

Improvement to Eye Ponds, Eye, Suffolk EYE 121

Archaeological Evaluation Report

SCCAS Report No. 2014/082

Client: Mr G Sadler

Author: J. A. Craven

October 2014

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Improvement to Eye Ponds, Eye, Suffolk

EYE 121

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SCCAS Report No. 2014/082

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HER Information

Site Code: EYE 121

Site Name: Improvements to Eye Ponds, Cranley Hall Road

Report Number 2014/082

Planning Application No: Pre

Date of Fieldwork: 23rd-24th June 2014

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Oasis Reference: 178938

Curatorial Officer: Rachael Abraham (nee Monk), SCCAS/CT

Project Officer: John Craven

Client/Funding Body: Mr G Sadler

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<http://ads.ahds.ac.uk/catalogue/library/greylit>

Disclaimer

Any opinions expressed in this report about the need for further archaeological work are those of the Field Projects Team alone. Ultimately the need for further work will be determined by the Local Planning Authority and its Archaeological Advisors when a planning application is registered. Suffolk County Council's archaeological contracting services cannot accept responsibility for inconvenience caused to the clients should the Planning Authority take a different view to that expressed in the report.

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Summary

An archaeological evaluation carried out on land adjacent to the River Dove off of Cranley Hall Road, immediately to the south of Eye, Suffolk, did not identify any firm evidence for past activity on the site prior to the 20th century, suggesting that the site has historically been subject to only a low-level of use, most likely as floodplain meadowland for animal grazing.











However the trench stratigraphy demonstrated that the site contains palaeo-environment deposits, with a natural sequence of thick and relatively uniform peat layers. Radiocarbon dating has shown that these were laid down from the Late Mesolithic to the Late Anglo-Saxon period.

Palaeo-environmental analysis of a monolith column sample of the peat has shown that the preservation of environmental remains was variable. Although further study is not recommended, it was noted that the data could form an important starting point for future investigation of the Dove valley as part of a comparative dataset.












Therefore although the development will involve substantial groundworks these will only have a localised and so relatively minor impact upon deposits which have been characterised and are likely to extend across the remainder of the field and into the broader floodplain.

Drawing Conventions

Plans

- Limit of Excavation 
- Features 
- Break of Slope 
- Features - Conjectured 
- Natural Features 
- Sondages/Machine Strip 
- Intrusion/Truncation 
- Illustrated Section  S.14
- Cut Number 
- Archaeological Features 

Sections

- Limit of Excavation 
- Cut 
- Modern Cut 
- Cut - Conjectured 
- Deposit Horizon 
- Deposit Horizon - Conjectured 
- Intrusion/Truncation 
- Top of Natural 
- Top Surface 
- Break in Section 
- Cut Number 
- Deposit Number 0007
- Ordnance Datum $\frac{18.45\text{m OD}}{\times}$

1. Introduction

An archaeological evaluation was carried out in advance of the proposed extension and improvement of four artificial fish ponds on land off of Cranley Hall Road in the River Dove floodplain, immediately to the south of Eye, Suffolk (Fig. 1). The evaluation was required to assess the archaeological potential of the site and was carried out to a Brief and Specification issued by the archaeological advisor to the local planning authority, Rachael Abraham (nee Monk) of Suffolk County Council Archaeological Service Conservation Team (SCCAS/CT, Appendix 5). The project was funded by the developer, Mr G Sadler.

The site, an open pasture field measuring c.5.1ha, contains four late 20th century artificial fishing ponds, each measuring c.75m by 17m (Fig. 1). The proposed development will create an improved fishing amenity for the local area by creating a larger irregular pond (c.1.57ha) connecting three of the four together. The outline of the proposed pond, particularly to the south and west, broadly follows the edge of Flood Zone 2 as defined by the Environment Agency. A series of landscaping bunds are also proposed along the south-east and south-west edges of the site.

The proposed development will involve significant ground disturbance and assessment of the site was required to determine whether this would have any detrimental impact upon any existing archaeological or palaeo-environmental deposits.

2. Geology and topography

The site lies at a height of c.29m above Ordnance Datum and is broadly flat, lying on the River Dove floodplain within Floodzones 2 and 3. The southern edge of the site begins to climb the gentle north facing slope of the river valley edge.

The site geology consists of clayey soils, changing to well drained loam to the south-west as ground levels begin to rise (Ordnance Survey 1983). These overlie superficial deposits of peat or alluvial silt, clay, sand and gravels which in turn overlie bedrock of Crag Group sands (British Geological Survey website).

3. Archaeology and historical background

The archaeological condition was placed as the site lies just to the south of the medieval core of Eye (Suffolk Historic Environment Record No. EYE 091), on the opposite side of the River Dove from the town. The site of Eye Castle lies c.270m to the north (EYE 016) and the proposed site lies adjacent to the post-medieval Kings Bridge (EYE 092) and Cranley Hall Road, which is depicted on Hodkinson's map of 1783 as the main road south out of the town and is so likely to have medieval or earlier origins. Two pieces of medieval quern stone having been recorded on the bank of the river within the site (EYE 010).

The site appears to have been floodplain meadowland during the 19th and 20th century with the 1st, 2nd and 3rd Ordnance Survey maps of the area (1886, 1904 and 1926 respectively – Figs. 2-4) showing the field as subdivided into four units. One long drainage channel, at times marked with trees, ran parallel to the river and connected to other channels to the north of the site which drained into the river. The southeast part of the site was then sub-divided by two further boundaries at right angles. A small building and enclosure is shown on the 1st Edition map in the western part of the site against the northern edge of the main drainage channel.

The existing ponds were created during the 20th century, with the southeastern pair each following the line of one of the former boundaries.

The area was therefore thought to have potential for further archaeological deposits, perhaps most likely of medieval date. The site's position within the River Dove floodplain also suggested that it had high potential for the presence of palaeo-environmental deposits.

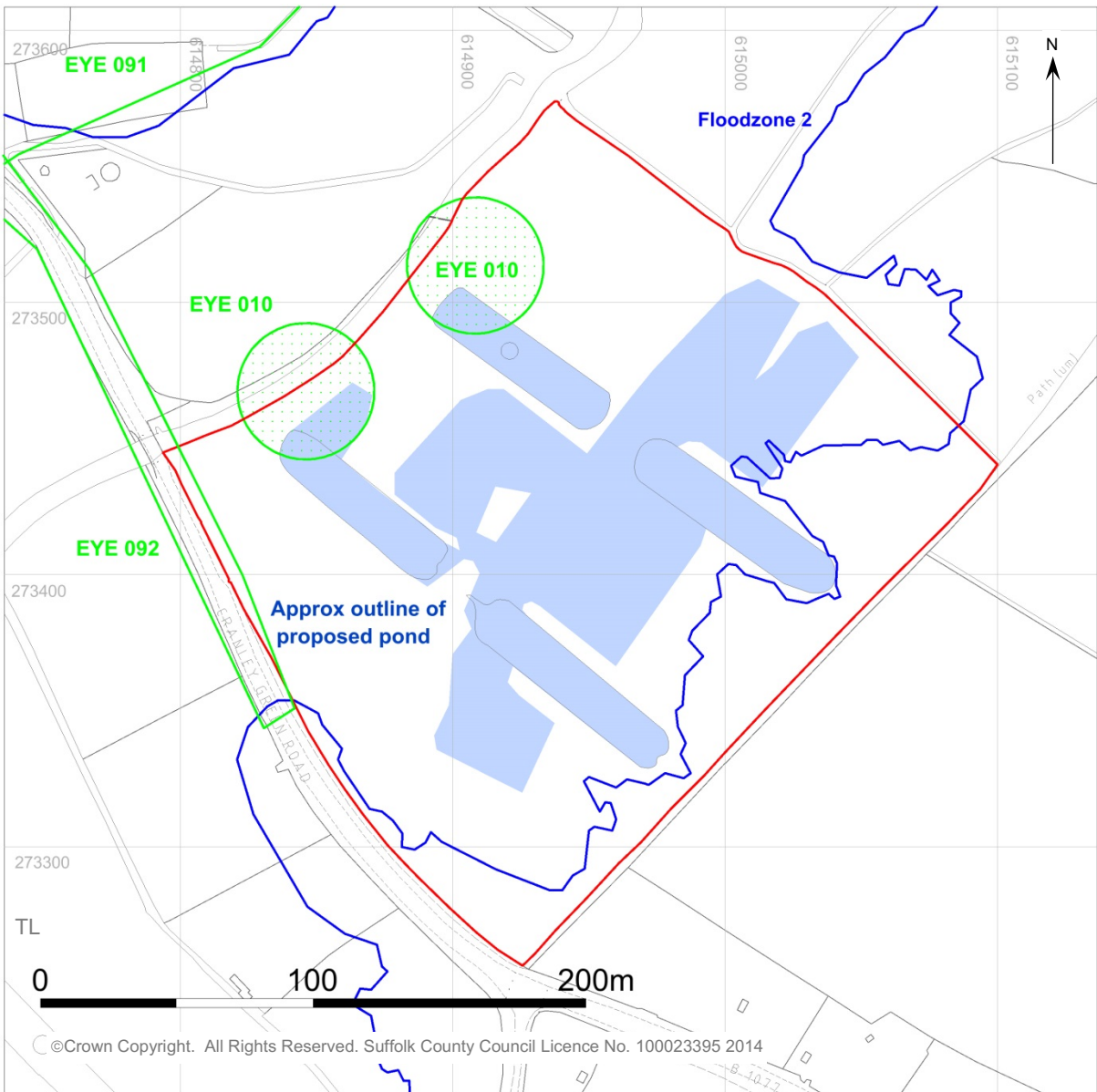


Figure 1. Location map

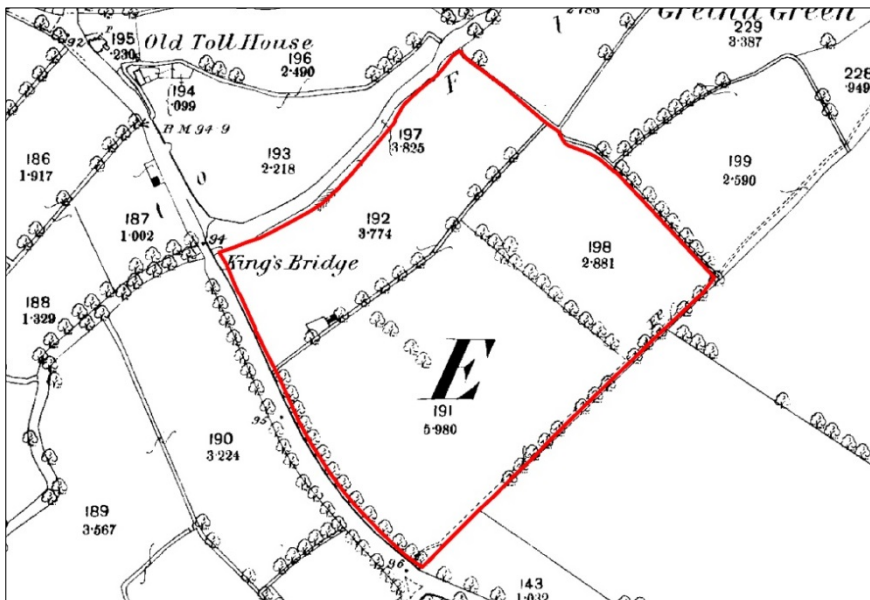


Figure 2. 1st Edition OS

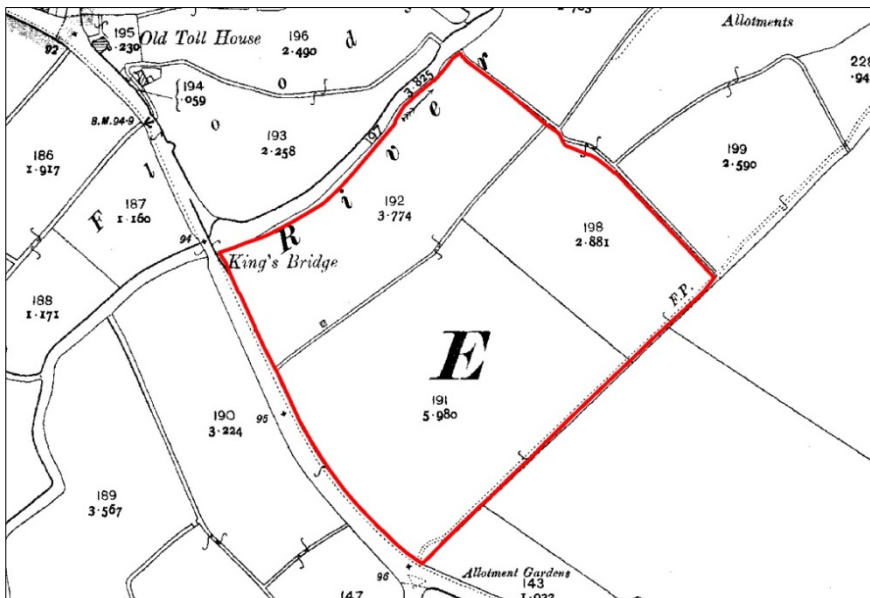


Figure 3. 2nd Edition OS

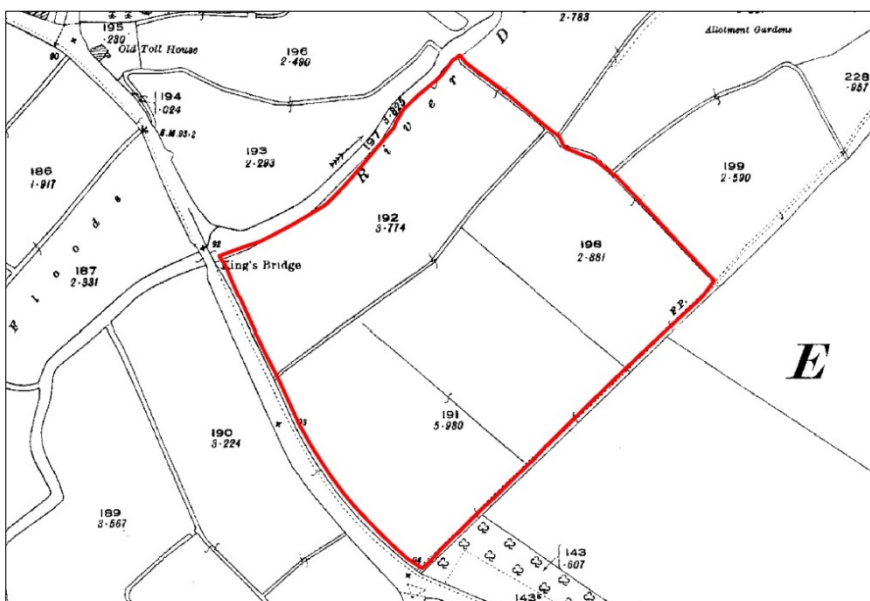


Figure 4. 3rd Edition OS

4. Methodology

Two trenches, measuring 94m in total length and 1.8m wide, were excavated across the footprint of the proposed pond redevelopment by a mechanical excavator equipped with a ditching bucket, under the supervision of an archaeologist. Trench 02 was shortened slightly to maintain a safe distance for machine operations from an adjacent pond.

Three sondages, placed at the ends and centre of each trench, were excavated by machine to a depth of c.2m where an apparent natural subsoil surface was apparent. The remainder of the trenches removed a series of modern deposits and an upper layer of peat until a uniform waterlogged peat layer, 0021 was exposed and at times partially removed by up to 0.2m.

Where required the trench was cleaned, and potential features investigated, by hand. Trench and spoilheaps were scanned and metal-detected for artefactual material. Due to safety issues the four sondages at the ends of the trenches could not be entered and so basic profiles only were recorded from the top of the trench. The trenches were widened around each central sondage to allow safe access, the full recording of the trench profile and the collection of a monolith column sample. All sections were recorded at a scale of 1:20 on an A3 pro-forma pregridded permatrace sheet.

The site was recorded using a single context continuous number system, starting from 0001. Separate registers for trenches, photographs, soil samples and section drawings were also maintained.

The trench position and site and trench levels were recorded by RTK GPS. Digital colour photographs were taken of all stages of the fieldwork, and are included in the digital archive.

An OASIS form (Appendix 3) has been completed for the project (reference no. suffolkc1-178938) and a digital copy of the report has been submitted for inclusion on the Archaeology Data Service database (<http://ads.ahds.ac.uk/catalogue/library/greylit>).

The site archive is kept in the main store of Suffolk County Council Archaeological Service at Bury St Edmunds under Suffolk HER No. EYE 121.

5. Results

The two trenches (Fig. 2) showed a relatively uniform profile of deposits throughout, to which a series of group numbers were assigned (0019-0023). Various individual numbers were then allocated to these group deposits in the different sections (Table 1), together with others for apparently localised deposits. A trench list is provided in Appendix 1 and a full context list in Appendix 2. Recorded sections are shown in Fig. 3.

Group layer	Context	Section
0019	0006	01, 02, 05
	0011	03, 04, 06
	0012	03, 04, 06
	0010/0017	06, 05
0020	0003	01
	0007	02
0021	0004	01, 03, 04, 06
	0008	02
	00016/0015	05
	0018	03
0022	0005	01, 03, 04, 06
	0014	05
0023	0009	02
	0013	05

Table 1. Layer concordance

The basic soil profile consisted of a 0.2m thick topsoil overlying redeposited silt and clay layers, 0019. These deposits varied from 0.2m to 0.6m thick in total and appear to show some modern landscaping/activity, the likely explanation being that they are dumped material from the 20th century excavation of the existing fish ponds.

In the south-east part of Trench 01 0019 was seen to seal a series of peat deposits, beginning with a relatively dry deposit of dark brown/black peat, 0020, which in turn sealed a substantial deposit of waterlogged, rich, mid brown peat with frequent woody material, 0021. In Sections 03 (Trench 01 northwest end) and 04 (Trench 02 northeast end) these deposits were thicker and 0020 appears to have been fully removed. Section 05 (Trench 02 centre) showed a different deposit (0017) at this level, composed of mid/pale orange silty clay with some peat, and this was seen to continue and deepen through to Section 06 at the southwest end of Trench 02.

Layer 0021 was consistently present and was fully exposed throughout the trenching. The sections showed that it varied in depth from 0.4m to 0.9m thick, and that it usually overlay 0022, a thinner deposit of dense dark brown/black peat. An intervening and

apparently localised deposit of mixed peat and grey silt (0018) was present in Section 03.

Layer 0022 appeared to be the basal deposit in the peat sequence, overlying a pale/mid grey silt/sand with possibly intrusive elements of peat and woody material on its surface, 0023, which was visible at a depth of c.1.8m to c.2.2m. It is thought likely that 0023 represents the natural geological surface of alluvial deposits although, as a combination of trench depth and the immediate waterlogging meant that it was only possible to briefly look at this deposit, it is possible that it is simply another layer in the peat sequence.

Archaeological features in the trenches were limited to three examples of relatively recent 'faggott drains'. The first was observed and recorded as 0002 in Trench 01, another was later seen crossing Trench 01 further to the north-east while the third ran down the length of Trench 02. These consisted of narrow gullies, sealed below the topsoil and cutting layer 0019, that were infilled with small branches and usually capped with a larger branch.

No other archaeological features were seen to either cut or be held within the peat deposits, and no artefactual material was observed or collected from trench or spoilheaps.



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Figure 5. Trench plan

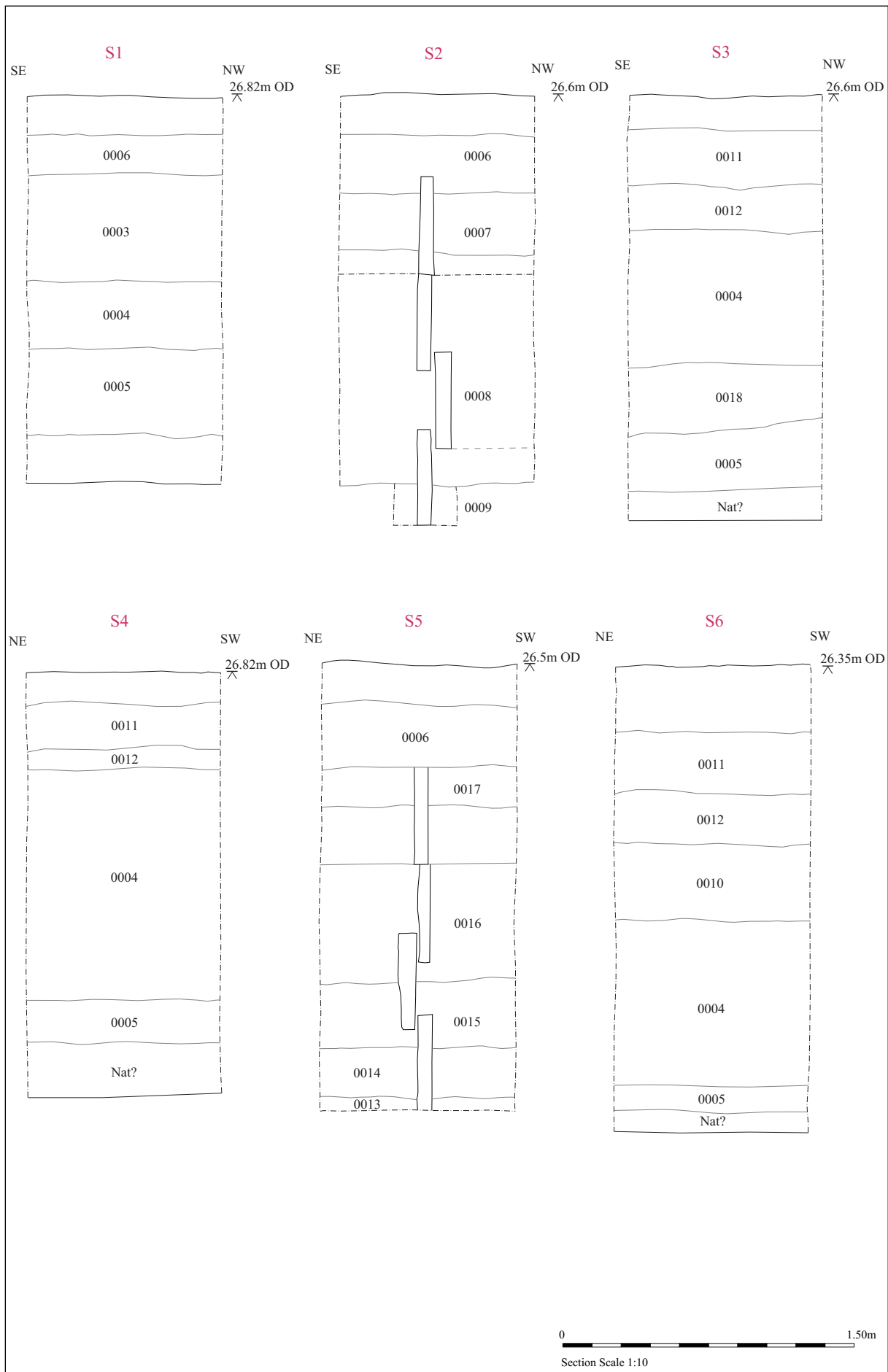


Figure 6. Sections



Plate 1. Trench 01, facing southeast (1m scale)



Plate 2. