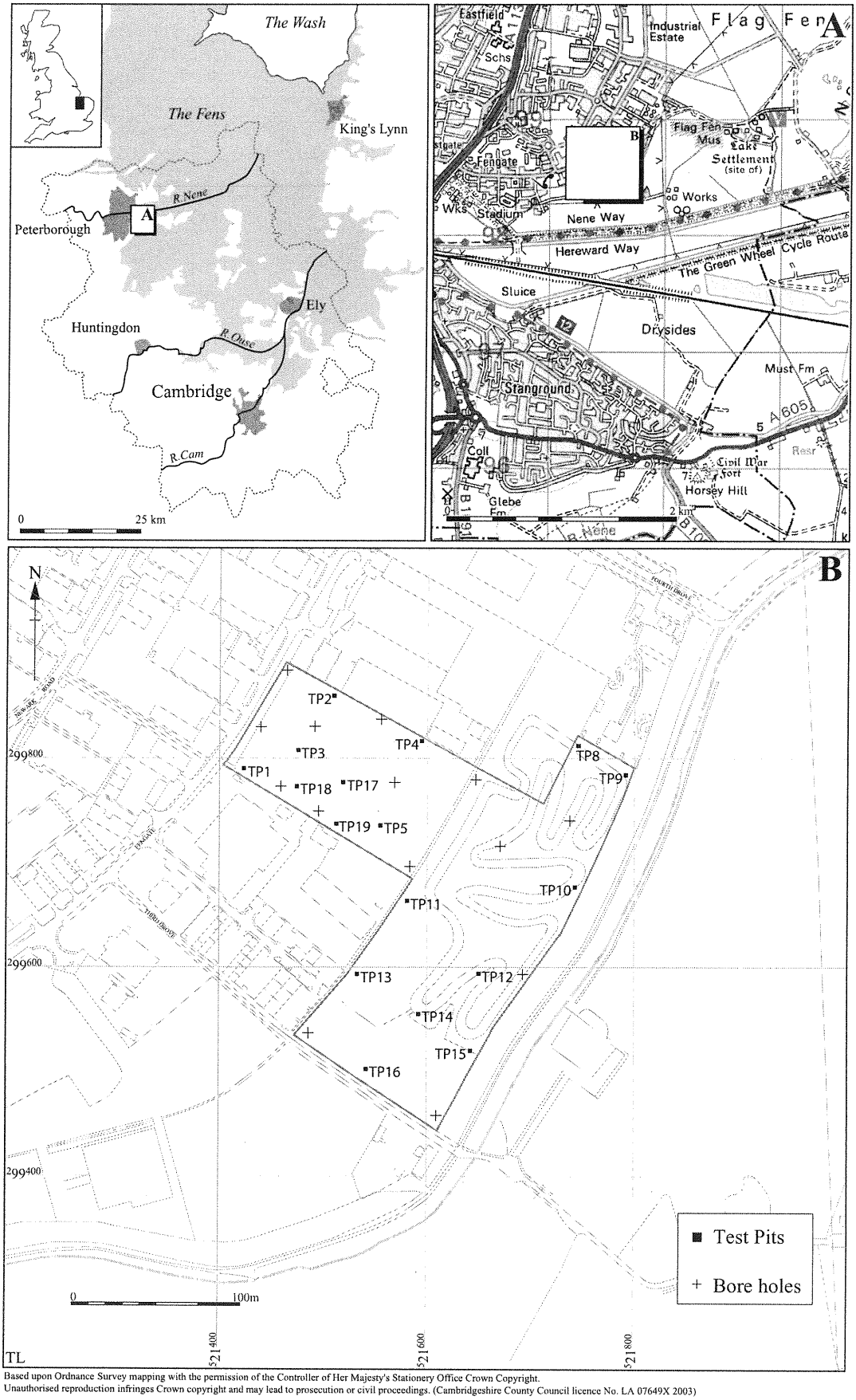

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Figure 1 *Location of test pits and bore-holes with Development Area outlined.*

ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

The archaeological and historical background relating to this area is well documented and will, therefore, only briefly be discussed. Studies since the early twentieth century have considered environmental reconstruction and chronological definition of the multi-period sites in the vicinity. Of particular note, are the results of an archaeological evaluation conducted on this site, and on land to the south, in 1998 (Cuttler, 1998). The evaluation identified elements of the prehistoric landscape and activity dating from the later Neolithic and Bronze Age, through to the Middle and Late Iron Age. Some archaeological features were found to be waterlogged and in some cases sealed by buried soils developed in the late Bronze Age.

During the course of this evaluation few significant archaeological remains were identified on the site's far north-western or eastern boundary. Areas of significantly higher archaeological potential appear to survive along the length, and to either side, of the Parish Drain which runs through the central portion of the site. Preservation of features and artefacts/ecofacts in the area is good and the change in water levels allowed alluviation to protect earlier features. The site has not been subject to intensive agriculture in the recent past and has not been subject to modern development.

The fen edge has provided a wide range of resources since the early prehistoric periods and it is clear that occupation on the higher land next to the fen and activity (frequently seasonal) on the fen is represented widely in the vicinity. Ritual structures have also been identified during excavation of nearby sites.

The principle archaeological components within the immediate area of the site relate to the Fengate system, which consists of rectangular plots of land, bordered by ditched droveways, which lead down to the fen. The most famous example of which opens out onto the causeway that runs out to the late Bronze Age Flag Fen platform (Evans and Pryor 1995). Evidence of an Iron Age semi-nucleated hamlet and Romano-British droveway and paddock complexes have also been excavated within the immediate vicinity but did not appear to extend on to the development site (Cuttler 1998).

For more further information the following should be consulted: Pryor, 2001; Pryor *et al* 1992; and Pryor and French 1985 Rosenberg, 1997.

METHODOLOGY

A series of 19 test pits was excavated to the level of standing water by a JCB with a 650mm toothed bucket. The groundwork was supervised by a member of staff from Sub Surface Midlands Ltd and monitored by a qualified archaeologist. Once fully excavated a full photographic record of each test pit was produced. A measured schematic section drawing was then completed which was supported by a full written

description of each of the deposits/contexts encountered. Due to health and safety considerations all recording took place from the side of the test pit, so no detailed descriptions could be made. Once recording was completed the test pits were backfilled immediately by machine.

The site was monitored to record the degree of waterlogging or desiccation of the peat identified across the site and to confirm the results of earlier work on site which had identified the fen edge. The size and nature of the test pits meant it was unlikely that archaeological features could be identified with any confidence but the spoil was checked visually for archaeological material.

5 RESULTS

For the location of test pits and associated section drawings please refer to Figures 1 and 2. Depths are given as 'depth below ground surface' in metres. The land sloped from approximately 4mOD close to Fengate to approximately 2mOD towards the north-eastern part of the site. The heights shown on each section are taken from the ground level reading closest to each Test Pit.

Test Pit 1

Test Pit 1 was excavated to a depth of 2.45m. The upper most deposit, 100, was made up of a dark grey brown silty clay alluvium, with a large, irregular, blocky ped structure. Context 100 contained numerous rootlets and infrequent to moderate small sub-rounded clasts. Underlying this was 101, a slightly mixed, light to medium orange brown sand, with moderate small sub-rounded clasts. Deposit 101 overlies 102, a sequence of mixed, orange brown, sandy gravels with, at the interface with 101, an apparent build up of a white calcareous material. Below this, is 103, an orange brown, fairly homogenous layer of sandy gravel. This deposit in turn overlaid 104, a layer of mixed coarse gravels.

Test Pit 2

Test Pit 2 was excavated to a depth of 1.80m. The uppermost deposit identified, context 200, was a poorly developed or embryonic topsoil, grey brown in colour, silty and with abundant rootlets. Underlying 200 was context 201. Deposit 201 was a yellow to orange brown sandy gravel, underneath which was a band of fine to medium yellow sand, 202. Below 202 was a sequence of banded gravels, 203, light grey to brown in colour. The gravels of 203 sealed a layer of pale grey brown sand, 204; which in turn sealed a layer of mixed gravels, 205, composed of small to medium cobble sized clasts of flint, quartzite and chert.

