Late Saxon to Early Medieval Saltern at Lynnsport 3: Land south of Front Way, King's Lynn, Norfolk
Post-Excavation Assessment and Updated Project Design

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Post-Excavation Assessment and Updated Project Design

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Summary

From the 12th to the 18th of September 2019 Oxford Archaeology East undertook an archaeological excavation at land south of Front Way (Lynnsport 3), King's Lynn, Norfolk. This project took place within a wider context of research into the salt-making industry of Gaywood, King's Lynn, which is being undertaken by OA East through a series of investigations for the Lynnsport development. This phase of woks comprised an excavation into a single saltern mound (Saltern 9) which had previously been identified during evaluation work at the site.

The saltern mound consisted of layers of waste material resulting from the filtration of salt rich coastal muds which produced concentrated brine that was subsequently boiled to produce salt. This method is known to have been employed during the Mid/Late Saxon to early medieval periods. Three clay-lined features were also revealed which directly relate to this salt-making process. These features and deposits provided a few sherds of pottery that suggest salt production took place at this site between the 11th and 12th centuries. The environmental samples taken from the saltern mound deposits provide evidence for the wider saltmarsh environment. This saltern adds to a growing corpus of Mid/Late Saxon and medieval saltern sites within the historical North Marsh of Gaywood, King's Lynn.

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The project was managed for Oxford Archaeology East by Matt Brudenell. The fieldwork was directed by Malgorzata Kwiatkowska, who was supported by Frankie Wildmun. Survey and digitizing was carried out by Izzie Ward. Thank you to the teams of OA staff that cleaned and packaged the finds under the management of Natasha Dodwell, processed the environmental remains under the management of Rachel Fosberry, and prepared the archive under the supervision of Katherine Hamilton. Thanks are extended to the various specialists for their contributions.

1 INTRODUCTION

1.1 Background

1.1.1 Between 12th and 18th September 2019 Oxford Archaeology East (OA East) carried out the second phase archaeological investigation on the Lynnsport development (Lynnsport 3) on land south off Front Way, King's Lynn, Norfolk (TF 6314 2119; Fig. 1). The entire site comprises five development areas: Lynnsport 1-5. The current project was commissioned by Lovell Partnerships Ltd in advance of a proposed residential development (Planning Application: 16/00097/LM).

1.1.2 An archaeological evaluation was carried out in April 2018, prior to the excavation, in order to establish the presence/absence of archaeological features and deposits (Clarke 2018b). Norfolk Heritage Environment Record (NHER) data indicated that the remains of a saltern mound lay in the north-western corner of the proposed development (NHER 27910; Fig. 2). The evaluation, which included two hand excavated boreholes, confirmed the presence of the saltern mound (Saltern 9). The deposits constituting the mound were typical of the known later Saxon and medieval salt-making evidence previously excavated by OA East on the adjacent Lynnsport 1, 4 and 5 residential developments (Clarke 2017; Blackbourn 2019).

1.1.3 A Written Scheme of Investigation (WSI) was prepared by OA East (and approved by Norfolk County Council Historic Environment Service (NCC/HES)) detailing the further programme of two excavation areas required on the site; each designed to mitigate the impact of the proposed development on the saltern (Brudenell 2018). Together, these two proposed areas totalled an area of c.350m^2. An initial stage of archaeological monitoring of the removal of the existing car park was also included in this scheme.

1.1.4 This assessment has been conducted in accordance with the principles identified in Historic England's guidance documents *Management of Research Projects in the Historic Environment*, specifically *The MoRPHE Project Manager's Guide (2006) and PPN3 Archaeological Excavation* (2008).

1.2 Geology and topography

1.2.1 The site is located within the urban reach of King's Lynn, c.1.5km east of the River Great Ouse (Fig. 1). The development site covers c.1.47ha on a flat area of ground lying approximately 3m OD. The site is bounded by the Bawsey Drain to the north, allotments to the west, a playing field to the south and Greenpark Road to the east.

1.2.2 The underlying geology of the site comprises Jurassic Kimmeridge Clay Formation mudstone overlain by layers of clay and silt, which were deposited by tidal action during the Quaternary period. British Geological Survey borehole data from site (TF 62900 20900 and TF 63060 20890) revealed a typical Flandrian sequence of deposits, with an amorphous peat horizon (1.60/1.88m-3.10/3.35m below the ground surface) overlain by saltmarsh deposits of brown fine-grained silts and sands of the Terrington Beds. An archaeological evaluation was carried out by OA East to the north of the site at Marsh Lane (Webster 2015; Fig. 2, MNF42716). Peat uncovered during this work was radiocarbon dated to 790-540 cal BC (2499 BP =29; SUERC-61520).

1.2.3 Two boreholes were drilled, as part of the previous evaluation work of the site, which suggested the basal horizon of the saltern mounds developed upon the upper horizon of the saltmarsh at a height of between 1.57-1.75m OD (Clarke 2018b). Previous archaeological excavation work as part of the Lynnsport project and neighbouring development work has determined the upper horizon of the natural saltmarsh deposits upon which the Gaywood salterns were placed lay at differing heights across this landscape: Marsh Lane – 1.5-2m OD (Clarke 2016); Lynnsport 4 and 5 – 2m OD (Clarke 2017a-b); Lynnsport 1 – 1.91-2.29m OD (Clarke 2018c; Blackbourn 2019); Greenpark Avenue – 1.7-2m OD (Clarke 2018a; Knight 2019).

1.3 Archaeological background

1.3.1 The following section provides a brief summary of the archaeological background for the area surrounding the site (Fig. 2). It is drawn from the data obtained from the Norfolk Historic Environment Record (NHER), the WSI (Brudenell 2018, 4-5) and the previous phase of archaeological evaluation of the site (Clarke 2018b).

1.3.2 Although the surrounding landscape provides evidence of prehistoric and Roman activity in the vicinity of the site (with stray finds of a Roman coin, c.350m to the northeast (NHER 11990), and a Late Neolithic/Early Bronze Age arrowhead c.380m to the southwest (NHER 5494)), much of this area was unsuitable for occupation during the later prehistoric and Romano-British periods, with any earlier traces of activity sealed beneath thick marine and freshwater Flandrian deposits (the arrowhead was recovered from a drain cutting these deposits). Whilst not discounting the importance of these deposits, and the potential buried prehistoric land surfaces/shore-lines they protect, the immediate archaeological significance of the area falls largely within the Anglo-Saxon, medieval and post-medieval periods when the area was a saltmarsh environment.

1.3.3 Of particular significance are the traces of a former salt-making industry that flourished between the Anglo-Saxon and post-medieval periods around the Wash coastline. The remains of this industry are primarily revealed in the form of saltern mounds, some of which still survive as earthworks, or are visible as pale oval or floriform soilmarks. The mounds, which can be up to 200m across, were formed by the piling up of waste sand from salt filtration in the 'sand washing' or ‘sleeching’ process of salt extraction.

1.3.4 An extensive swathe of saltern mounds is recorded around North Lynn, first identified by the National Mapping Programme (NMP) survey (Albone *et al*. 2007, 116). These not only reflect the importance of the salt industry, but the location and progressive land reclamation along the Anglo-Saxon and medieval coast line. Until recently, most of the saltern mounds were thought to be medieval or later in origin, particularly the western examples towards the current line of the Great Ouse. However, radiocarbon dating from recent excavations immediately south of the site have revealed that some of the mounds in this area have a Middle Saxon origin, pushing the date of the salt industry in this landscape back by several hundred years (Clarke 2017a-b; ENF139746 and ENF141949; Fig. 2). Mid to Late Saxon radiocarbon dates were also achieved for a saltern excavated at Marsh Lane, c.650m to the northeast (NHER 27899; Clarke and Clarke forthcoming; Clarke 2016a), demonstrating that this was not a one-off, but

evidence of a developed Anglo-Saxon salt-working landscape. Clay-lined pits, filtration units and brine boiling hearths of various forms were found at both these sites, with differences in the size and shape of these features possibly indicating changes in manner and scale of production over time.

1.3.5 A sense of the extent of this industry is revealed by the fact that most records in the NHER recorded within a 500m radius of the site relate to saltern mounds or salt-making activity (e.g. NHER 5524, 27886, 27893-6, 27899-902, 27906-912 and 38265). Saltern mounds are recorded to the north, west and south. Most significant is the recorded saltern covering the far northwest corner of the site (NHER 27910). Here a mound is recorded from 1946 RAF vertical aerial photographs, and is described as an irregular to sub-rounded mound with a maximum diameter of 58m.

1.3.6 Only the eastern third of the mound lies within the site boundary. The trial trenching in April 2018 confirmed the status of the mound as a saltern site, revealing waste silts and sands resulting from the salt-making process. These deposits were observed to have been truncated in Trench 35, probably as a result of the construction of the pre-existing car park placed over the mound. Boreholes excavated by OA East as part of this evaluation work beneath the car park demonstrated the preservation of filtration waste silts up to 1m in thickness.

1.3.7 The salt-making industry declined during the post-medieval period, however, several of the saltern mounds were put to other uses during this time, some being incorporated into the King's Lynn siege defences during the Civil War (e.g. NHER 13785, not illustrated). The subsequent drainage of the Fens during the 17th century exposed a large area of land in the environs of the site and made it available for cultivation and extended permanent grazing pastures. The Inclosure award map of 1810 shows the site as a parcel of open farmland (Norfolk Records Office (NRO) BL38-19). The 1884 and 1904 Ordnance Survey maps indicate that the site remained unchanged and crossed by a meandering northwest-southeast aligned drain connecting to the Bawsey Drain. This remains visible, as does a structure in the far southeast corner of the site until 1974.

1.4 Previous work

1.4.1 The trial trenching and two boreholes excavated by OA East in April 2018 (Clarke 2018) confirmed the presence of saltern NHER 27910 (Saltern 9). The remains of this saltern mound partially lay within the bounds of the proposed development area in the north-western corner of the site. This work indicated that the formation of NHER 27910 commenced over the natural saltmarsh at a height of between 1.57m and 2m OD. There was no evidence within trenches or boreholes to confirm presence of any *in situ* features (brine boiling hearths, filtration units) and no datable artefacts were recovered from the saltern along with a scarcity of environmental remains. The evaluation also investigated a recent boundary ditch that extended from north to south across the development site. This linear feature probably represented a minor internal plot division. In addition, a broad linear earthwork running along the site's southern boundary was also investigated. It consisted of recently made ground and probably resulted from the levelling of the adjacent sport fields.

1.5 Original research aims and objectives

Introduction – the emerging historical salt-making landscape of Gaywood, King's Lynn, Norfolk

1.5.1 Whilst the general aim of the investigation is to preserve by record the archaeological evidence contained within the footprint of the mitigatory area, this project will take place within a wider context of research into the salt-making industry of Gaywood, King's Lynn, which is being undertaken by OA East through a series of investigations in the vicinity of the site (Lynnsport 1-5; ENF145343 (1); ENF141949 (4 & 5)).

1.5.2 The overarching objectives are:

i. To establish the date of the industry. Both the overall date range of the salt-making industry at Lynn and the date that it was functioning at specific locations; and
ii. To obtain a better understanding of the salt-making process and identify any methodological or technological changes over time.

Site specific research aims

1.5.3 The specific goals of this wider investigation have been set out in the document 'Lynnsport 1-5: The emerging historical salt-making landscape of Gaywood, King's Lynn, Norfolk. Overarching Written Scheme of Investigation' (Brudenell and Clarke 2017). These goals are directly relevant to the current investigation at this site and will contribute to addressing the wider research themes/questions outlined below.

Saltern mounds and mound formation

1.5.4 What period did the mounds develop over? Can we retrieve sufficient material to date mounds sequences and bracket their chronology?

1.5.5 Were there periods of hiatus in mound formation? Can this be identified from soil stabilisation horizons?

1.5.6 Is there any evidence to support the hypothesis that mounds further east (landward) are earlier than those to the west (seaward)? In particular, are there further mid-late Saxon dates on eastern/landward salterns?

1.5.7 What evidence is there for the secondary use of the salt mounds and surround flats after the salt industry declined?

Saltern fixtures and features

1.5.8 What structures were associated with the salterns (salt-cotes) and what activities were conducted in them?

1.5.9 What are the forms of the brine boiling hearths and how did hearth technology change over time? Were different hearth forms like to the production of different grades of salt? Can such variation be measured from the chemical composition of the salt slags?

1.5.10 Is there patterning in the layout of tanks and filtration units? Is there any evidence that they changed in form and size over time?

1.5.11 What clay was used for lining the filtration units and constructing the hearths? What fuel was being burnt in the hearths? What were the sources?

1.5.12 Is there any evidence than channels and creeks were being modified or lagoons created to improve the efficiency of the salt-making process?

Salt makers and social context

1.5.13 Can we gauge anything about the scale and duration of episodes of salt making from the refuse left behind by the salt makers (pottery, animal bone etc.)? Is there any associated settlement activity?

1.5.14 Is there any evidence to support the hypothesis that salt making was only a seasonal activity?

1.5.15 What other activities were taking place on the salt mound? Evidence for iron smithing was found at Marsh Lane, but how widespread is this?

1.5.16 Can historical sources help us to better understand the scale and organisation of salt-making in North Lynn?

Salterns and landscape change

1.5.17 Can the investigations help us to understand the natural environment and landscape in which the salt-making was taking place?

1.5.18 How do the salterns relate to the Gaywood River and the main channel of the Great Ouse, and what were their palaeoenvironments?

1.5.19 How did the salt-making industry contribute to the reclamation of the saltmarsh and what can it tell us about the dating/phasing of that process?

Regional Research frameworks

1.5.20 More broadly, the site investigation takes place within, and will contribute to the goals of Regional Research Frameworks relevant to this area.

iii. Research and Archaeology: A Framework for the Eastern counties: 2. Research Agenda and Strategy (Brown & Glazebrook 2000, East Anglian Archaeology Occasional Papers 8):

1.5.21 *'From the Middle Anglo-Saxon period onwards there is evidence of both urban and rural craft production and industry. Is there a relationship between the two? To what extent was urban production city-serving and rural production largely conducted by itinerant craftsmen?*'

1.5.22 *'The rich material culture of towns, often present in dense quantities, must continue to be assessed and the results analysed and synthesised in order to increase understanding of the economic foundations of towns. Research work must target: evidence for commercial and industrial activity; definition, specialisation, marketing and distribution of products; linkages between social and political development and economic activity; and communications between towns and with the hinterland*.'

1.5.23 *'Industrial output, either from craft industries or early modern large-scale processes, will affect the urban environment. The impact of the economy can therefore be explored by: examination of evidence for industrial zoning; study of the relationship of industrial and commercial sites to distribution routes; and correlation of evidence for status with product specialisation and output*.'

1.5.24 *'Within urban culture, as in the rural hinterland, the church with its organisation, its role in society and its economic power deserves special attention. The following areas of research need to be amplified:……. the economic influence of the church*.'

iv. Research and Archaeology Revisited: A Revised Framework for the East of England (Medlycott 2011, East Anglian Archaeology Occasional Papers 24):

1.5.25 *'The Norfolk Coast and Broads NMP projects recorded large numbers of saltern mounds within The Wash and, to a lesser extent, around Breydon Water and the former Great Estuary (Albone et al. 2007). This has made a significant contribution to the study of this important medieval industry, and represents the first comprehensive identification and analysis of such sites within the county. The recognition of evidence for the possible Late Saxon origins of some of the saltern mounds provides further evidence for the early development of this form of salt-making (i.e sand washing)*.'

1.6 Fieldwork methodology

1.6.1 The archaeological excavation and analysis was conducted in accordance with current best archaeological practice and the appropriate national and regional standards and guidelines. This includes the NCC/HES document 'Standards for Development-led Archaeological Projects in Norfolk' (Robertson *et al*. 2018).

1.6.2 The methodology aimed to follow that detailed in the WSI (Brudenell 2018) approved by NCC/HES, which required that two areas of excavation totaling c.350m^2 be machine stripped into Saltern 9. It proved impossible, however, due to the constraints posed by the progressing redevelopment of the site, to excavate these two separate mitigation areas, which resulted in a larger single excavation area (Area E) being opened into Saltern 9, along the western limit of the development area totaling c.216m^2. Area E was machine excavated to a maximum depth of 0.80m. In addition, four test pits were hand excavated within Area E to a maximum depth of 1.2m from the machined level or to the natural soil horizon.

1.6.3 Machine excavation was carried out by tracked 360^o type excavator using a 2m-wide flat bladed ditching bucket under constant supervision of a suitably qualified and experienced archaeologist.

1.6.4 The site survey was carried out using a Leica GPS GS08 with SmartNET.

1.6.5 Spoil, exposed surfaces and features were scanned with a metal detector. No metal finds were recovered.

1.6.6 All archaeological features and deposits were recorded using OA East's pro-forma sheets. Plans and sections were recorded at appropriate scales. High resolution digital photographs were taken of all relevant features and deposits.

1.6.7 A total of 13 bulk samples were taken from the excavated features and deposits. The bulk samples each totalled between 10-30L and were processed by flotation at OA East's environmental processing facility at Bourn, Cambridgeshire.

1.6.8 Site conditions were generally good. Site work progressed in dry conditions, punctuated by episodes of light rain.

1.7 Project scope

1.7.1 The previous phase of archaeological evaluation work at the site has been reported on in full (Clarke 2018), however, this assessment will draw some of the information from this evaluation together with the excavation results during the assessment where appropriate.

1.7.2 This is a detailed assessment of the stratigraphy with the aim of forming the full 'grey literature' component to support the publication of the results in an *East Anglian Archaeology* (EAA) monograph (see Section 5.4). Similarly, detailed assessment reports have been prepared for most artefact categories, the intention being that as much resource as possible be retained for the analysis work and the publication.

2 FACTUAL DATA: STRATIGRAPHY

2.1 General

2.1.1 The following stratigraphic records were created:

Record type	Number
Context registers	2
Context numbers	59
Plan registers	1
Plans	1
Section registers	1
Sections	8
Sample registers	3
Samples	15
Photo registers	1
Photos	11

2.1.2 As described above, this site forms part of a wider context of research into the saltmaking landscape of Gaywood currently being undertaken for the Lynnsport development by OA East (Brudenell and Clarke 2017). Salterns 1-8 were identified during earlier phases of evaluation and excavation work by OA East at both the current Lynnsport 1-5 developments and the adjacent Greenpark Avenue site (Knight and Clarke 2019).

2.1.3 The results of the archaeological monitoring of Area D and the excavation of Area E are presented below. An overall plan of both these areas of investigation in relation to the previous evaluation of the wider development site is shown on Figure 3. An excavation plan of Area E showing cut numbers allocated to features and deposits belonging to Saltern 9 is presented as Figure 4. Selected sections are included as Figure 5. Feature (cut) numbers in the text are written in **bold**. Further context descriptions with dimensions are given in Appendix A, Table 8. Reports on the finds and environmental remains recovered from the site are presented in Appendices B and C respectively.

2.1.4 Three main periods of activity have been identified:

Period 1: Saltmarsh formation

Period 2: Late Saxon to early medieval (c.AD850-1200)

Period 3: Modern

2.2 Period 1: Saltmarsh formation

2.2.1 Natural deposits on the site consisted of tidal flat deposits (Group 1060), which were encountered in three out of four test pits at heights of between 1.75-1.9m OD (Fig. 5, Sections 301, 308 and 309). These were equivalent to the tidal flat deposits of Group 301 excavated during the evaluation phase of the investigation. They largely consisted of mixed light yellowish grey sandy silts (Table 1).

Deposit	Above	Thickness (m)	Description
1060	-	>0.22	Light yellowish grey silt
1061	1060	0.24	Laminating layers of mid grey and light yellowish grey clayey silt
1062	1061	0.18	Light blueish grey clayey silt
1063	1062	0.20	Mid brownish grey clayey silt
1088	-	>0.32	Light brownish grey silt
1091	-	0.10	Light yellowish grey silt
1092	1091	>0.10	Light whitish grey clayey silt
1093	1092	0.06	Mid reddish brown clayey silt
1094	1093	0.16	Mid yellowish brown clayey silt

Table 1: Group 1060 of tidal flat deposits

2.3 Period 2: Late Saxon to early medieval (c.AD850-1200)

2.3.1 Evidence for salt production on this site was evidenced by successive layers of filtration waste silt spread across the excavation area. These layers had three heavily truncated clay-lined features cut into them, which probably represent surviving vestiges of silt filtration units.

Filtration waste silt deposits

2.3.2 Overlying the natural tidal flat deposits from a height of 1.75-1.9m OD were layers of filtration waste silts (Group 1060; Table 2; Figure 5, Sections 300, 301, 306-9; Plates 1-3). Each deposit consisted of light yellowish brown or mid greyish brown sandy silt and probably represents the resultant waste from silt filtration activity.

2.3.3 Thin layers of probable hearth waste material (1064 and 1067) were also encountered within the filtration waste silts (Table 2, Fig. 5, Sections 301 and 302). Four sherds (19g) of 11th to 12th century pottery were recovered from deposit 1068 along with fragments of salt slag (342g) and fired clay/briquetage (285g).

Deposit	Same as	Above	Thickness (m)	Description
1064	1067	1063	0.06	Mid brownish grey clayey silt
1065	1068	1064, 1067	0.12	Mid greyish brown clayey silt
1066	1100	-	0.50	Mid brownish grey clayey silt
1067	1064	1066	0.05	Light yellowish brown clayey silt
1068	1065	1095	0.64	Mid greyish brown clayey silt
1079	-	1068, 1090	0.80	Mid reddish brown clayey silt
1089	-	1088	0.40	Mid greyish brown clayey silt
1090	-	1089	0.18	Mid reddish brown clayey silt
1095	-	1094	0.10	Mid brownish grey clayey silt
1096	-	-	0.06	Mid yellowish grey silty sand
1097	-	1096	0.16	Mid brownish grey sandy silt
1098	-	1097	0.14	Light yellowish brown sandy silt
1099	-	1098	0.22	Mid greyish brown silty clay
1100	-	1099	0.50	Light yellowish brown silty sand

Table 2: Filtration waste silt deposits

Clay-lined features

2.3.4 Three clay-lined features were revealed by this excavation (Table 3). The remains of a possible silt filtration unit (**1050**) was partly revealed along the northern excavation limit. It cut into filtration waste deposit 1100 at a height of 2.8m OD and was heavily truncated by the Period 3 formation level (**1110**) related to the construction of the pre-existing car park (Fig. 5, Section 300; Plate 4). It was also partly truncated by Period 3 features **1056** and **1058**. It measured 1.30m in length, 0.70m in width and was 0.21m deep, with completely truncated sides and a flattish base. Its long axis appeared to lie on a broadly north to south orientation. It contained a light blueish grey clay lining (1052) measuring 0.06m thick which was overlain by three backfills (1053, 1054 and 1055). Only a small, intrusive fragment of glass was recovered from the environmental sample of fill 1054, which probably originated from one of the adjacent Period 3 features.

2.3.5 To the south, a second clay-lined feature (**1070**) was recorded along the eastern excavation limit (Figure 5, Section 302). It was cut into saltern deposit (1066) at a height of 2.85m OD and was heavily truncated by the Period 3 car park formation level (**1110**). It measured 0.42m in width and was 0.14m deep, with steep sides and a concave base. It contained a light blueish grey clay lining (1071), that measured 0.04m thick, which was overlain by a mid greyish brown clayey silt backfill (1072).

2.3.6 The third clay-lined feature (**1074**) was located 3m west of feature **1070** and cut into filtration waste deposit 1066 at a height of 2.62m OD (Figure 5, Section 305; Plate 5). This feature was almost square in plan with vertical sides and a flat base. It was lined with 0.07m thick light blueish grey clay (1075) which was overlain by a mid greyish brown clayey silt backfill (1076).

Cut	Fills	Dimensions (LxWxD)	Shape in plan
1050	1052, 1053, 1054, 1055	1.3m x 0.70m x 0.21m	Sub-circular
1070	1071, 1072	0.42m x 0.14m	Sub-circular
1074	1075, 1076	0.50m x 0.53m x 0.14m	Sub-square

Table 3: Summary of clay-lined features

2.4 Period 3: modern

Overburden and vegetation disturbance

2.4.1 A layer of buried subsoil (1083), which contained fragments of modern ceramic building material (CBM), was recorded in section overlying the southern extent of Salterns 9, measuring up to 0.2m thick (Fig. 5, Section 307). Evidence for recent tree-root disturbance of the mound was also observed in section (tree throw **1101**; Fig. 5, Section 306).

Car park and modern sewage pipes

2.4.2 Prior to the redevelopment of the site, a large part of Saltern 9 was overlain by a car park (Fig. 3). The excavation of Area E confirmed the Period 2 deposits constituting the upper portion of the saltern had suffered a high degree of lateral modern truncation as a result of the car park's construction. Furthermore, a sewage pipe cut the Period 2

deposits to greater depth along the excavation's western boundary with two further branch-pipes (**1086** and **1106**; Fig. 5, Sections 306 and 308) observed to extend eastwards across the full extent of Area E.

2.4.3 The formation level (**1110**) for the construction of the pre-existing car park was observed in section across the full extent of the excavation area (Fig. 5, Sections 300, 302, 306 and 307). The truncation towards the southern end of the excavation extended to a depth of 0.8m below ground level (2.8m OD). The truncation towards the northern end of the excavation extended to a depth of 0.15m below ground level (3.2m OD).

Cut	Deposit	Same as	Dimensions (WxD)	Function
1056	1057	-	0.75m x 0.23m	Car park construction
1058	1059	-	0.39m x 0.31m	Car park construction
-	1051	1069, 1105	0.20m thick	Made ground for car park
-	1073	1103	0.16m thick	Levelling deposit for car park
-	1083	-	0.20m thick	subsoil
-	1084	-	0.20m thick	Made ground
-	1085	-	0.45m thick	Made ground
1086	1080, 1082, 1087	-	0.65-2.3m x 0.65m	Sewage pipe
1101	1102	-	0.90m x 0.38m	Tree throw
-	1104	-	0.10m thick	Levelling deposit for car park
1106	1107	-	0.76m x 0.6m	Electricity pipe

Table 4: Summary of post-medieval to modern features and deposits

Archaeological monitoring

2.4.4 In April 2019, personnel from OA East observed the lifting up of c.0.12ha of hard standing of the car park area overlying Saltern 9 (Fig. 3, Area D). Only modern made ground was observed beneath the hard standing (Plate 6).

2.5 Statement of stratigraphic potential

2.5.1 The site data is of sufficient quality to address some of the project's Research Aims and Objectives and will form the basis of further analysis and targeted publication of the saltern mound and its features, finds and environmental assemblages. What has survived within this saltern is *in situ* and in this regard the stratigraphy has the potential to address those research questions which relate to salt-making.

3 FACTUAL DATA AND STATEMENT OF POTENTIAL: ARTEFACTS

3.1 General

3.1.1 The following finds were recovered:

Material	Number	Weight (g)
Salt slag	6	342
Pottery	4	19
Briquetage	10	285

Table 5: Summary of finds recovered

3.2 Salt slag (App. B.1)

Summary

3.2.1 Six pieces of salt slag (342g) were recovered from this site. They consisted of a broken-up fragment of slag cake (hearth bottom) and pieces of thinner slag crust, which came from the saltern deposit (1068).

Statement of potential

3.2.2 The salt slags are almost identical to these described from Marsh Lane, King's Lynn (Clarke 2016a) and subsequently within a report on the chemical analyses of these slags carried out by Timberlake and Haylock in 2017. All of salt slag was recovered from the same context as the fragmentary brick supports (see Section 3.4). The salt slags are significant remains in informing the process and technology involved in the brine-boiling process (one of the Research Objectives, Section 1.5.9).

3.3 Pottery (App. B.2)

Summary

3.3.1 A small assemblage (four sherds weighing 19g) of 11th to 12th century pottery (early medieval ware) was recovered from the saltern layer 1068.

Statement of potential

3.3.2 Although the assemblage is small, the presence of pottery sherds suggests a possible 11th to 12th century date for salt production at the site. This assemblage has potential to identify when salt production in this part of King's Lynn was taking place and can be examined further with the other assemblages across the other excavated Lynnsport sites.

3.4 Briquetage (App. B.3)

Summary

3.4.1 A relatively small assemblage (ten fragments, weighing 285g) of hand-made brick fragments was recovered from saltern layer 1068. The presence of a few surviving knife cut marks suggest these fragments were cut to size with squarish sides. Briquetage was used as supports for brine-boiling lead salt pans.

Statement of potential

3.4.2 The brick support fragments were recovered from the same context (deposit 1068) as both the salt slag and pottery assemblages (see above). Along with the salt slag, these pieces are significant remains in informing the process and technology involved in the brine-boiling process (one of the Research Objectives, see section 1.5.4).

4 FACTUAL DATA AND STATEMENT OF POTENTIAL: ENVIRONMENTAL EVIDENCE

4.1 General

4.1.1 Environmental bulk samples were collected from representative a cross-section of feature types and locations. Bulk samples were taken to determine whether plant remains and environmental indicators such as foraminifera, ostracods and molluscs are present, their mode of preservation and whether they are of interpretable value for further specialist study. No animal bone was recovered from this site.

4.2 Environmental remains (App. C.1)

Summary

4.2.1 Fifteen samples were taken from the deposits constituting the saltern mound and its associated features. The botanical material from this site is sparse, with untransformed seeds present in small quantities which include wetland rush species. A small quantity of charcoal is present in the majority of samples which proved to be unsuitable for radiocarbon dating (Denise Druce pers. comm.). Foraminifera were frequent in all but two samples. Ostracods were present in some of the samples, in small quantities, but there appeared to be no obvious pattern as to their distribution between features. Similarly, molluscs were also present in several of the samples, in small to moderate quantities, but with no obvious distribution pattern.

Statement of potential

4.2.2 The poor density and diversity of the plant taxa produced from these samples suggests there is little benefit to further study. This is a commonly occurring situation on these salt-making sites as it seems the processes involved do not create a good preservation environment. It is thought that this botanical material has little potential to aid the local, regional or national research priorities beyond the record of the taxa in this report. Sub-samples have been retained for future foraminifera and ostracod analysis, if required.

4.3 Overall potential

4.3.1 Although small, the research potential of these assemblages is increased when considering their eventual incorporation into the wider research on the salt-making industry of Gaywood as a result of the Lynnsport 1-5 developments and attendant excavations. The artefact and ecofact assemblages from Lynnsport 1 add to the corpus of material being gathered from this work that is considered to be of sufficient quality to address the majority of the project's Research Objectives (see Section 5 below) and helps provide a firm base on which to progress publication work.

5 UPDATED PROJECT DESIGN

5.1 Revised research aims

5.1.1 This project is part of a wider study into the salt-making industry of Gaywood, King's Lynn and the specific goals of these investigations have been set out in the document 'Lynnsport 1-5: The emerging historical salt-making landscape of Gaywood, King's Lynn, Norfolk. Overarching Written Scheme of Investigation' (Brudenell and Clarke 2017). The following aims have been broken into a variety of categories relating to the salt-making industry.

Saltern mounds and mound formation

5.1.2 What period did the mounds develop over? Can we retrieve sufficient material to date mounds sequences and bracket their chronology?

5.1.3 These saltern mounds often produce very little material, with a total of four sherds of early medieval ware (11th to 12th century) pottery recovered from a layer of filtration waste silt within Saltern 9.

5.1.4 Were there periods of hiatus in mound formation, and can this be identified from soil stabilisation horizons?

5.1.5 No soil stabilisation horizons were identified in the deposit sequence.

5.1.6 Is there any evidence to support the hypothesis that mounds further east (landward) are earlier than those to the west (seaward)? In particular, are there further Mid-Late Saxon dates on eastern/landward salterns?

5.1.7 Datable evidence from this saltern mound is rare: in terms of Lynnsport 3 the very small quantity of pottery recovered alone, is not sufficient to accurately test this theory.

5.1.8 Radiocarbon dates have been retrieved from a number of other saltern sites within this part of King's Lynn. Of these five sites (including Lynnsport 3), the radiocarbon dates show no pattern with regards to the eastern sites dating earlier. The sites at Marsh Lane and Lynnsport 4 and 5 (Clarke 2016a, 2017b) originated in the Mid Saxon period with the latter ceasing in the Late Saxon period and the former continuing into the early medieval period. The Primary School site (Knight and Clarke 2019) located to the west produced very similar date to Lynnsport 1, spanning the Late Saxon to early medieval period. In order to test this theory accurately, the dating for all saltern sites in King's Lynn would need to be collected and collated.

5.1.9 What evidence is there for the secondary use of the salt mounds and surrounding flats after the salt industry declined?

5.1.10 The mound appear to have been left *in situ* and were still visible in the landscape across the later periods. There was a notable lack of later finds and features upon this mound to evidence further activities. The upper layers of the mound were found to have been heavily truncated by modern activity. Other mounds excavated in the area were also notable for their lack of later finds, suggesting they lay largely undisturbed until relatively recently.

Saltern fixtures and features

5.1.11 What structures were associated with the saltern (salt-cotes) and what activities were conducted in them?

5.1.12 Only three clay-lined features were identified cutting into the deposits of Saltern 9. No other associated features were recognised by the investigation. As only a small area was excavated, it may be possible that structures lay outside the limits of excavation.

5.1.13 What are the forms of the brine boiling hearths and how did hearth technology change over time? Were different hearth forms linked to the production of different grades of salt? Can such variation be measured from the chemical composition of the salt slags?

5.1.14 There were no remains of *in situ* hearth structures identified at this site, although the presence of hearth waste (1064=1067) within the saltern mound suggest that such structures were probably present in the near vicinity of the excavation. A small assemblage of briquetage (10 fragments, 285g) and salt slag (six fragments, 342g) was recovered from this hearth waste. The briquetage probably represents supports for brine-boiling pans, whilst the salt slag is a concretion which formed at the base of a hearth resulting from the boiling-over of brine.

5.1.15 Is there patterning in the layout of tanks and filtration units? Is there any evidence that they changed in form and size over time?

5.1.16 The heavily truncated remains of three clay-lined features were identified which probably represent the remains of silt filtration tanks. These were located in the northern part of the excavation, towards the central part of the saltern. However, the these slight remains of features do not provide enough evidence for patterning.

5.1.17 What clay was used for lining the filtration units and constructing the heaths? What fuel was being burnt in the hearths? What were the sources?

5.1.18 All of the clay-lined features identified during this excavation used the same light to mid blue grey clay which was probably sourced inland (see Lynnsport 4 and 5, Clarke 2017b).

5.1.19 Analysis of the brick fabric and the composition of local sediments suggests that the briquetage was possibly made on site, either from the more clay-rich parts of the sub-mound silts, or from the dumped (sleeched) silts themselves (see App. B.3.7).

5.1.20 Peat was always assumed to have been a fuel source from its mention in historical documents (see Lynnsport 1, Blackbourn 2019 App. B.1.6-7). However, unlike at Lynnsport 1, where dark, peaty stains were observed associated with hearth waste material, no peaty material was recognised within Saltern 9.

5.1.21 Is there any evidence that channels and creeks were being modified or lagoons created to improve the efficiency of the salt-making process?

5.1.22 No channels or creeks were identified on the site.

Salt makers and social context

5.1.23 Can we gauge anything about the scale and duration of episodes of salt making from the refuse left behind by the salt makers (pottery, animal bone etc.)? Is there any

associated settlement activity? Is there any evidence to support the hypothesis that salt making was only a seasonal activity?

5.1.24 As with the other Lynnsport sites that the OA East have previously excavated, the finds assemblage recovered from the saltern and its related features is poor. Only four pottery sherds (weighing 19g) were present. These low quantities of finds, paired with the environmental evidence that suggests that the area in which salt making was taking place would not have been suitable for occupation, both support the idea that the salt-makers lived some distance from the salterns and that any finds recovered from these sites represent accidental loss from the salt-makers themselves.

5.1.25 What other activities were taking place on the salt mound? Evidence for iron smithing was found at Marsh Lane but how widespread is it?

5.1.26 No evidence related to the metalworking or iron smithing was recovered from the site.

5.1.27 *Can historical sources help us to better understand the scale and organisation of salt-making in North Lynn?*

5.1.28 See Section 5.4 (documentary research) below.

Salterns and landscape change

5.1.29 Can the investigation help us to understand the natural environment and landscape in which the salt-making was taking place?

5.1.30 The botanical material from this site is sparse. Although untransformed seeds are present in several environmental samples, they are in small quantities. Recognised species include bramble and elder seeds, with wetland species also present in the form of rush seeds. The preserved botanical remains comprised various tree, shrub taxa as well as rush (*Juncus* sp.) seeds. More complete macrofossil and pollen assemblages have been obtained from the archaeological investigation on the Lynnsport 1 development to the east (Blackbourn 2019).

5.1.31 How do the salterns relate to the Gaywood River and the main channel of the Great Ouse, and what were their palaeoenvironments?

5.1.32 Documentary evidence demonstrated that prior to its diversion along the southern margins of Gaywood's North Marsh in 1425, the Gaywood River flowed through the central part of the North Marsh (Fig. 2, NHER 28800).

5.1.33 On the basis of the small number of early medieval pottery sherds (11th to 12th century) recovered from the site, the salt-making activity appears to pre-date the diversion of the Great Ouse to King's Lynn in the 13th century. The arrival of this substantial freshwater estuary may have had a significant negative impact on salinity levels of the mudflats on the North Marsh and contributed to a more general decline in the salt-making industry. The raising of ramparts around King's Lynn in the 13th century, at the time of the diversion of the Great Ouse, possibly further contributed to the abandonment of some of the salterns located outside the defensive circuit. Documentary evidence from a survey of the North Marsh in the 15th century suggests a shift in land use to extensive permanent grazing pastures (NRO BL/MA 2/2). This was an unintended consequence of the general raising of the ground level across the

saltmarsh as a result of mound building. Construction of the Old East Seabank flood defences (Fig. 2, NHER 5528) in the 17th or 18th century, possibly associated with the 18th-century canalisation and diversion of the Great Ouse to its current course, was a further significant alteration to the landscape of the North Marsh.

5.1.34 *How did the salt-making industry contribute to the reclamation of the saltmarsh and what can it tell us about the dating/phasing of that process?*

5.1.35 The date range for these 'landward' salterns on the southern margins of Gaywood's historical North Marsh, adjacent to Salter's Waie (current Greenpark Avenue), complement the date range for the 'landward' saltern excavated at Marsh Lane. The evidence points towards a possible late 8th century date for the commencement of salt-making activity in the North Marsh. Documentary evidence provides evidence for 'seaward' salterns still being in-use on the western margins of the North Marsh in the 15th century (NRO BL/MA 2/2). A bracket of reclamation of the North Marsh for pasture between the later c.8th century and c.15th century may therefore be postulated for the salt-making industry. This reclamation may also have gradually converged on the pre-existing course of the River Gaywood.

Research frameworks

5.1.36 More broadly, the site investigation takes place within, and will contribute to the goals of Regional Research Frameworks relevant to this area.

5.1.37 Research and Archaeology: A Framework for the Eastern counties: 2. Research Agenda and Strategy (Brown & Glazebrook 2000, East Anglian Archaeology Occasional Papers 8):

5.1.38 'From the Middle Anglo-Saxon period onwards there is evidence of both urban and rural craft production and industry. Is there a relationship between the two? To what extent was urban production city-serving and rural production largely conducted by itinerant craftsmen?'

5.1.39 'The rich material culture of towns, often present in dense quantities, must continue to be assessed and the results analysed and synthesised in order to increase understanding of the economic foundations of towns. Research work must target: evidence for commercial and industrial activity; definition, specialisation, marketing and distribution of products; linkages between social and political development and economic activity; and communications between towns and with the hinterland.'

5.1.40 'Industrial output, either from craft industries or early modern large-scale processes, will affect the urban environment. The impact of the economy can therefore be explored by: examination of evidence for industrial zoning; study of the relationship of industrial and commercial sites to distribution routes; and correlation of evidence for status with product specialisation and output.'

5.1.41 'Within urban culture, as in the rural hinterland, the church with its organisation, its role in society and its economic power deserves special attention. The following areas of research need to be amplified: the economic influence of the church.'

5.1.42 Research and Archaeology Revisited: A Revised Framework for the East of England (Medlycott 2011, East Anglian Archaeology Occasional Papers 24):

5.1.43 'The Norfolk Coast and Broads NMP projects recorded large numbers of saltern mounds within The Wash and, to a lesser extent, around Breydon Water and the former Great Estuary (Albone et al. 2007). This has made a significant contribution to the study of this important medieval industry, and represents the first comprehensive identification and analysis of such sites within the county. The recognition of evidence for the possible Late Saxon origins of some of the saltern mounds provides further evidence for the early development of this form of salt-making (i.e sand washing).'

5.2 Interfaces, communications and project review

5.2.1 The Post-Excavation Assessment has been undertaken principally by Malgorzata Kwiatkowska (MK) and edited and quality assured in-house by Post-Excavation Project Officer Graeme Clarke (GC), Project Manager Matt Brudenell (MB), Post-Excavation Editor Rachel Clarke (RC) and Head of Post-Excavation & Publications Elizabeth Popescu (EP). It will be distributed to the Client (Lovell Partnerships Limited) and NCC/HES for comment and approval.

5.2.2 Following approval of the Post-Excavation Assessment, discussions will be had between GC, RC, MB, the Client and NCC/HES to progress the post-excavation analysis and publication. It is anticipated that this excavation will be incorporated within an overall publication encompassing the findings of all the archaeological investigations on the Lynnsport 1-5 developments and the OA East excavations on the adjacent Greenpark Avenue Primary School development (Knight and Clarke 2019). Input shall also be sought at this stage from Elizabeth Popescu (EP), the in-house Head of Post-Excavation and Publications. As a result of this meeting, a Publication Synopsis will be prepared.

5.2.3 Meetings will be arranged at relevant points during the post-excavation analysis with NCC/HES, or be conducted via email or telephone as appropriate.

5.3 Methods statement

Stratigraphy

5.3.1 The stratigraphic text included within this report details the grouping and phasing of the site, and a complete context inventory has also been included. The specialist information, especially the pottery and briquetage, have been integrated into this assessment to aid dating and support the interpretation of the site. The next stage of publication work will combine these results along with the results of both the adjacent Lynnsport development sites and neighbouring Greenpark Avenue Primary School development site investigated by OA East to allow for a more integrated discussion of the salt-making remains on both the site and landscape levels. During the final analysis and publication stage, contexts, finds and environmental data will be analysed alongside scientific dating using an MS Access database in combination with AutoCAD and GIS applications. The specialist information will be updated and added to as appropriate. The final stratigraphic narrative incorporating the updated specialist information will form the basis of this site's contribution to the overall publication.

Illustration

5.3.2 The existing CAD plans and sections will be updated with any amended phasing and additional sections digitised if appropriate. Publication figures will be generated using Adobe Illustrator. Finds recommended for illustration will be drawn by hand and then digitised, or where appropriate photography of certain finds-types will be undertaken.

Documentary research

5.3.3 In general primary and published sources will be consulted where appropriate using the Norfolk Historic Environment Record and other resources (*e.g* Norfolk Records Office and National Archives) and will also include aerial photographs, historic maps and reports on comparable sites locally and nationally in order to place the site within its landscape and archaeological context. As it is anticipated the Lynnsport 1-5 project will be incorporated with the Greenpark Avenue Primary School project into a single publication, this evidence will be collated to avoid duplication of effort (see catalogue of historical records for Clarke 2017b, 43), and where relevant reproduced in the subsequent publication.

5.3.4 A search for primary medieval documents will be undertaken by historian Nick Holder (NH) for evidence pertaining to salt-making in Gaywood's North Marsh relating to the themes of ownership, links to ecclesiastical establishments, social context and resources addressed by the Research Objectives.

5.3.5 A search of the NHER aerial photography record for this area was previously made and detailed in Clarke 2017b for the Lynnsport 4 & 5 investigations. No further aerial photography evidence is required. Historical maps were also consulted as part of the desk-based assessment; summarised in Section 1.3. A search of further records that will be consulted will include Andrew Bryant's map of 1876 and the Gaywood Tithe map of 1838.

5.3.6 LiDAR data shall be consulted along with historical mapping in the further analysis of the overall saltern complex within the North Marsh.

Artefactual, ecofactual and sediment analysis

5.3.7 All the artefacts, ecofacts and selected sediments have been assessed/analysed with detailed recommendations for any additional work given in the individual specialist reports (Appendices B1-3 and C1). Further work is recommended below. It is anticipated that at the publication stage the assemblages gained from both the Lynnsport development and Greenpark Avenue sites will be drawn together and combined into analysis reports for each material type.

Salt slag

5.3.8 No further work is required.

Pottery

5.3.9 Although no further work is needed in cataloguing or reporting on the current assemblage, it is suggested that all pottery assemblages from the Lynnsport sites

should be brought together in order to summarise them and place them in context at the publication stage.

Briquetage

5.3.10 No further work is required.

Environmental samples and charcoal

5.3.11 All the bulk samples taken during the excavation have been processed and have provided some insight into the environmental context of the site. Charcoal from deposit 1091 was identified as oak with that from deposit 1064 unidentifiable (Denise Druse pers. comm.). At publication stage it is suggested that the information gained from all environmental sampling on site be drawn together and compared to the other Lynnsport sites.

Radiocarbon dating

5.3.12 The charcoal recovered from deposits 1064 and 1091 proved unsuitable for radiocarbon dating (Denise Druce pers. comm.).

5.4 Publication and dissemination of results

5.4.1 Following approval of the Post-Excavation Assessment Report by NCC/HES, it will be lodged with the NHER and available online at the ADS and on the OA Library (https://library.thehumanjourney.net/).

5.4.2 Tasks associated with report writing are identified in Table 6 (see Section 8.2 below). It is proposed that the results of this project and all phases of OA East's work on the Lynnsport developments (including evaluation data) will be published in the EAA monograph series under the working title 'The Middle to Late Saxon and Medieval Salt-Making Industry of Gaywood's North Marsh. Excavations at Lynnsport, King's Lynn, Norfolk'.

5.4.3 A full publication synopsis will be submitted to the EAA committee following approval of this final Post-Excavation Assessment and Updated Project Design (PXA &UPD) for the Lynnsport developments (see Section 6.2.1).

5.5 Retention and disposal of finds and environmental evidence

5.5.1 Recommendations for the retention and/or disposal of each artefactual or ecofactual assemblage have been made by the relevant specialists during this assessment stage (see Appendices B.1-3 and C1). On completion of full synthesised analysis of each material type at the publication stage, discussions will be had between the relevant parties (see Section 5.2 above) to oversee the disposal of redundant material and preparation for archiving of material considered to hold continuing value for the archaeological record. The retained material will be deposited with the site archive in due course (see below).

5.6 Ownership and archive

5.6.1 All artefactual material recovered will be held in storage by OA East and ownership of all such archaeological finds will be given over to the relevant authority to facilitate future study and ensure proper preservation of all artefacts. During analysis and publication preparation, OA East will hold all material and reserves the right to send material for specialist analysis. It is Oxford Archaeology Ltd's policy, in line with accepted practice, to keep site archives (paper and artefactual) together wherever possible.

5.6.2 The archive will be prepared in accordance with current OA East guidelines, which are based on current national guidelines. NCC requires transfer of ownership prior to deposition.

5.6.3 Excavated material and records will be deposited with, and curated by, Norwich Castle Museum under county HER code/Event Numbers ENF138254 (evaluation) and ENF145065 (excavation). Norwich Castle Museum, will also allocate the Accession Number NWHCM:2018.155 for these records. A digital archive will be deposited with OA Library/ADS.

5.6.4 OA East will retain copyright of all reports and the documentary and digital archive produced in this project (unless the client has reserved copyright); OA East will maintain the archive to the standards recommended by the Chartered Institute for Archaeologists (CIfA 2014a-b), the Archaeological Archives Forum (Brown 2011).

6 TEXT RESOURCES AND PROGRAMMING

6.1 Project team structure

6.1.1 The project team is set out in the table below:

Name	Initials	Organisation	Role
Matthew Budenell	MB	OAE	Project Manager and prehistoric pottery specialist
Elizabeth Popescu	EP	OAE	Post-Excavation and Publication Manager
Rachel Clarke	RC	OAE	Editor
Rachel Fosberry	RF	OAE	Archaeobotanist and Environmental co-ordinator
Graeme Clarke	GC	OAE	Project Officer and Author; documentary research
Simon Timberlake	ST	Freelance	Ostracod /foraminifera and briquetage specialist
Sue Anderson	SA	Freelance	Pottery specialist
Denise Druce	DD	OAN	Archaeobotanist and charcoal specialist
Séverine Bézie	SB	OAE	Illustrator
James Fairbairn	JF	OAE	Finds photography
Nick Holder	NH	Freelance	Historical researcher
Katherine Hamilton	KH	OAE	Archive Supervisor

Table 6: Project team

6.2 Task list and programme

6.2.1 Compilation of a final archive report is normally completed within one year of the approval of the PXA & UPD. However, in this case, it is anticipated a final archive report will not be produced with any further analysis forming part of the proposed EAA publication into the wider body of work carried out by OA East on the Lynnsport developments (see Section 5.4). This is the final PXA & UPD for this development project. Consequently, a publication proposal for the monograph likely to be submitted to EAA in June 2020. A task list of further analysis work on assemblages recommended by specialists for the current site to be incorporated within this overall publication, is identified in Table 7 below.

Task No.	Task		Staff	No. Days
Project Management				
1	Project management		MB EP	2
2	Team meetings		MB RC EP GC	1
3	Liaison with relevant staff and specialists, distribution of relevant information and materials		GC, MB	1
Stage 1: Stratigraphic/artefactual/ecofactual analysis and documentary research for publication				
4	Integrate ceramic/artefact dating with site matrix		GC	0.5
5	Update database and digital plans/sections to reflect any changes		GC	0.5
6	Finalise site phasing		GC	0.5
7	Add final phasing and groups to database		GC	0.5
8	Compile group and phase text based on PXA text		GC	0.5
9	Update overall stratigraphic text and site narrative for incorporation into the publication		GC	0.5
10	Review, collate and standardise results of all final specialist reports and integrate with stratigraphic text and project results		GC	0.5
Artefact studies				
11	Salt slag: compare with other Lynnsport/Greenpark development assemblages and incorporation into publication		ST	0.5
11	Early medieval pottery: compare with other Lynnsport/Greenpark development assemblages and incorporation into publication		SA	0.5
12	Briquetage: compare with other Lynnsport/Greenpark development assemblages and incorporation into publication		ST	0.5
13	Research into residual surface metals (copper/tin/lead) on salt slag and briquetage surface using pXRF;		ST	0.5
Ecofact studies				
14	Environmental samples and charcoal: compare with other Lynnsport/Greenpark development assemblages and incorporation into publication		RF	0.5
Documentary research				
15	Research into relevant Anglo-Saxon and medieval saltern sites		GC	1
16	Additional research into the history of King's Lynn		GC	0.5
17	Visit NHER		GC	0.5
18	Research into Anglo-Saxon and medieval documents		NH	1
Stage 2: Publication				
19	Produce draft publication		GC	3
20	Compile list of illustrations/liaise with illustrators		GC SB EP RC	1
21	Produce publication figures		SB	2
22	Select photographs for inclusion in the publication		GC	0.5

Task No.	Task		Staff	No. Days
23	Photography of selected slag and briquetage examples for publication		JF	0.5
24	Internal edit		EP/RC	1
25	Incorporate internal edits		GC	0.5
26	Final edit		EP RC MB	1
27	Send to publisher for refereeing		EP/RC	0.5
28	Post-refereeing revisions		EP/RC	2
29	Copy edit queries		EP	1
30	Proof-reading		GC EP MB	1
Stage 4: Archiving				
31	Compile paper archive		GC	0.5
32	Archive/delete digital photographs		GC	0.5
33	Compile/check and deposit material archive		GC /KH	1

Table 7: Task list

* See Appendix D for product details and Appendix E for the project risk log.

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Norfolk Records Office

BL/MA 2/2	1486-87	Bradfer-Lawrence Collection. Manorial Records. Manor of Gaywood. Gaywood dragge (survey): typed transcript
BL/38/19	1810	Bradfer-Lawrence Collection. Maps and Plans. Tracing of Gaywood Inclosure Map

APPENDIX A

CONTEXT INVENTORY

Context	Cut	Category	Feature Type	Function	Colour	Fine component	Coarse component	Compaction	Breadth	Depth	Shape in Plan	Profile	Period
1050	**1050**	cut	filtration tank	salt production					0.7	0.21	rectangular	n/a	Late Saxon/ early medieval
1051	**0**	layer	car park	levelling	mid greyish brown	silty sand	gravel, frequent small to medium stones	firm		0.1			Modern
1052	**1050**	fill	filtration tank	clay lining	blue	clay	none	firm	0.76	0.06			Late Saxon/ early medieval
1053	**1050**	fill	filtration tank	salt production	dark grey brown	silty sand	few small stones	soft		0.05			Late Saxon/ early medieval
1054	**1050**	fill	filtration tank	salt production	mid yellowish brown	silty sand	none	soft	0.7	0.14			Late Saxon/ early medieval
1055	**1050**	fill	filtration tank	salt production	mid yellowish brown	silty sand	few small to medium stones	soft	0.72	0.08			Late Saxon/ early medieval
1056	**1056**	cut	car park	construction					0.75	0.24	sub-rectangular	n/a	Modern
1057	**1056**	fill	carpark	backfill	dark greyish brown	silty sand	very frequent small to medium	friable	0.75	0.24			Modern

Context	Cut	Category	Feature Type	Function	Colour	Fine component	Coarse component	Compaction	Breadth	Depth	Shape in Plan	Profile	Period
							stones, frequent CBM, glass						
1058	**1058**	cut	car park	construction					0.4	0.24	sub-circular	n/a	modern
1059	**1058**	fill	car park		mid greyish brown	silty sand	none	soft	0.4	0.24			Modern
1060	**0**	layer	saltern	natural	light yellowish brown	silt	none	soft		0.22			Natural
1061	**0**	layer	saltern	natural	laminating layers of mid grey and light yellowish grey	clayey silt	none	soft		0.24			Natural
1062	**0**	layer	Saltern	natural	light blueish grey	clayey silt	none	soft		0.18			Natural
1063	**0**	layer	saltern	natural	mid brownish grey	clayey silt	none	soft		0.2			Natural
1064	**0**	layer	saltern		mid brownish grey	clayey silt	occasional charcoal flecks, some salt slag	soft		0.06			Late Saxon/ early medieval
1065	**0**	layer	saltern	natural	mid greyish brown	clayey silt	none	soft		0.12			Late Saxon/ early medieval
1066	**0**	layer	saltern	natural	mid brownish grey	clayey silt	none	soft		0.16			Late Saxon/ early medieval

Context	Cut	Category	Feature Type	Function	Colour	Fine component	Coarse component	Compaction	Breadth	Depth	Shape in Plan	Profile	Period
1067	**0**	layer	saltern	natural	light yellowish brown	clayey silt	none	soft		0.05			Late Saxon/ early medieval
1068	**0**	layer	saltern	natural	mid brownish grey	clayey silt	none	soft		0.64			Late Saxon/ early medieval
1069	**0**	layer	made ground	levelling	mid grey	clayey silt	very frequent sub-angular stones	friable		0.45			Modern
1070	**1070**	cut	filtration tank	salt production					0.42	0.14	imperceptible	U-shape	Late Saxon/ early medieval
1071	**1070**	fill	filtration tank	clay lining	mid blueish grey	clay	none	friable	0.42	0.04			Late Saxon/ early medieval
1072	**1070**	fill	filtration tank	silting	mid greyish brown	clayey silt	none	friable	0.3	0.12			Late Saxon/ early medieval
1073	**0**	layer	made ground	backfill	mid reddish yellow	sand	none	friable		0.15			Modern
1074	**1074**	cut	filtration tank	salt production					0.54	0.14	sub-square	wide U-shape	Late Saxon/ early medieval
1075	**1074**	fill	filtration tank	clay lining	mid blueish grey	clay	none	friable	0.54	0.14			Late Saxon/ early medieval

Context	Cut	Category	Feature Type	Function	Colour	Fine component	Coarse component	Compaction	Breadth	Depth	Shape in Plan	Profile	Period
1076	**1074**	fill	filtration tank	silting	mid greyish brown	clayey silt	none	friable	0.44	0.09			Late Saxon/ early medieval
1079	**0**	layer	saltern	natural	mid reddish brown	clayey silt	none	soft		0.8			Late Saxon/ early medieval
1080	**1086**	layer	made ground	backfill	mid reddish yellow	sand	occasional angular stones - possible padding	friable		0.1			Modern
1082	**1086**	fill	pipe	backfill	dark brownish grey	silty clay	occasional small sub-rounded and sub-angular stones	friable	2.3	0.45			Modern
1083	**0**	layer	subsoil	buried ground	dark brownish grey	clayey silt	occasional CBM, occasional charcoal	friable		0.2			Modern
1084	**0**	layer	made ground	backfill	light whitish brown	clay	none	friable		0.2			Modern
1085	**0**	layer	made ground	levelling	mid grey	silty sand	very frequent small sub-angular stones	firm		0.45			Modern
1086	**1086**	cut	pipe	drainage					0.65		linear	imperceptible	Modern
1087	**1086**	fill	pit	backfill	mid blueish grey	clay	remains of topsoil mixed in	firm	0.65	0.25			Modern

Context	Cut	Category	Feature Type	Function	Colour	Fine component	Coarse component	Compaction	Breadth	Depth	Shape in Plan	Profile	Period
1088	**0**	layer	saltern	natural	light brownish grey	silt	none	soft		0.32			Natural
1089	**0**	layer	saltern	natural	mid greyish brown	clayey silt	occasional CBM	soft		0.4			Late Saxon/ early medieval
1090	**0**	layer	saltern	natural	mid reddish brown	clayey silt	none	soft		0.18			Late Saxon/ early medieval
1091	**0**	layer	saltern	natural	mid yellowish brown	clayey silt	none	soft		0.1			Natural
1092	**0**	layer	saltern	natural	light whitish grey	clayey silt	none	soft		0.1			Natural
1093	**0**	layer	saltern	natural	mid reddish brown	clayey silt	none	friable		0.06			Natural
1094	**0**	layer	saltern	silting	mid yellowish brown	clayey silt	none	soft		0.16			Natural
1095	**0**	layer	saltern	silting	mid brownish grey	clayey silt	none	soft		0.1			Late Saxon/ early medieval
1096	**0**	layer	saltern	silting	mid yellowish grey	silty sand	n/a	soft	0.9	0.06			Late Saxon/ early medieval
1097	**0**	layer	saltern	silting	mid brownish grey	sandy silt	none	firm	0.9	0.16			Late Saxon/ early medieval

Context	Cut	Category	Feature Type	Function	Colour	Fine component	Coarse component	Compaction	Breadth	Depth	Shape in Plan	Profile	Period
1098	**0**	layer	saltern	silting	light yellow brown	sandy silt	n/a	soft	0.9	0.14			Late Saxon/ early medieval
1099	**0**	layer	saltern	silting	mid greyish brown	silty clay	n/a	firm	0.9	0.22			Late Saxon/ early medieval
1100	**0**	layer	saltern	silting	light yellowish brown	silty sand	none	soft	0.9	0.5			Late Saxon/ early medieval
1101	**0**	cut	tree throw	silting					0.9	0.38	indeterminate	wide U-shape	Modern
1102	**1101**	fill	tree throw	natural	light greyish brown	silty clay	none	firm	0.9	0.38			Modern
1103	**0**	layer	made ground	levelling	mid yellow	sand	none	soft		0.16			Modern
1104	**0**	layer	made ground	levelling	mid greyish brown	silty clay	few small stones	soft		0.1			Modern
1105	**0**	layer	car park	levelling	grey	gravel	none	friable		0.2			Modern
1106	**1106**	cut	pipe						0.76	0.6	linear	U-shaped	Modern
1107	**1106**	fill	pipe	backfill	grey	concrete	medium stones	firm	0.36	0.6			Modern
1110	**1110**	cut	Modern truncation										Modern

Table 8: Context inventory

APPENDIX B ARTEFACT ASSESSMENTS

B.1 Salt slag by Simon Timberlake

Introduction

B.1.1 Six pieces of salt slag (342g) were recovered from this phase of work at the Lynnsport site.

Methodology

B.1.2 The slag was identified visually using an illuminated x10 magnifying lens, and compared where necessary with an archaeological reference collection. The pieces were tested with dilute hydrochloric acid to determine the presence of carbonate.

Description

B.1.3 The six pieces of salt slag (the largest being 70x60x40mm and the smallest just 15mm wide) consisted of a broken-up fragment of slag cake (hearth bottom) and pieces of thinner slag crust composed of a vitrified saline silicate which came from just a single saltern mound deposit (1068). The very irregular top (spatter surface) of these plus the sharp edges of the fragment breaks suggest that these were likely to have been formed *in situ,* near to or within the features in which they were found.

B.1.4 Inclusions of sandy material within the lowest layer of the slag cake suggests the presence of a sandy clay hearth lining, and above this the presence of a variably vitrified and alternately dense/porous slag. The denser re-melted layers of slag are represented by a greenish-yellow to light green glass (vitrification). There are clearly considerable amounts of salt still present within the porous groundmass.

Discussion

B.1.5 The small amount of salt slag cake and salt slag crust recovered from this site was almost identical to that recovered from the Greenpark Avenue Primary School site (Knight and Clarke 2019) early in 2019, and similar also to those described from Marsh Lane, King's Lynn (Clarke 2016b) and chemically analysed by Timberlake & Haylock in 2017.

B.1.6 It was impossible to calculate the size of the Front Way site slag cakes based upon a single middle fragment, although as the thickness was similar, we might consider this as being similar to the ones from Greenpark Avenue - *i.e*. around 220mm in diameter. As already mentioned in the latter report, it would have been general practice to fire (*i.e*. heat) the salt pans above shallow round pit-like clay-lined hearths. The boiling-over of the brine and the resulting reaction of this with the pan, fuel ash, clay and sand will have formed such concretions that gradually over time grew into cakes of slag within the base of the hearth(s).

B.1.7 As with smithing hearth bases formed during ironworking, the saltern hearth bases consisted of these re-melted waste materials, which included fragments of fired clay briquetage, sleeching silt, fuel ash, and clay and silt lining. This will have eventually

fused together as the temperature of the hearth was artificially raised. Salt slag is therefore an agglomerate of all of this; material which in places has melted to a pale cream-grey to yellowish-green coloured glass, but in others to more porous and cindery-like material. A tuyere may have been used to raise the temperature of the fire.

Further work required

B.1.8 No further work is considered necessary on this as the slag from Marsh Lane (Clarke 2016a) and Greenpark Avenue (Knight and Clarke 2019) has already been looked at in some detail.

Disposal

B.1.9 These few bits and pieces of slag may now be disposed of given that they will now provide no further information, much better pieces having already been retained from the other sites.

B.2 Pottery by Sue Anderson

B.2.1 Four sherds of pottery weighing 19g were recovered from context 1068 (Table 9). The sherds were joining body fragments of an early medieval ware thin-walled vessel, probably a jar/cooking pot, of 11th–12th-century date.

Context	Sample	Fabric	Type	No	Wt/g	MNV	Form	Rim	Spot date
1068		EMW	U	4	19	1			11-12

Table 9: Pottery catalogue

B.3 Briquetage by Simon Timberlake

Introduction

B.3.1 Ten fragments of briquetage weighing 285g were recovered from this phase of work at the Lynnsport site.

Methodology

B.3.2 The briquetage was identified visually using an illuminated x10 magnifying lens, and compared where necessary with an archaeological reference collection. The pieces were tested with dilute hydrochloric acid to determine the presence of carbonate.

Description

B.3.3 The ten fragments of briquetage recovered from the same context as the salt slag (context (1068) consisted of two similar but slightly different fabrics (Fabrics 1A (a pinkish fine silty micaceous clay) and 1B (a pale yellow fine silty micaceous clay)). The re-fitting fragments of 1A formed c.50% of a broken-up rectangular-shaped brick of c.100mm+ long x 70mm wide x 60mm deep. As at Greenpark Avenue (Knight and Clarke 2019) this particular brick support appears to have possessed a chamfered end, although very little of the latter has survived.

B.3.4 In a similar fashion the bricks all seem to have been cut to size, as is evident from the few surviving knife cuts associated with the shaping (forming) of the squarish sides.

B.3.5 Although poorly preserved, it is possible the current example matches the narrowest type of brick recorded from Greenpark Avenue ([920.17]), which was about 100mm long x 40mm wide x 55mm deep. The larger bricks from there were 140mm long x 60mm wide x 50mm deep

B.3.6 The few fragments (43g) making up Fabric1B were presumably part of another similar (but un-oxidised) brick. Too little of this brick survives to say anything very useful about it.

Discussion

B.3.7 Following the study of the Greenpark Avenue (Knight and Clarke 2019) and Marsh Lane (Clarke 2016a) briquetage, it would appear that these chamfered rectangular bricks probably helped support the sloping sides of the salt pans, although the exact arrangement of these can't yet be determined based on the evidence that survives. What does seem clear is that the various types of rectangular brick from Greenpark Avenue were not so different from those recorded at Marsh Lane, most of which were dated by their pottery association to be (most probably) Late Saxon in date. Analysis of the brick fabric and the composition of local sediments suggests that all of these were probably made on site; either from the more clay-rich parts of the sub-mound silts, or from the dumped (sleeched) silts themselves.

B.3.8 The use of hand-made brick (briquetage) supports for the boiling pans also appears to be the favoured method of mounting these pans during the Medieval period, as suggested by the excavation of the coastal saltcotes at Wainfleet St. Mary on the Lincolnshire coast. Here a series of 15th century sleeching mounds, filtration tanks and pan boiling hearths were excavated; the pans had been removed, yet a series of lead off-cuts remained along with the arrangement of brick supports (McAvoy 1994). The use of bricks is also attested during the medieval – postmedieval period by both Brownrigg (1748) and Duncan (1812):

B.3.9 *'These pans....made of lead…are placed on bricks about 20 inches from the ground…to admit a line of peats beneath them. The pans are commonly about 4 feet long, 3 feet broad, and 5 inches deep*' (Duncan 1812).

Further work required

B.3.10 No further work is considered necessary as the biquetage has already been studied in some detail.

Disposal

B.3.11 All this briquetage may be disposed of given that it provides no further information on what has been learnt, and what has been retained from the other sites.

APPENDIX C ENVIRONMENTAL ASSESSMENTS

C.1 Environmental remains by Martha Craven

Introduction

C.1.1 Fifteen samples were taken from deposits associated with 11th to 12th century salt-making at Lynnsport 3. The samples were taken from deposits within the remains of filtration waste silt spreads and the clay lined features that were associated with them within the excavated area. The purpose of this assessment is to determine whether plant remains and environmental indicators such as foraminifera and ostracods are present, their mode of preservation and whether they are of interpretable value for further specialist study.

Methodology

C.1.2 A sub-sample of each of the samples was processed by tank flotation using modified Sīraf-type equipment for the recovery of preserved plant remains, dating evidence and any other artefactual evidence that might be present. The floating component (flot) of the samples was collected in a 0.3mm nylon mesh and the residue was washed through 10mm, 5mm, 2mm and a 0.5mm sieve.

C.1.3 A magnet was dragged through each residue fraction for the recovery of magnetic residues prior to sorting for artefacts. Any artefacts present were noted and reintegrated with the hand-excavated finds.

C.1.4 The dried flots were subsequently sorted using a binocular microscope at magnifications up to x 60 and an abbreviated list of the recorded remains are presented in Table 10.

C.1.5 Identification of plant remains is with reference to the Digital Seed Atlas of the Netherlands (Cappers *et al.* 2006) and the authors' own reference collection. Nomenclature is according to Stace (2010). Charcoal has been identified by Denise Druce (OA North) prior to selection of items potentially suitable for radiocarbon dating.

Quantification

C.1.6 For the purpose of this assessment, items such as seeds and cereal grains have been scanned and recorded qualitatively according to the following categories:

= 1-5, ## = 6-25, ### = 26-100, #### = 100+ specimens

C.1.7 Items that cannot be easily quantified such as charcoal, foraminifera, ostracods and molluscs have been scored for abundance

+ = rare, ++ = moderate, +++ = frequent, ++++ = abundant, +++++ = super abundant

Key to table: U=untransformed

Results

C.1.8 The botanical material from this site is sparse. Untransformed seeds are present in several of the samples but in small quantities. Untransformed seeds consist of seeds that have either been preserved via waterlogging or are of a species that is particularly resistant to decay. The taxa includes bramble (*Rubus* sp.) seeds and elder (Sambucus nigra) seeds which are both known to survive for long periods, particularly in salt-rich deposits. Wetland species are also present in the form of rush (*Juncus* sp.) seeds. A small quantity of charcoal is present in all but one of the samples. There are small charcoal fragments which may be suitable for radiocarbon dating from features **1101** and **1050** as well as deposits (1100), (1091) and (1064).

C.1.9 Foraminifera were frequent in all but two samples. These two samples consisted of Sample 514 from fill 1102 of tree-throw **1101** and Sample 505 from fill 1075 – a clay lining of a filtration tank **1074**. Ostracods were present in some of the samples, in small quantities, but there appeared to be no obvious pattern as to their distribution between features. Similarly, molluscs were also present in several of the samples, in small to moderate quantities, but with no obvious distribution pattern.

C.1.10 Finds from the samples are scarce. Pottery fragments were recovered from Sample 501, fill 1054 of filtration tank **1050**, and 509, hearth waste layer (1064), which may be suitable for dating. Sample 509 was notable in that it also contains a large quantity of fuel ash slag. The only other finds from samples consist of a small quantity of glass, slag and fired clay.

Sample No.	Context No.	Cut no.	Area no.	Feature type	Volume processed (l)	Flot Volume (ml)	Wetland/aquatic plants	Weed Seeds	Tree/shrub macrofossils	Ostracods	Molluscs	Foraminifera	Charcoal volume (ml)	Pottery	Fired clay	Glass	Fuel-ash Slag	Slag
500	1052	**1050**	D	Filtration tank	14	35	#U	#U	#U	+	+	++++	<1	0	0	0	0	0
501	1054	**1050**	D	Filtration tank	18	70	0	##U	#U	+	++	+++	<1	#	0	#	0	#
502	1060	N/A	D	Saltern 9	18	5	#U	0	0	0	+	++++	<1	0	0	0	0	0
503	1089	N/A	D	Saltern 9	20	5	#U	0	#U	0	0	++++	<1	0	+	0	#	0
504	1088	N/A	D	Saltern 9	18	5	#U	0	0	+	0	++/2	<1	0	0	0	0	0
505	1075	**1074**	D	Tank	19	5	##U	0	0	0	+	0	0	0	0	0	0	0
506	1076	**1074**	D	Tank	9	2	#U	0	0	0	0	++	<1	0	0	0	0	0
507	1097	N/A	D	Saltern	16	5	#U	#U	0	+	0	+++	<1	0	0	0	0	0
508	1100	N/A	D	Saltern	18	5	#U	#U	#U	0	++	++	<1	0	0	0	0	0
509	1064	N/A	D	Saltern	14	5	0	0	0	0	++	++	<1	##	0	0	###	0
510	1091	N/A	D	Saltern	16	2	0	#U	#U	0	0	++	<1	0	0	0	0	0
511	1071	**1070**	D	Tank	3	1	0	0	0	+	+	++	<1	0	0	0	0	0
512	1072	**1070**	D	Tank	1	<1	0	0	0	0	0	0	0	0	0	0	0	0
513	1094	N/A	D	Saltern	14	5	#U	#U	0	0	+	++	<1	0	0	0	0	0

Sample No.	Context No.	Cut no.	Area no.	Feature type	Volume processed (l)	Flot Volume (ml)	Wetland/aquatic plants	Weed Seeds	Tree/shrub macrofossils	Ostracods	Molluscs	Foraminifera	Charcoal volume (ml)	Pottery	Fired clay	Glass	Fuel-ash Slag	Slag
514	1102	1101	D	Tree-throw	<1	N/A	0	0	0	0	0	0	5	0	0	0	0	0

Table 10: Environmental bulk samples

Discussion

C.1.11 The environmental samples from this site have produced environmental indicators in the form of foraminifera and ostracods. The samples also contain a limited list of plant species, which may be contemporary with the sampled features or may be later intrusions. These results are pertinent in that they contribute to the body of results of environmental sampling from salt-making sites at Lynnsport. In comparison with Lynnsport 4 and 5 (Knight and Clarke 2019) and Marsh Lane (Clarke 2016a), this site contained similarly small quantities of charcoal. It appears that this site is, however, less productive than Lynnsport 4 and 5 and Marsh Lane with regards to preserved seeds.

C.1.12 Although no hearths were formally identified on site the presence of a large quantity of fuel-ash slag in Sample 509 is suggestive of burning activity in the vicinity of the site. Fuel-ash slag consists of a non-metallic, highly porous and light-coloured type of slag which is typically formed in hearths (Fosberry 2017).

Statement of potential

C.1.13 The poor density and diversity of the plant taxa produced from these samples suggests there is little benefit to further study. This is a commonly occurring situation on these salt-making sites as it seems the processes involved do not create a good preservation environment. It is thought that this botanical material has little potential to aid the local, regional or national research priorities beyond the record of the taxa in this report.

Retention, dispersal and display

C.1.14 The sample flots will be retained in the project archive. Sub-samples have been retained for foraminifera and ostracod analysis, if required.

APPENDIX D PRODUCT DESCRIPTION

Product number: 1

Product title: Publication report

Purpose of the Product: To disseminate the findings of the archaeological investigations to the local community

Composition: Published report, in accordance with the relevant journal and EH guidelines

Derived from: Analysis of site records, specialist reports and data and background research

Format and Presentation: EAA monograph series (together with Lynnsport 1-5)

Allocated to: GC, MB, EP

Quality criteria and method: Checked and edited by EP

Person responsible for quality assurance: EP

Person responsible for approval: EP

Planned completion date: (at earliest) 2020

APPENDIX E RISK LOG

E.1.1 The table below lists potential risks for the PX analysis work.

No.	Description	Probability	Impact	Countermeasures	Estimated time/costs	Owner	Date updated
1	Specialists unable to deliver analysis report due to over running work programmes/ ill health/other problems	Medium	Variable	OA has access to a large pool of specialist knowledge (internal and external) which can be used if necessary	Variable	GC MB LP	
2	Non-delivery of full report due to field work pressures/ management pressure on co-authors	Medium	Medium-high	Liaise with OA management team	Variable	GC MB LP	

Table 11: Risk log

APPENDIX F HEALTH AND SAFETY

F.1.1 All OA post-excavation work will be carried out under relevant Health and Safety legislation, including the Health and Safety at Work Act (1974). A copy of the Health and Safety Policy can be supplied. The nature of the work means that the requirements of the following legislation are particularly relevant:

- Workplace (Health, Safety and Welfare) Regulations 1992 – offices and finds processing areas
- Manual Handling Operations Regulations (1992) – transport: bulk finds and samples
- Health and Safety (Display Screen Equipment) Regulations (1992) – use of computers for word-processing and database work
- COSSH (1988) – finds conservation and environmental processing/analysis

APPENDIX G OASIS REPORT FORM

Project Details

OASIS Number	oxfordar3-379308
Project Name	Lynnsport 3: Land south of Front Way, Kings Lynn, Norfolk

Start of Fieldwork	12/09/2019	End of Fieldwork	17/09/2019
Previous Work	Yes	Future Work	No

Project Reference Codes

Site Code	XNFFWY18EX	Planning App. Number	16/00097/LM
HER Number	ENF145065	Related Numbers	ENF138254

Prompt	National Planning Policy Framework (NPPF)
Development Type	Urban Residential

Techniques used (tick all that apply)

☐ Aerial Photography – interpretation	☒ Open-area excavation	☐ Salvage Record
☐ Aerial Photography - new	☐ Part Excavation	☐ Systematic Field Walking
☐ Field Observation	☐ Part Survey	☐ Systematic Metal Detector Survey
☐ Full Excavation	☐ Recorded Observation	☐ Test-pit Survey
☐ Full Survey	☐ Remote Operated Vehicle Survey	☐ Watching Brief
☐ Geophysical Survey	☒ Salvage Excavation	

Monument	Period
Saltern mound	Early Medieval (410 to 1066)
Filtration tank	Early Medieval (410 to 1066)
Pit	Modern (1901 to present)
Sewage pipe	Modern (1901 to present)

Object	Period
Salt slag	Early Medieval (410 to 1066)
Pottery	Early Medieval (410 to 1066)
Briquetage	Early Medieval (410 to 1066)

Project Location

County	Norfolk
District	King's Lynn and West Norfolk
Parish	King's Lynn
HER office	Norfolk
Size of Study Area	216m2
National Grid Ref	TF 6314 2119

Address (including Postcode)

Land south of Front Way
King's Lynn
Norfolk

PE30 2LT

Project Originators

Organisation	Oxford Archaeology East
Project Brief Originator	James Albone
Project Design Originator	Matt Brudenell
Project Manager	Matt Brudenell
Project Supervisor	Malgorzata Kwiatkowska

Project Archives

	Location	ID
Physical Archive (Finds)	Norwich Castle Museum	NWHCM2018.155
Digital Archive	Norwich Castle Museum	NWHCM2018.155
Paper Archive	Norwich Castle Museum	NWHCM2018.155

Physical Contents	Present?	Digital files associated with Finds	Paperwork associated with Finds
Animal Bones	☐	☐	☐
Ceramics	☒	☐	☐
Environmental	☒	☐	☐
Glass	☐	☐	☐
Human Remains	☐	☐	☐
Industrial	☒	☐	☐
Leather	☐	☐	☐
Metal	☐	☐	☐
Stratigraphic		☐	☐
Survey		☐	☐
Textiles	☐	☐	☐
Wood	☐	☐	☐
Worked Bone	☐	☐	☐
Worked Stone/Lithic	☐	☐	☐
None	☐	☒	☒
Other	☐	☐	☐

Digital Media		Paper Media	
Database	☒	Aerial Photos	☐
GIS	☐	Context Sheets	☒
Geophysics	☐	Correspondence	☐
Images (Digital photos)	☒	Diary	☐
Illustrations (Figures/Plates)	☒	Drawing	☒
Moving Image	☐	Manuscript	☐
Spreadsheets	☒	Map	☐
Survey	☒	Matrices	☐
Text	☒	Microfiche	☐

Virtual Reality	☐	Miscellaneous	☐
		Research/Notes	☐
		Photos (negatives/prints/slides)	☐
		Plans	☒
		Report	☒
		Sections	☒
		Survey	☐

Further Comments

Museum accession number to be acquired for the combined Lynnsport 1-5 project.

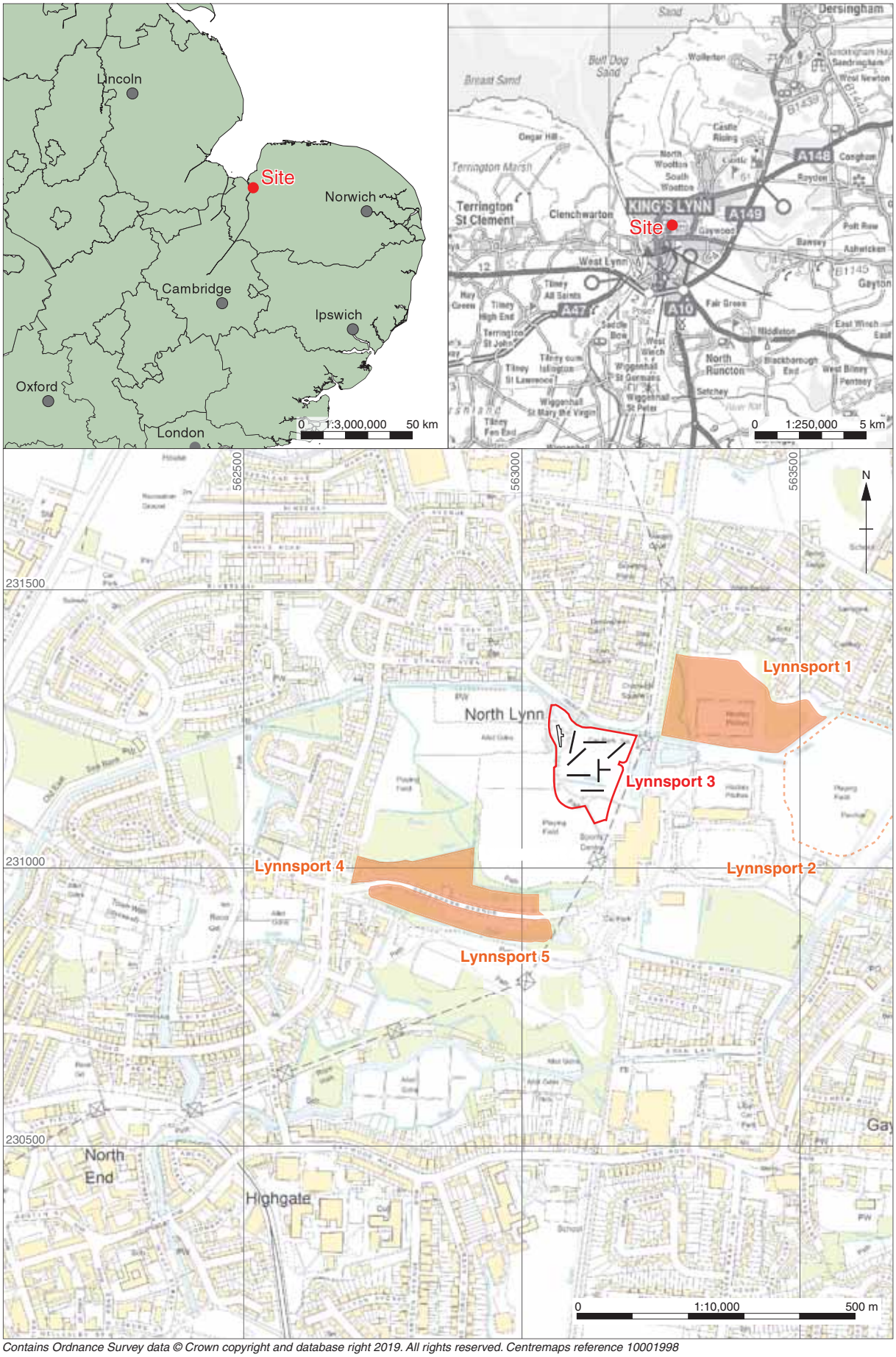

Figure 1: Site location showing excavation area outlined (black), evaluation trenches (black filling) in development area outlined (red) and adjacent Lynnsport sites (orange)

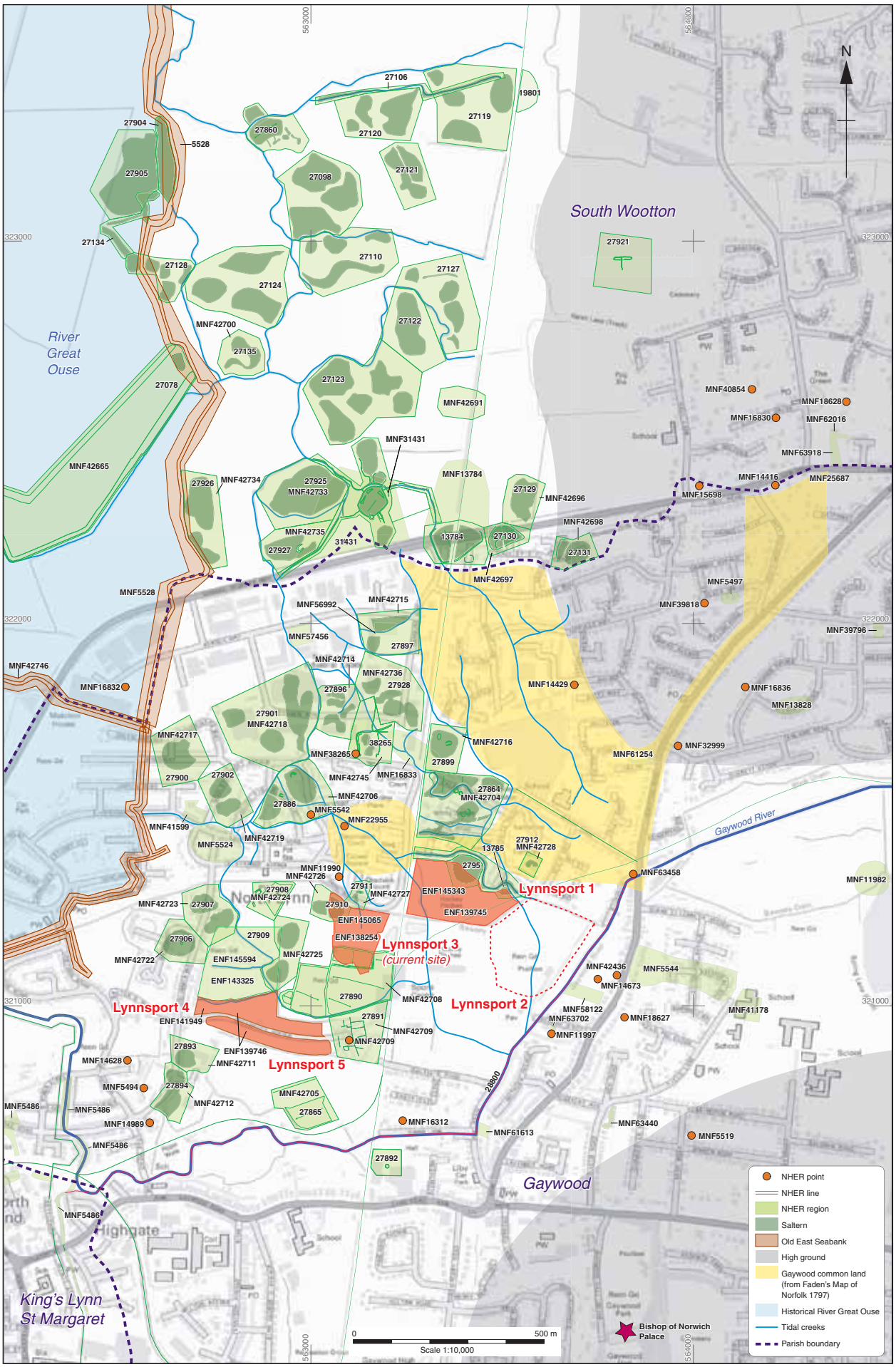

Figure 2: Map showing location of NHER records with NMP data (Copyright Historic England National Mapping Programme, licensed to Norfolk County Council). Sea banks & pre-existing tidal creeks mapped from historic photograph (NHER reference: TF62_TF6321_A_RAF_16Apr1946.tif). Site development areas shown in red.

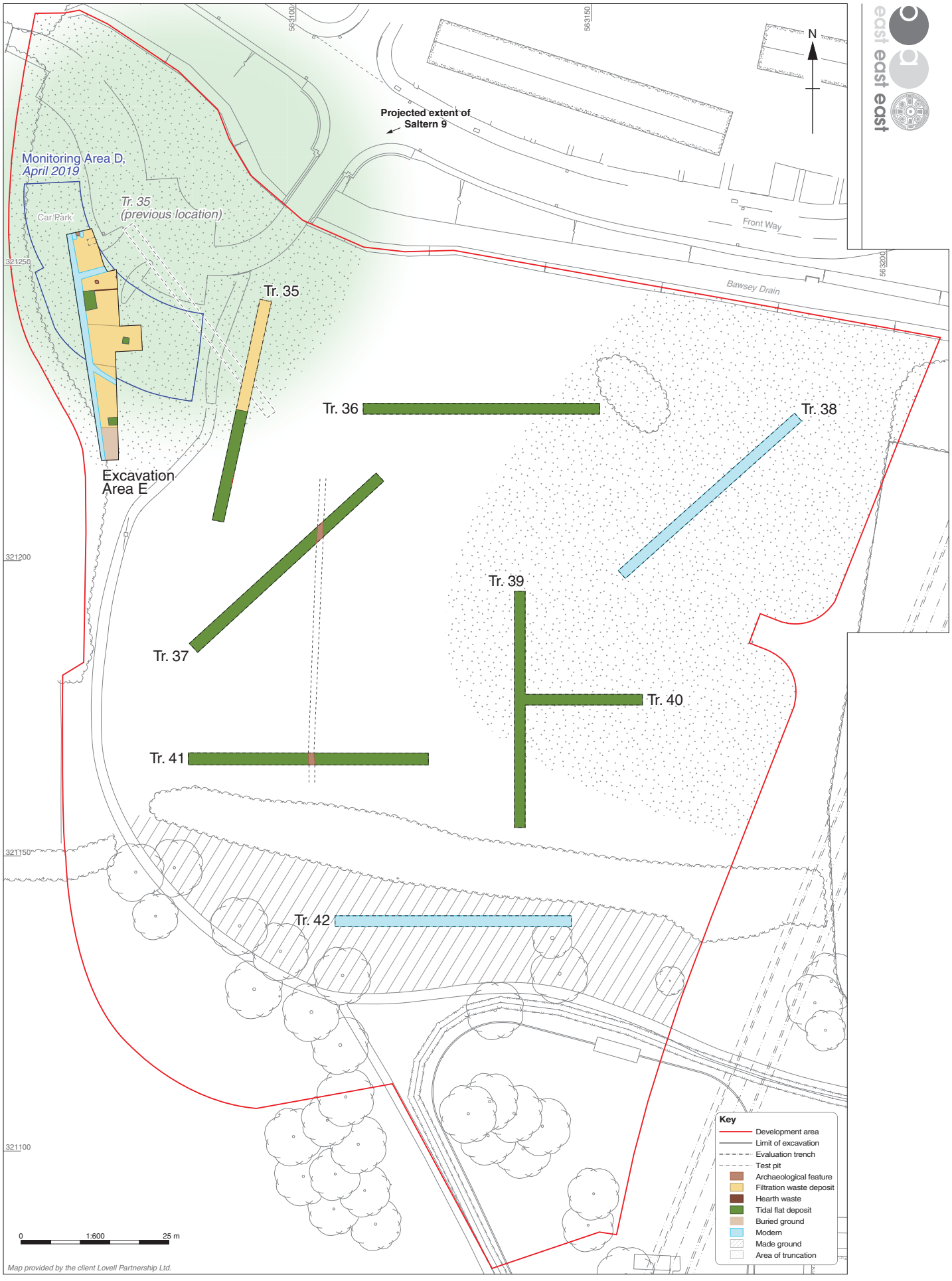

Figure 3: Excavation area plan showing monitoring area and evaluation trenches

Figure 4: Excavation plan

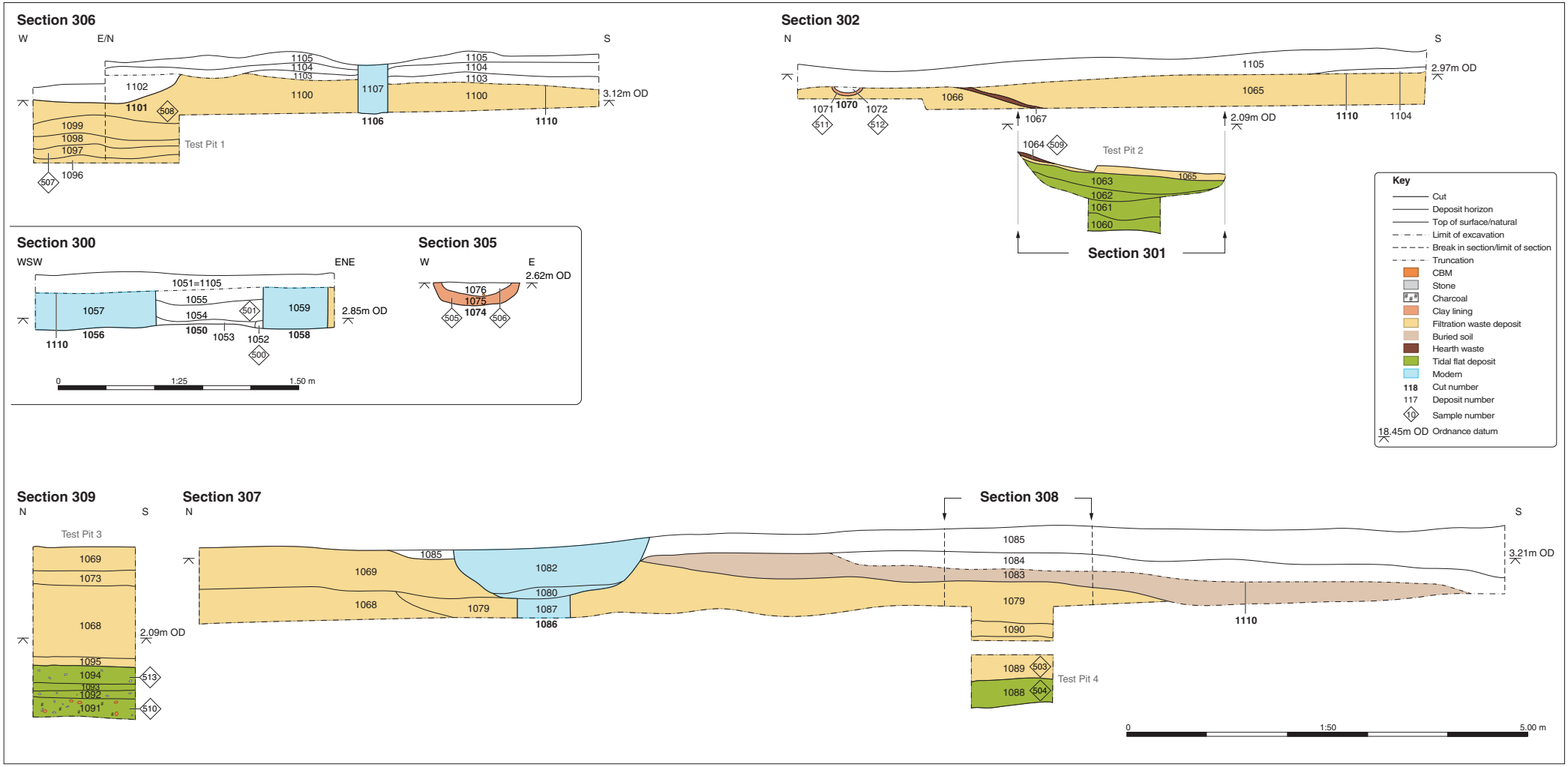

Figure 5: Selected sections

Plate 1: Northern deposits of Saltern 9, with Test pit 1, looking east

Plate 2: Central deposits of Saltern 9, with Test pit 2 and clay-lined feature **1070**, looking east

Plate 3: Southern deposits of Saltern 9, looking south-east

Plate 4: Clay lined feature **1050**, looking south

Plate 5: Clay-lined feature **1074**, looking north

Plate 6: Monitoring of Area D, looking south-east

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