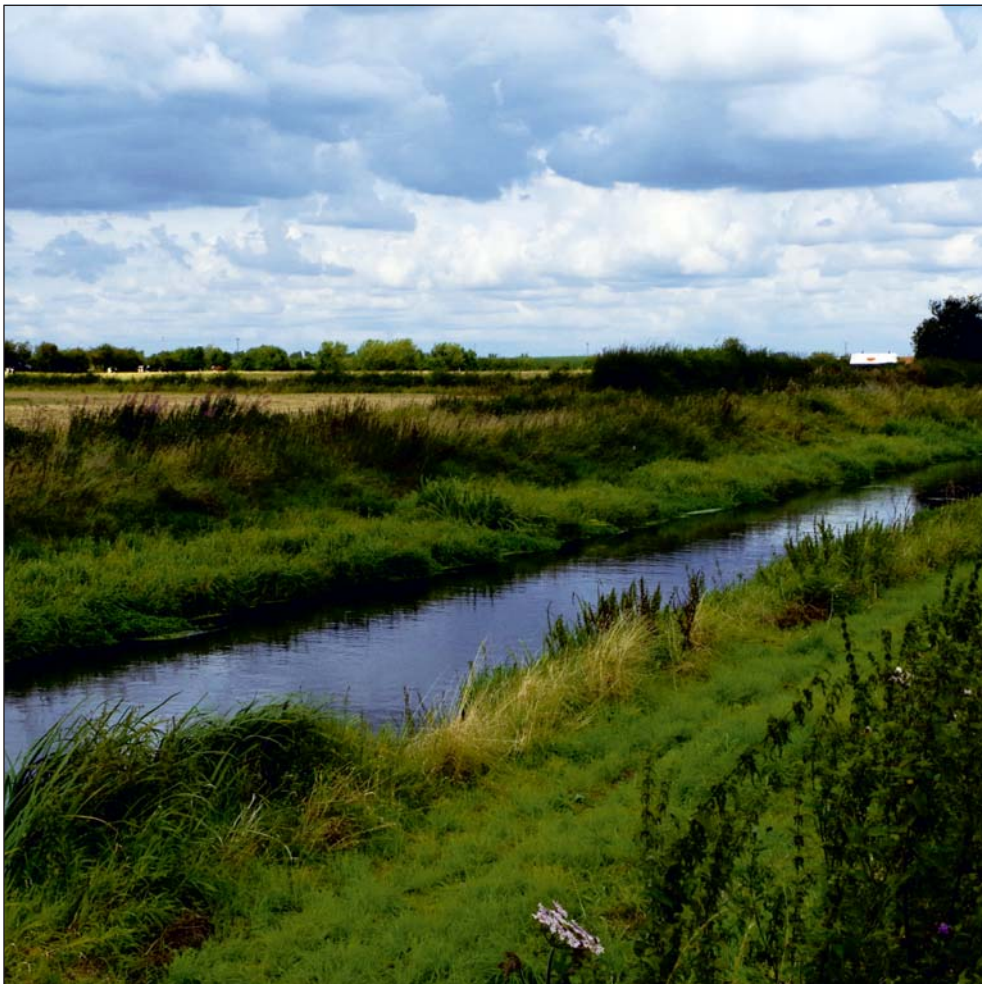




making sense of heritage

# Epworth Sewage Treatment Works, Epworth, North Lincolnshire

Archaeological Mitigation Report



Ref: 87971.03  
June 2015



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**Epworth Sewage Treatment Works,  
Epworth,  
North Lincolnshire**

**Archaeological Mitigation Report**

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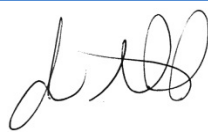
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\* I = Internal Draft; E = External Draft; F = Final

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# Epworth Sewage Treatment Works Epworth North Lincolnshire

## Archaeological Mitigation Report

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# **Epworth Sewage Treatment Works Epworth North Lincolnshire**

## **Archaeological Mitigation Report**

### **Summary**

Wessex Archaeology was commissioned by North Midland Construction PLC to carry out a programme of archaeological 'strip, map and record,' as part of a programme of works to mitigate the impact of the extension of an existing sewage treatment works and erection of associated structures. The site is located at the Severn Trent Water sewage treatment works, West End Road, Epworth, North Lincolnshire, centred on National Grid Reference 476020 406626.

The archaeological works followed the completion of a desk-based assessment, monitoring of five geotechnical test-pits and an archaeological evaluation comprising five 10 m by 3 m trenches. These works informed the mitigation strategy implemented in this phase of work, which were carried out in accordance with an approved Written Scheme of Investigation.

The strip, map and record comprised the monitoring of the open cut ground works to the level of peat formation and underlying natural sand. The works revealed a buried soil and underlying peat deposits but no evidence for human activity.

The buried soil and peaty deposits were sampled in order to and see if they could be potentially related to the evidence for prehistoric activity at Torne Bank Fishery. No artefactual dating evidence was recovered from the samples; wood charcoal fragments included no round wood fragments and were not suitable for radiocarbon dating. No suitable waterlogged plant remains were recorded.

The archive is currently held at Wessex Archaeology's Sheffield office under site code **87971** and will be deposited with North Lincolnshire Museum under the accession code **EPAZ** in due course. An OASIS form, code **wessexar1-188619**, has been provisionally completed and will be finalised at the time of deposition.



# **Epworth Sewage Treatment Works Epworth North Lincolnshire**

## **Archaeological Mitigation Report**

### **Acknowledgements**

Wessex Archaeology was commissioned by North Midland Construction PLC. The Fieldwork was undertaken by David Loeb, Hannah Holbrook and Charlotte Firth. The project was managed for Wessex Archaeology by Richard O'Neill. The report was compiled by Martyn Cooper and Andrew Reid, with contributions by Sarah F. Wyles and Nicki Mulhall (Environmental) and Lorraine Mephram (Finds). The illustrations were prepared by Alix Sperr.





# Epworth Sewage Treatment Works Epworth North Lincolnshire

## Archaeological Mitigation Report

### 1 INTRODUCTION

#### 1.1 Project background

1.1.1 Wessex Archaeology were commissioned by North Midland Construction PLC,(NMC; hereafter 'the Client') to carry out archaeological mitigation by strip, map and record (SMR), during the extension of an existing sewage treatment works and erection of associated structures at the Severn Trent Water sewage treatment works at West End Road, Epworth, North Lincolnshire (hereafter 'the Site'), National Grid Reference (NGR) 476020 406626 (**Figure 1**).

1.1.2 The mitigation followed the completion of a Desk-based Assessment (DBA; Wessex Archaeology 2012), the monitoring of five machine-excavated geotechnical test-pits and an archaeological evaluation comprising the excavation of five 10 m by 3 m trenches (Wessex Archaeology 2014a).

1.1.3 A Written Scheme of Investigation (WSI; Wessex Archaeology 2014b) set out the strategy and methodology by which Wessex Archaeology implemented the archaeological mitigation strategy, in accordance with planning conditions 4-6. All works undertaken conformed to current industry best practice and to the guidance outline in Management of Research Projects in the Historic Environment (MoRPHE; English Heritage 2006), the Chartered Institute for Archaeologists (CIfA) Standards and Guidance for archaeological excavation (2014a). The WSI was submitted to NMC and the Archaeological Advisor for North Lincolnshire Council, Alison Williams, for approval prior to fieldwork commencing.

#### 1.2 Location, topography and geology

1.2.1 The Site (**Figure 1**) is located adjacent to the Epworth Sewage Treatment Works (STW), c.3.5 km northwest of Epworth and c.2 km west of Belton. The Site is surrounded by agricultural land and a nature reserve. The Site is bounded to the west by the River Torne and bisected by the parallel South Engine and Folly Drains.

1.2.2 The Site lies at approximately 4 m above Ordnance Datum (aOD) and lies on Mercia Mudstone with superficial aeolian sand deposits (British Geological Survey). Around the Site areas of peat are known to exist, and an area of peat was identified during the archaeological watching brief.

1.2.3 The Site has been divided into two areas with Area 1 (**Plate 1-3**) lying beside the existing sewage treatment works (the location of Trenches 1 and 2 from the evaluation). Area 2 (**Plate 4 and 5**; the location of evaluation trenches 3 – 5) includes the area of the pipe trench leading out from Area 1.



## 2 ARCHAEOLOGICAL BACKGROUND

### 2.1 Introduction

2.1.1 The following information on the Site is summarised from the results of previous DBA (Wessex Archaeology 2012) and additional notes from the monitoring of Site Investigation works.

#### *Prehistoric to Romano-British*

2.1.2 There is no known evidence for activity dating to the Prehistoric or Romano-British periods within the Site boundary, though evidence for prehistoric activity has been recorded just to the immediate south-west corner of the Site at the current Torne Bank Fishery. The archaeological fieldwork associated with the extraction of sand and construction of a new pond recorded two peat deposits dating from the late Glacial period (11190-10700 BC) and the early Post-glacial period (9350 and 8230 BC). Analysis indicated that the area was once marshland on the edge of a slow moving river or freshwater pond showing no evidence of human action. The same trial trenching revealed two pits filled with water-derived deposits, which contained burnt stones and two flint flakes dated to the Bronze Age.

2.1.3 Approximately 420 m south of the Site a Neolithic blade was found during field walking in 1988.

#### *Anglo-Saxon and medieval*

2.1.4 Place names and early medieval documentary evidence suggest occupation in the area during the Anglo Saxon period at this time. Epworth was named in the Domesday Book of 1086 as Epeurde. The manor of Epworth was given by William the Conqueror to Nigel D'Alibini, before reverting to the crown.

2.1.5 The Church in Epworth sits on an area of raised land at the centre of a complex of possible medieval activity, suggesting it forms the focus of the town c.3.6 km south-east from the Site. Epworth lay within the Isle of Axeholme, delineated by wetlands surrounding the Rivers Idle, Trent and the Old Don. The Site itself would have lain within the common wetlands that provided important resources including hay, peat, as well as wood, fish and fowl.

2.1.6 Analysis of aerial photographs has identified a group of around 50 rectangular pits, measuring approximately 6x2 m, 500 m north-east of the Site. It is likely that the features represent retting pits for the processing of flax and dating to the medieval or post-medieval period. Further cropmark evidence shows, to the west of this group, a possible peat working site along with an undated curving field boundary and a small rectangular enclosure which may be contemporary.

#### *Post-medieval to modern*

2.1.7 In 1626 Royal approval was given for the draining of Hatfield Chase to the west of the Site. This required the reorganising the watercourses, including the Rivers Idle and Torne. This required a new drain being raised, known as New Torne, which passed alongside the Site.

2.1.8 With the enclosure of Epworth Common by Act of Parliament in 1795, £20,000 was made available for land improvements. The enclosure award included the construction of the South Engine Drain (also known as the New Idle River), and the Folly Drain shortly after, both of which pass through the Site. The plan accompanying the award produced in 1803



(Lincolnshire Archive ref: Epworth PAR/17) illustrates the eastern part of the Site was divided into a series of characteristic enclosures with straight boundaries, whilst the western part of the Site lay within a larger irregular field.

- 2.1.9 In 1909 the Hatfield Moor branch of the Axeholme Joint Railway was constructed along the southern edge of the Site between Epworth and Sandtoft. The line cut across the southern corner of the western part of the Site. This line operated until its closure in 1963, when the line was dismantled.
- 2.1.10 The Site remained undeveloped until the construction of the Epworth Sewage Treatment Works, appearing on the 1967-1971 Ordnance Survey map.

## **2.2 Recent archaeological investigations**

- 2.2.1 Monitoring during Site investigations in 2013 (Wessex Archaeology 2014a) noted that natural, undisturbed sands were generally encountered at a depth of between 0.7 m and 1.1 m below ground level (bgl). A band of peat was also identified in Test -pit 3 at a depth of 2.2 m bgl with the natural geology being encountered at c.4 m bgl in this pit.
- 2.2.2 Recent evaluation in 2014 (Wessex Archaeology 2014a) revealed the following stratigraphy:
- *Trenches 1-2: Topsoil 0-0.3 m bgl overlaying natural sand deposits to at least 1.3m bgl.*
  - *Trenches 3-5: Topsoil 0-0.65 m bgl; overlying subsoil 0.65-0.8 m bgl; overlying buried soil deposits 0.8-1 m bgl; overlying an amorphous peaty deposit 1 m – 1.4 m bgl; overlying natural sand deposits typically between 1.2 m and 1.5 m bgl to at least 1.7 m bgl.*
- 2.2.3 The peaty deposit in Trenches 3-5 was observed at c.1 m bgl (2.2 m – 2.5 m above Ordnance Datum - aOD), higher than in Test Pit 3 (2.25 m bgl), and considerably higher than the levels of previous peat encountered to the south-west of the Site at 3-3.54 m bgl (c. -1.2 m aOD and -1.74 m aOD) and dated to the late Glacial and Post-glacial periods. Environmental sampling of the peat in Trenches 4 and 5 was unable to provide any indication of the likely antiquity of the deposits. Wood charcoal suitable for radiocarbon dating and analysis to provide further information on woodland management and environment was present in the sample from Trench 4. However, the waterlogged plant macrofossil assemblages displayed a low density and diversity of material (Wessex Archaeology 2014a).

## **3 METHODOLOGY**

### **3.1 General**

- 3.1.1 Below is a summary of the detailed methodology contained in the WSI (Wessex Archaeology 2014b).

### **3.2 Fieldwork methodology**

- 3.2.1 The SMR entailed the monitoring of the removal of the c.1 m of overburden along the route of the gravity outfall pipe. Work was carried out by a mechanical excavator using a toothless ditching bucket, under the supervision of a suitably qualified archaeologist.



Particular care was taken at a depth nearing the peat horizon (c.1 m – 1.4 m bgl) to allow any environmental sampling to be undertaken.

- 3.2.2 Once the peat layer was assessed, machining continued under the same archaeological control, to the underlying natural sandy geology below.
- 3.2.3 Following the completion of all recording, the resultant area was made available for the requirements of the developer.
- 3.2.4 Written and drawn records were be made of the stratigraphy within the trench.
- 3.2.5 Records include overall Site plans. The areas and deposits were related to the Ordnance Survey datum and to the National Grid. Survey was undertaken using a Total Station and GPS system.
- 3.2.6 All archaeological deposits were recorded using Wessex Archaeology's pro forma recording system. This written record is hierarchically based and centred on the context record. Each context record describes the location, extent, composition and relationship of the subject and is cross-referenced to all other assigned records. Context numbers used in the evaluation will not be repeated. A full photographic record was maintained of the work.

## 4 ARCHAEOLOGICAL RESULTS

### 4.1 Summary

- 4.1.1 No archaeological features were seen during the mitigation exercise, however, a buried soil 903 (**Plate 7**) was observed during the works.
- 4.1.2 The buried soil was observed and recorded as 903 in Area 1 and 1003, 1203, 1303 (**Plate 6**) and 1404 in Area 2. Peat deposits were discovered and recorded as 904 in Area 1, 1004, 1305, 1406 (**Plate 8**) and 1505 (**Figure 2**) in Area 2. No artefacts were recovered from these deposits and environmental sampling was unable to provide any dating or archaeological evidence.
- 4.1.3 The excavations showed little to no archaeology across the three phases of watching brief, trenching and strip map and sample. The only dateable finds were fragments of post-medieval ceramic building material (CBM) recovered from the topsoil during the work.

## 5 ARTEFACTUAL EVIDENCE

### 5.1 General

- 5.1.1 Finds were recovered from two contexts (see **Table 1**), and comprise animal bone (horse tooth), ceramic building material (small brick fragments), iron (bar of unknown function), and oyster shell. Of this, the only datable items comprise the brick fragments, which are post-medieval.



**Table 1: All finds by context**

Context	Animal Bone	CBM	Iron	Shell
1203				1/57
603	1/46	2/33	1/277	11/76
<b>TOTALS</b>	<b>1/46</b>	<b>2/33</b>	<b>1/277</b>	<b>12/133</b>

## 6 ENVIRONMENTAL EVIDENCE

### 6.1 Introduction

6.1.1 Seven bulk samples from Area 1 and four bulk samples from Area 2 were taken from possible buried soil layers and peaty deposits. The samples were processed for the recovery and assessment of waterlogged remains, charred plant remains, wood charcoal and material suitable for radiocarbon dating. It was hoped that these deposits might be related to the evidence for prehistoric activity found near the site at Torne Bank Fishery.

#### *Charred plant remains*

6.1.2 The bulk samples were processed by standard flotation methods; the flots retained on a 0.25mm mesh, the residues fractionated into 5.6 mm and 0.5 mm fractions and dried. The flots were scanned under a x10 – x40 stereo-binocular microscope and the preservation and nature of the charred plant and wood charcoal remains recorded in **Table 2**.

6.1.3 The flots were generally large although no charred plant remains were recovered from these samples.

#### *Wood charcoal*

6.1.4 Wood charcoal was noted from the flots of the bulk samples and is recorded in **Table 2 (Appendix 1)**. Small quantities of wood charcoal fragments were retrieved from the two samples from context 1203 in Area 2 and from one sample from context 904 in Area 1. No round wood fragments were observed.

#### *Waterlogged remains*

6.1.5 Sub-samples of 1 litre were taken from the 11 bulk samples of the possible buried soil and peaty deposits, and were processed for the recovery of waterlogged remains. Laboratory flotation was undertaken with flots retained on a 0.25 mm mesh and residues on a 0.5mm mesh. The flots were stored in sealed containers with water. The flots were visually inspected under a x10 to x40 stereo-binocular microscope to determine if waterlogged material occurred. Where waterlogged material was present, preliminary identifications of dominant taxa were conducted following the nomenclature of Stace (1997) and are presented in **Table 2**.

6.1.6 Waterlogged material was better preserved in the samples from Area 1 than those from Area 2. The main component of the waterlogged material recovered was small herbaceous plant root/stem fragments. There were also a smaller number of large herbaceous plant root/stem fragments.

6.1.7 The low levels of waterlogged seeds included those of species favouring wet or damp environments such as pondweed (*Potamogeton* sp.), sedge (*Carex* sp.) and rush (*Juncus*



sp.), and those of disturbed ground or grassland such as sheep's sorrel (*Rumex acetosella*) and woundwort (*Stachys* sp.).

- 6.1.8 Small numbers of stonewort fragments (*Chara* sp.) were noted in three samples from Area 1 and of water flea eggs (*Daphne ephidium*) in five of the samples from Area 1.

#### *Sediments*

- 6.1.9 Sediment descriptions of the samples are given in **Table 3 (Appendix 2)**.

## **6.2 Potential**

#### *Charred plant remains*

- 6.2.1 No charred plant remains were recovered and there is no indication of any settlement activity on the Site from these samples.

#### *Wood charcoal*

- 6.2.2 The analysis of the small wood charcoal assemblages would provide some information on the species composition of the local woodland resource. However, this information would be of limited assistance in understanding the nature of the area as it cannot be related to any archaeological activity or features and the deposits are undated.

#### *Waterlogged plant remains*

- 6.2.3 Further analysis of the waterlogged plant remains assemblages is unlikely to assist in establishing a more detailed picture of the nature of the local environment, due to the low number and small range of remains retrieved. Furthermore there is nothing to relate these samples to any archaeological activity or features in the area.

#### *Insect remains*

- 6.2.4 There is no potential for any analysis of insect remains due to the paucity of remains recovered.

## **6.3 Scientific dating**

It was hoped that it would be possible to date the buried soil and peaty deposits to see if they could related to the evidence for prehistoric activity at Torne Bank Fishery. No artefactual dating evidence was recovered from these samples. The wood charcoal fragments are unlikely to be suitable for radiocarbon dating as no round wood fragments were observed. No suitable waterlogged plant remains were recorded.

## **7 DISCUSSION**

### **7.1 Summary**

- 7.1.1 Despite the presence of peat and buried topsoil there was no evidence of human intervention which could constitute archaeological activity, and the Site most likely lay outside areas of historic settlement and activity. The lack of material suitable for dating the peat and buried soil limits any further understanding of Site.



## **8 STORAGE AND CURATION**

### **8.1 Museum**

8.1.1 It is recommended that the project archive resulting from the excavation be deposited with North Lincolnshire Museum, and an accession number will be issued at the time of deposition. Deposition of any finds with the Museum will only be carried out with the full agreement of the landowner.

### **8.2 Preparation of archive**

8.2.1 The complete Site archive, which will include paper records, photographic records, graphics, ecofacts and digital data, will be prepared following the standard conditions for the acceptance of excavated archaeological material by North Lincolnshire Museum, and in general following nationally recommended guidelines (SMA 1995; ClfA 2014b; Brown 2011; ADS 2013).

8.2.2 All archive elements will be marked with the Site/accession code, and a full index will be prepared.

### **8.3 Discard policy**

8.3.1 Wessex Archaeology follows the guidelines set out in Selection, Retention and Dispersal (Society of Museum Archaeologists 1993), which allows for the discard of selected artefact and ecofact categories which are not considered to warrant any future analysis. Any discard of artefacts will be fully documented in the project archive.

8.3.2 The discard of environmental remains and samples follows nationally recommended guidelines (SMA 1993; 1995; English Heritage 2011).

### **8.4 Security copy**

8.4.1 In line with current best practice (e.g. Brown 2011), on completion of the project a security copy of the written records will be prepared, in the form of a digital PDF/A file. PDF/A is an ISO-standardised version of the Portable Document Format (PDF) designed for the digital preservation of electronic documents through omission of features ill-suited to long-term archiving.





## 9 REFERENCES

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### 9.2 Digital references

<http://www.bgs.ac.uk/opengeoscience/>





## 10 APPENDICES

### 10.1 Appendix 1: Table 2: Environmental assessment data

Area		1	1	1	1	1	1	1	2	2	2	2
Depth		1.35	1.35	1.35	1.3	1.3	1.1	1.6	0.6	0.69	1.85	1.8
Context		9004	9004	9004	9005	9005	9005	9005	1203	1203	1305	1406
Sample		3	4	13	5	6	7	8	9	10	11	12
Volume (L)		1	1	1	1	1	1	1	1	1	1	1
<i>Rumex acetosella</i>	Sheep's sorrel	-	-	-	-	-	-	-	-	+	-	-
<i>Stachys</i> sp.	Woundwort	+	-	-	-	-	-	-	-	-	-	-
<i>Potamogeton</i> sp.	Pondweed	+	-	-	-	-	+	+	-	-	-	+
<i>Juncus</i> sp.	Rush	+	-	-	+	+	+	+	-	-	-	-
<i>Carex</i>	Sedge	+	-	-	-	+	-	+	-	-	-	+
Small Herbaceous plant roots / stems		+++	++	++	+++ +	+++	+++	+++	+	+	+	+
Large Herbaceous plant roots / stems		+	-	+	+	-	+	+	+	-	+	-
<i>Daphne ephidium</i>	Water flea eggs	+	+	-	+	+	+	-	-	-	-	-
<i>Chara</i>	Stonewort	+	-	-	-	-	+	+	-	-	-	-
Charcoal >4/2 mm		-	0/<1 ml	0/<1 ml	-	-	-	-	<1/2 ml	2/3 ml	-	-
Analysis		-	-	-	-	-	-	-	-	-	-	-

Key: + = <25, ++ = 25-50, +++ = >50, ++++ >100



## 10.2 Appendix 2: Table 3: Sediment Descriptions

Context	Sample	Sediment description
9004	3	10YR 3/2 very dark greyish brown sandy loam with patches of humic 10YR 2/1 black sandy loam. Quite wet with occasional fine rootlets.
9004	4	10YR 4/2 dark greyish brown fine sand (very slightly loamy). Sparse mottles of iron stain and rare fine rootlets.
9005	5	10YR 2/2 very dark brown fairly fine peat oxidising on exposure to 10YR 2/1 black. Horizontally laminated with visible <i>Phragmites</i> and plant remains throughout.
9005	6	10YR 2/2 very dark brown fairly fine peat oxidising on exposure to 10YR 2/1 black. Horizontally laminated with visible <i>Phragmites</i> and plant remains throughout.
9005	7	10YR 3/1 very dark grey loamy sand with a layer of 2/1 black humic loamy sand within. Rare iron stain mottles and rare fine rootlets.
9005	8	10YR 2/2 very dark brown silt loam with visible sand grains. Iron stained woody roots throughout <1.5cm, no horizontal layering, 0.1% fine pores, very crumbly. Sediment was possibly a peat that has been pedogenically altered and has become 'soily'.
1203	9	10YR 2/1 black sandy loam. Humic, slightly minerogenic with visible sand grains. Very crumbly and structureless. Common rootlets.
1203	10	10YR 2/1 black sandy loam. Humic, slightly minerogenic with visible sand grains. Very crumbly and structureless. Common rootlets and some mineralised concretions, possibly manganese.
1203	11	10YR 5/4 yellowish brown loamy sand with a 'lump' of 10YR 2/2 very dark brown compact peat. Peat is horizontally laminated with visible <i>Phragmites</i> and plant remains. The loamy sand has sparse iron stained roots, root voids and rare iron stained mottles
1203	12	10YR 2/2 very dark brown peat. Very compact and horizontally laminated with visible <i>Phragmites</i> and other plant remains throughout. Thin (<5mm) layer of 10YR 5/6 yellowish brown sand on one side of the peat (?top or bottom) with common iron stained mottles throughout.
9004	13	10YR 2/2 very dark brown silt loam. Very organic, quite peaty. No horizontal layering. Some visible sand grains. Very similar to sample 8. Again, possibly a peat that has been pedogenically altered and become soily, this appears more soily than sample 8.



### 10.3 Appendix 3: Catalogue of Contexts

	Grid	Dimensions: Max depth:
Context	Description	Depth (m)
601	Mid Brown loose humic sand fill in 6002	0 - 0.3
602	Cut for Trench 3	0 - 0.3
603	Topsoil – mid brown humic sand.	0 – 0.3
604	Cut of Trench 4	0 - 0.3
605	Backfill of Trench 4, as 6001	0 - 0.3

	Grid	Dimensions: Max depth:
Context	Description	Depth (m)
701	Topsoil – mid black brown humic sand	0.3m
702	Subsoil - Mottled brown yellow black and grey mixed sand.	0.3 – 0.55
703	Natural - Light grey with patches of yellow and pink sandy clay.	0.55 +

	Grid	Dimensions: Max depth:
Context	Description	Depth (m)
801	Backfill of Trench 3	
802	Cut of Trench 3	
803	Topsoil – Mid Brown loose sand	0 – 0.4
804	Dark brown sand	0.4 – 0.6
805	Mid brown sand	0.6 – 0.9
806	Natural – Grey black sand	0.9 – 1m

	Grid	Dimensions: Max depth:
Context	Description	Depth (m)
901	Top soil – Dark brown loose soil 5% sand	0 - 0.3m
902	Subsoil – light brown sandy silt	0.3m – 0.35
903	Natural - Light orange brown sandy silt	0.35 – 1.3
904	Grey silty sand layer with flecks of charcoal	1.3 – 1.34
905	Peat layer dark brown black.	1.3 – 1.6+

	Grid	Dimensions: Max depth:
Context	Description	Depth (m)
1001	Top soil – yellow brown sandy soil	0 - 0.6
1002	Subsoil – yellow windblown sand	0.6 – 0.8
1003	Buried Soil – Dark brown/black layers high organic content	0.8 – 1.35
1004	Black peat layer	1.33 – 1.35
1005	Natural - Light yellow clay	1.35+

	Grid	Dimensions: Max depth:
Context	Description	Depth (m)
1101	Topsoil – Dark brown loose soil, 5% sand	0 – 0.31
1102	Subsoil – light brown sandy silt	0.31 – 0.37
1103	Natural - Light orange brown sandy silt, some plough scarring	0.37 +

	Grid	Dimensions: Max depth:
Context	Description	Depth (m)
1201	Top soil – yellow brown silty sand	0 – 0.11



	<b>Grid</b>	<b>Dimensions: Max depth:</b>
<b>Context</b>	<b>Description</b>	<b>Depth (m)</b>
1202	Subsoil – Orange brown sand, bioturbation	0.11 – 0.35
1203	Buried soil layer, dark grey – black less organic than Area 1	0.35 – 0.6
1204	Grey- white sand layer	0.6 – 0.78
1205	Mixed Natural - yellow brown clay with brown silty sand. Bioturbation.	0.78 – 1.1
1206	Natural - yellow brown clay grey mottling.	1.1+

	<b>Grid</b>	<b>Dimensions: Max depth:</b>
<b>Context</b>	<b>Description</b>	<b>Depth (m)</b>
1301	Topsoil – Dark brown loose silty soil.	0 – 0.3
1302	Subsoil – Mixed soils black – light brown	0.3 – 1.2
1303	Buried Soil – Peaty silty brown soil. Very organic.	1.2 – 1.45
1304	Yellow sandy silt with orange highlights.	1.45 – 1.85
1305	Peat layer	1.85 – 1.9
1306	Natural - grey silty clay	1.9+

	<b>Grid</b>	<b>Dimensions: Max depth:</b>
<b>Context</b>	<b>Description</b>	<b>Depth (m)</b>
1401	Topsoil – Dark brown loose sandy soil	0 – 0.25
1402	Orange sand layer, possible made ground of redeposited natural	0.25 – 0.3
1403	Subsoil – Grey silt with organic/charcoal flecks	0.3 – 1.1
1404	Buried Soil thin layer of peaty buried soil with organic matter	1.1 – 1.12
1405	Natural - Bright orange sandy natural	1.12 – 1.8
1406	Peat layer	1.8 – 1.85
1407	Natural – Grey silty clay natural.	1.85+

	<b>Grid</b>	<b>Dimensions: Max depth:</b>
<b>Context</b>	<b>Description</b>	<b>Depth (m)</b>
1501	Topsoil – Light brown silty soil	0 – 0.3
1502	Subsoil - grey silty soil	0.3 – 0.45
1503	Made ground - Yellow building sand	0.45 – 0.5
1504	Made ground – White chalky sand	0.5 – 0.75
1505	Peat layer	0.75 – 1.1
1506	Natural – Yellow silty sand	1.1 – 1.5
1507	Natural - Grey silty clay	1.5 +



## 10.4 Appendix 4: OASIS form

OASIS ID: wessexar1-188619

### Project details

Project name	Epworth Sewage Treatment Works, Epworth, North Lincolnshire
Short description of the project	Wessex Archaeology was commissioned by North Midland Construction PLC to carry out a programme of archaeological 'strip, map and record,' (SMR) as part of a programme of works to mitigate the impact of the extension of an existing sewage treatment works and erection of associated structures. The site is located at the Severn Trent Water sewage treatment works (STW), West End Road, Epworth, North Lincolnshire, national grid reference (NGR) 476020 406626. The archaeological works followed the completion of a desk-based assessment, monitoring of five geotechnical test-pits and an archaeological evaluation comprising five 10m by 3m trenches. These works informed the mitigation strategy implemented in this phase of work, which were carried out in accordance with an approved Written Scheme of Investigation. The SMR comprised the monitoring of the open cut ground works to the level of peat formation and underlying natural sand. The works revealed a buried soil and underlying peat deposits but no evidence for human activity. The buried soil and peaty deposits were sampled in order to and see if they could be potentially related to the evidence for prehistoric activity at Torne Bank Fishery. No artefactual dating evidence was recovered from the samples; wood charcoal fragments included no round wood fragments and were not suitable for radiocarbon dating. No suitable waterlogged plant remains were recorded.
Project dates	Start: 12-08-2014 End: 31-08-2014
Previous/future work	Yes / Yes
Any associated project reference codes	87971 - Contracting Unit No.
Type of project	Recording project
Site status	Local Authority Designated Archaeological Area
Current Land use	Cultivated Land 3 - Operations to a depth more than 0.25m
Monument type	NONE None
Significant Finds	NONE None
Investigation type	"Open-area excavation"
Prompt	Direction from Local Planning Authority - PPG16

### Project location

Country	England
Site location	NORTH LINCOLNSHIRE NORTH LINCOLNSHIRE EPWORTH Epworth STW
Postcode	DN9 1LE
Study area	0 Square metres
Site coordinates	TA 476020 406626 53.8409661681 0.243613941042 53 50 27 N 000 14 37 E Point

### Project creators



Name of Organisation	Wessex Archaeology
Project brief originator	North Lincolnshire planning authority
Project design originator	Wessex Archaeology
Project director/manager	R. O'Neill
Type of sponsor/funding body	Developer
Name of sponsor/funding body	North Midland Construction PLC





### Project archives

Physical Archive Exists?	No
Digital Archive recipient	North Lincolnshire Museum
Digital Contents	"none"
Digital Media available	"Images raster / digital photography", "Survey"
Paper Archive recipient	North Lincolnshire Museum
Paper Contents	"none"
Paper Media available	"Context sheet", "Correspondence", "Photograph", "Report"

### Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Epworth Sewage Treatment Works: Archaeological Mitigation Report
Author(s)/Editor(s)	Cooper, M. and Reid, A
Other bibliographic details	87871.03
Date	2015
Issuer or publisher	Wessex Archaeology
Place of issue or publication	Sheffield
Description	A4 laser printed comb bound report
Entered by	Ashley Tuck (a.tuck@wessexarch.co.uk)
Entered on	February 2016



-  Evaluation trenches
-  Test Pit
-  Strip map and record area
-  Pipe trench

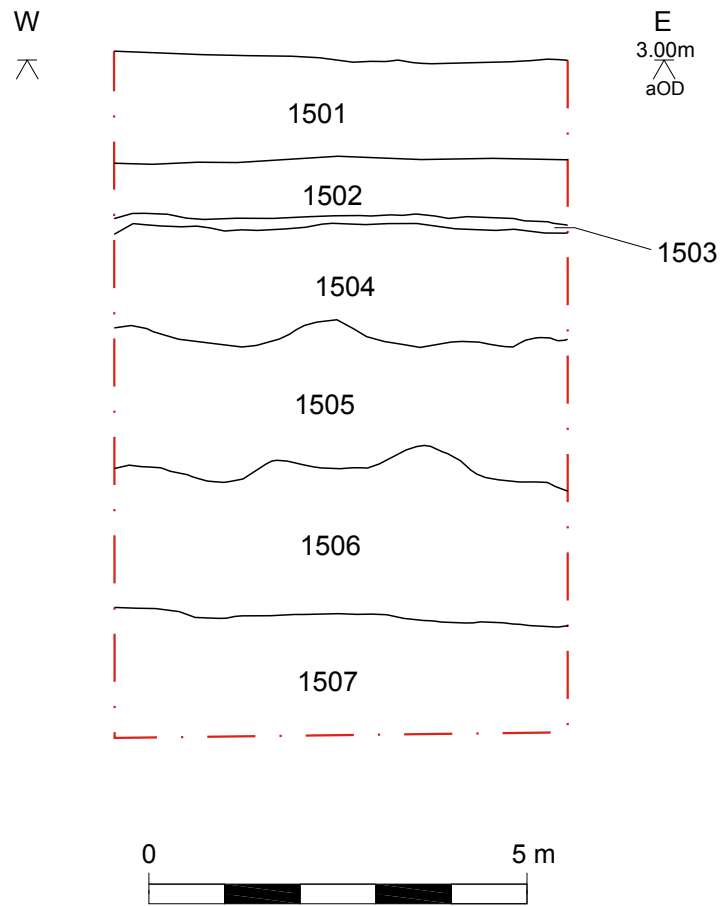


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Site location

Figure 1



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Plate 1: Area 1 after topsoil strip



Plate 2: Area 1 representative section


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Plate 3: Area 1 overview



Plate 4: Area 2 after topsoil strip


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Plate 5: Area 2 representative section

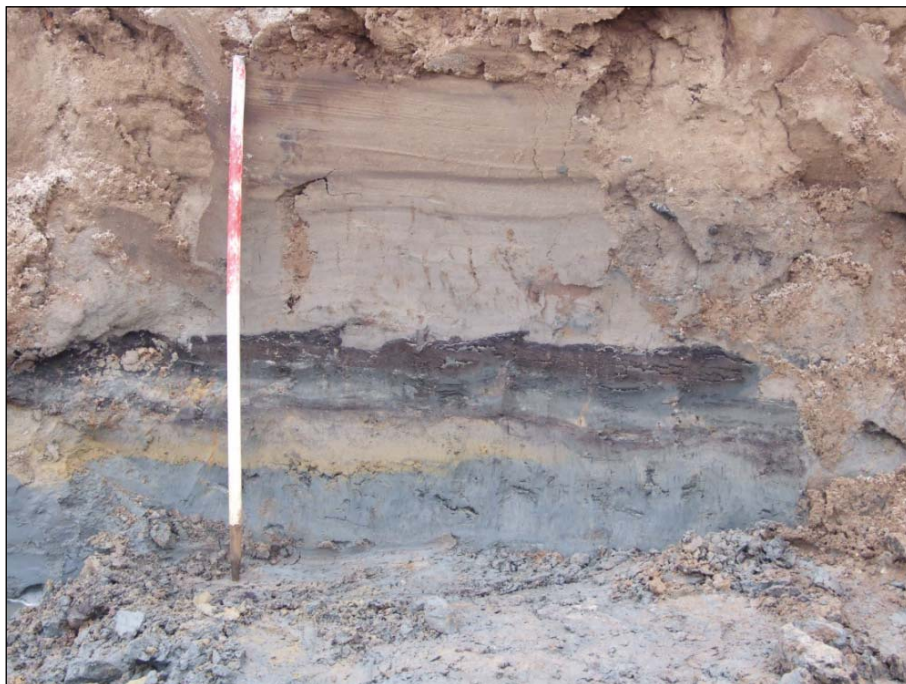


Plate 6: Section in Area 1 showing buried soil and peat layers



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Plate 7: Working shot machining down into peat layer 1406



Plate 8: Section in Area 2 showing buried soil and peat layers

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