Test Pit 3

Test Pit 3 was excavated to a depth of 2.22m. The uppermost deposit, 300, was made up of a dark grey brown silty clay alluvium with a large irregular blocky ped structure. Context 300 contained numerous rootlets and infrequent to moderate small sub-rounded clasts. Below 300 was a layer, 301, of dark grey brown, slightly mixed, silty sandy clay, with moderate to small sub-rounded to sub-anglular clasts. Context 301 overlies a layer of light yellow brown sand, 302, which overlies 303, a yellow/orange brown, slightly gravely sand. Underlying 303 was 304, a layer of slightly mixed yellow to orange brown, coarse gravel.

Test Pit 3a

Test Pit 3a was excavated to a depth of 1.96m. The upper most deposit, 300a, was again made up of a dark grey brown silty clay alluvium, as in Test Pit 3. Context 300a overlay a mixed sequence, 301a, of yellow orange, orange brown and light orange brown, sands and sandy gravels. Below 301a was a layer of light yellow brown sand, 302a, similar to that of 302 in test pit 3. Below 302a was context 303a, a layer of slightly mixed, yellow to orange brown, coarse gravel, similar again to those found at the base of Test Pit 3.

Test Pit 4

Test Pit 4 was excavated to a depth of 3.32m. The upper most deposit, 400, was made up of a dark grey brown silty clay topsoil/alluvium, with a large, irregular, blocky ped structure, at the base of which was a band of slightly mixed sand and gravel. Underlying 400 was, 401, a layer of yellow orange to light brown sand, with occasional, small sub-rounded clasts. Below 401 was context 402; a layer composed of an upper, mixed, coarse gravel; and a lower more uniform sandy gravel. Context 402 sealed a layer of medium to dark grey clay, 403, with fine laminae, incorporating detrital material. At the base of 403 were large sub rounded boulders, and a wedge shaped lens of sand and gravel, 404, was incorporated into the upper western corner of 403.

Test Pit 5

Test Pit 5 was excavated to a depth of 3.32m. The uppermost deposit, 500, was made up of a dark grey brown silty clay alluvium with, as elsewhere, a large, irregular, blocky ped structure. Deposit 501, a dark grey to red brown desiccated peat, underlay context 500. Identified below 501, in the north of the section, was an apparent layer, 502, of medium to grey brown clay, with a horizontal face meeting, to its immediate south, layer, 503, a slightly mixed, yellow/orange to brown sand rich gravel. Underlying both 502 and 503 was a layer of light grey brown sandy gravel, context 504, which in turn sealed a layer of medium to dark grey clay, 505, which, as with context 403, had fine laminae, incorporating detrital material.

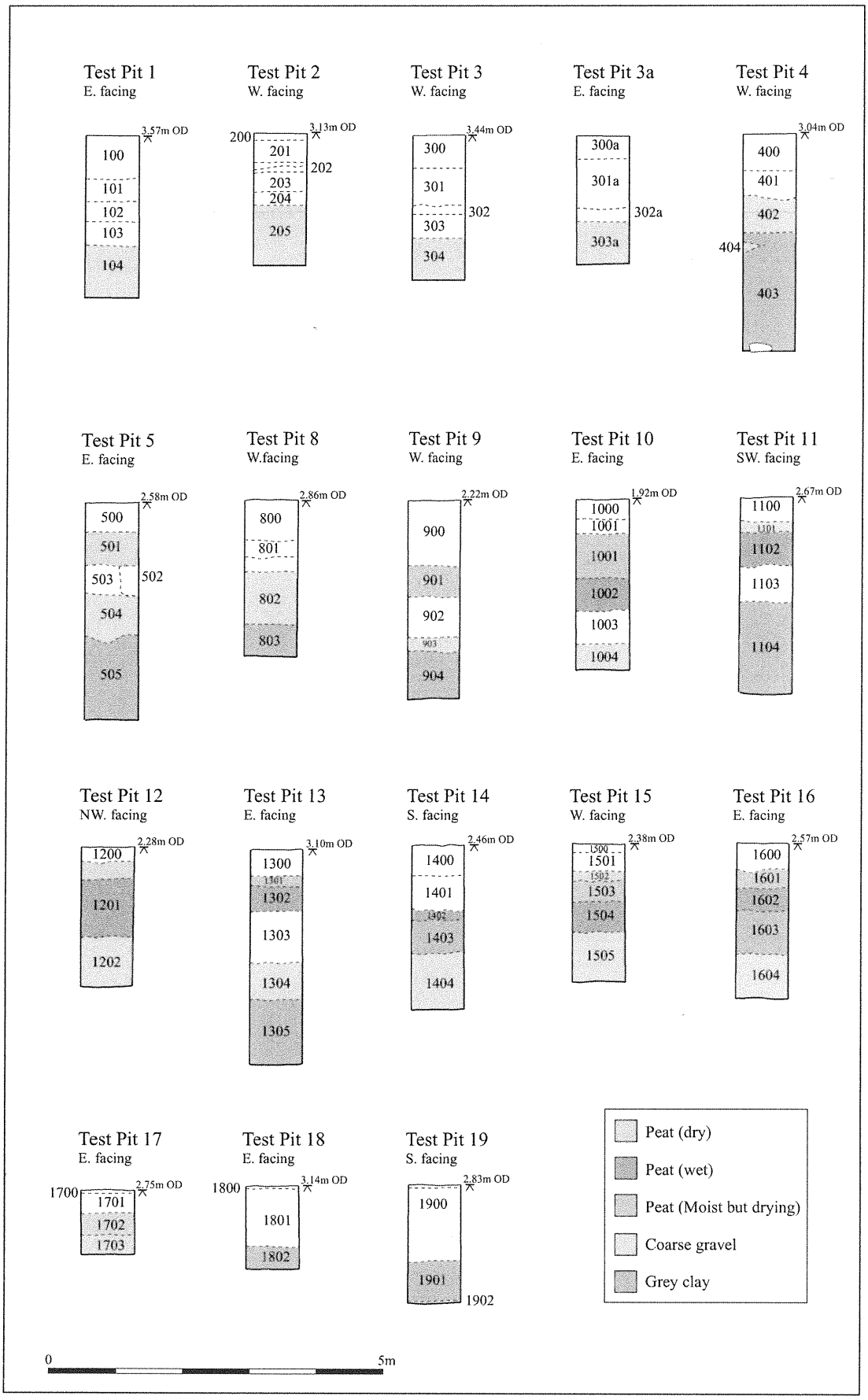

Figure 2 *Test pit sections*

Test Pit 6 (section not illustrated)

Test Pit 6 was excavated to a depth of 3.28m. As elsewhere the uppermost deposit, 600, was made up of a dark grey brown silty clay alluvium, with a large, irregular, blocky ped structure. Below 600 was a layer of dark grey to red brown desiccated peat, context 601. Underlying 601 was a layer of light grey brown silty, gravel rich sand, 602, below which was 603. Context 603 was composed of dark yellow to orange brown sandy gravel, which sealed a further layer of grey brown gravel, 604. Deposit 604 overlies context 605, a blue grey clay.

Test Pit 7 (section not illustrated)

Test pit 7 was excavated to a depth of 3.16m. The uppermost deposit, 700, was made up of a dark grey brown silty clay topsoil/alluvium, with a large, irregular, blocky ped structure, below which was context 701. Context 701 was composed of a rich dark brown to red peat which was moist but showing signs of desiccation. Underlying this peat was 702, a medium grey to orange brown, sandy clay. Deposit 702 was underlain by, 703, a light to medium grey brown silty clay with some gravel. This was in turn underlain by 704, a grey brown gravel with orange brown mottling. At the very base of the section, under 704, was a light grey to blue clay, context 705.

Test Pit 8

Test pit 8 was excavated to a depth of 2.38m. The upper most deposit, context 800, was composed of an dark grey brown silty clay topsoil/alluvium, with a large, irregular, blocky ped structure. Below 800 was context 801, a sequence of alternating sands, light grey to yellow and orange brown in colour. Signs of possible iron-panning could be seen at the boundary of 801 with 800. Identified beneath 801 was a layer of mixed, pale grey brown to orange brown, sandy gravels, context 802. At the base of test pit 8 and underlying 802, was context 803, a light to medium grey clay.

Test Pit 9

Test Pit 9 was excavated to a depth of 3.02m. A dark grey brown silty clay topsoil/alluvium, with a large, irregular, blocky ped structure, context 900, forms the uppermost horizon in Test Pit 9. Context 900 was underlain by 901, a layer of slightly desiccated grey to red brown peat, in which organic remains were still clearly visible. Below 901 was a pale grey to orange brown, sand rich gravel, context 902, which overlay context 903. Context 903 was composed of a band of gravel, dominated by rounded and sub-rounded pebbles, and possibly riverine in origin. Underlying 903 was a layer of medium grey clay, context 904.

Test Pit 10

Test Pit 10 was excavated to a depth of 2.60m. The uppermost horizon, 1000, was again composed of a layer of topsoil and alluvium made up of a dark grey brown silty clay, with a large, irregular, blocky ped structure, and containing abundant rootlets. The lower part of context 1000 appeared to be more disturbed and broken up by root action. The underlying context, 1001, was made up of a red brown peat which was moist but showing signs of desiccation. Below this was context 1002, a dark grey, moisture laden, clay rich peat, which in turn sealed a layer, 1003, of saturated and mottled, grey brown to olive green, gravel rich sand. At the base of Test Pit 10, and sealed by 1003, was context 1004, a mixed sandy gravel.

Test Pit 11

Test pit 11 was excavated to a depth of 2.95m. The uppermost deposit, 1100, was made up of a dark grey brown silty clay topsoil/alluvium with a large, irregular, blocky ped structure, below which was context 1101. Context 1101 was made up of a layer of dark brown to black, desiccated peat. Underlying context 1101 was context 1102, a light to medium red brown, clay rich peat. Deposit 1102 again appeared to be desiccated, but organic remains were still visible. A wet, largely homogeneous layer of orange to grey brown, silty sand, context 1103, was found beneath 1102; and was in turn underlain by context 1104. Context 1104 was made up of a medium grey, to grey brown, layer of clay.

Test Pit 12

Test Pit 12 was excavated to a depth of 2.12m. Very little distinction was noted between the topsoil/alluvial horizon and the light to medium grey brown, desiccated peat which formed the majority of context 1200, that is, the uppermost deposit in Test Pit 12. This may suggest truncation at this point. Below 1200 was a dark brown clay rich peat, context 1201, which still contained moisture and had moderate organic preservation. Below this was a mixed dark grey brown to orange brown, saturated, sandy gravel, 1202.

Test Pit 13

Test Pit 13 was excavated to a depth of 3.26m. The upper most horizon, 1300, was a mid to dark grey brown silty clay, with many rootlets and a few to moderate, small sub-rounded to sub-angular clasts. A band of dark brown to black peat, 1301 (with orange brown mottling) beneath deposit 1300, showed signs of desiccation. Below this was context 1302, which consisted of a band of red brown peat. Deposit 1302 was homogenous in character and contained well-preserved plant remains. Underlying 1302 was context 1303, followed by 1304 and then 1305. Deposit 1303 was a yellow brown sandy gravel, below which was 1304, a further layer of yellow brown gravel with a richer sand content. Deposit 1305 was the deepest deposit identified and consisted of a medium grey clay with fine laminae.

Test Pit 14

Test pit 14 was excavated to a depth of 2.50m. The uppermost context 1400, was made up of a heavily disturbed, mid to dark grey brown silty clay topsoil. Below this was a layer of backfill, incorporating recent (late 20th century) waste material, context 1401. Context 1401 appeared to have partially truncated a layer of peat, context 1402, below which was 1403 a layer of medium to dark grey clay. Underlying 1403 was 1404, a layer of grey to light yellow brown sandy gravel.

Test Pit 15

Test Pit 15 was excavated to a depth of 2.10m. The uppermost context, 1500, consisted of a gritty, medium grey brown, silty clay topsoil/turf, which appeared to have been re-laid. Underlying 1500 was 1501, a slightly mottled grey brown, silty clay alluvium. Below the alluvium of 1501, were a sequence of peats – 1502, 1503 and 1504. Deposit 1502 consisted of a narrow band of orange brown, desiccated, peat. Deposit 1503, was similar to 1502 but was a richer red brown colour. Below this was 1504, a moist grey, slightly red brown, peat with good organic preservation. Underlying 1504 was 1505, a slightly mixed medium grey to brown gravely sand.

Test Pit 16

Test Pit 16 was excavated to a depth of 2.36m. The uppermost context, 1600, was composed of a mid to dark grey brown silty clay, topsoil/alluvium with many rootlets and few to moderate, small sub-rounded to sub-angular clasts. Below this was layer, 1601, slightly desiccated, dark brown to black peat, with orange brown mottling. A further, more homogenous layer of red brown peat, 1602, lay below 1601. Underlying 1602 was 1603, a layer of dark grey clay, below which was 1604, a yellow brown sand and gravel.

Note: TestPpits 17 to 19 were included as extra test pits only to determine the extent and depth of made ground along the site's south-western boundary.

Test Pit 17

Test Pit 17 was excavated to a depth of 0.98m. A thin layer of turf, 1700, formed the uppermost horizon in Test Pit 17. Below this was a layer, 1701, of grey brown, silty clay alluvium with a large, irregular, blocky ped structure. Underlying 1701 was 1702, a desiccated, dark grey brown to red, peat. Below 1702 was 1703, a pale orange brown sand with gravel.

Test Pit 18

Test Pit 18 was excavated to a depth of 1.26m. The upper most horizon, 1800, was composed of a thin layer of turf, re-laid over, 1801, a layer of made ground consisting of modern demolition and waste material. Layer 1801 overlay 1802 a layer of blue grey clay.

Test Pit 19

Test Pit 19 was excavated to a depth of 1.80m. As with Test Pit 18, the uppermost horizon in Test Pit 19 was composed of a thin layer of turf, 1900, re-laid over, 1901, a layer of made ground consisting of modern demolition and waste material. Layer 1901 overlay 1902, a layer of blue grey clay, below which was 1903, light brown grey, gravely sand.

DISCUSSION

The inlet identified by trenching during the 1998 evaluation (Cuttler 1998) was investigated by Test Pits 5 and 19. Test Pit 19 showed a considerable amount of modern truncation with no peat survival above the clay and gravel sequence. This testpit was, however, only excavated to a depth of 1.8m below the present ground surface (i.e. approximately 0.88mOD). Test Pit 5 was excavated to -0.74mOD and revealed desiccated peat sealing a sequence of clay, sandy gravel and a further layer of clay. It is clear that the peat in this area has dried out and there is little potential for survival of waterlogged remains.

Test Pits 1, 2, 3, 3a, 4, 8, 18 and 19 all confirm the slope of the gravel "island" down towards the fen in the east. Of these pits none contained any peat deposits indicating that they have not at any time been part of the peat fen to the east of Peterborough. Test Pits 5 and 17 contained desiccated peat along the edge of the fen indicating this area has been dry for a considerable period or was only wet when inundation of the fen was at its height. Test Pits 9, 10, 11, 12, 13, 15 and 16 all showed evidence of desiccation in the upper levels of the peat, perhaps as a result of more recent drainage of the fens - along the Parish Drain and Cat's Water. Test Pit 14 contained only a shallow layer of peat but this was wet throughout.

CONCLUSION

There has been some truncation and surface compactin in the western part of the site but the southern and eastern part is relatively undisturbed. The current ground level appears to mirror the underlying geology of the fen edge site. Gravel, clay and peat deposits, noted in the Test Pits, reflect the slope of the dryer land on which settlement

has been concentrated in the Fengate area. In the south-eastern edge of the site there is evidence that the peat deposits are being affected by drainage and water extraction but waterlogged peat was still preserved close to the Cat's Water drain.

Development of the land will have a significant impact on any underlying deposits and archaeological remains (identified in the evaluation trenches).

ACKNOWLEDGEMENTS

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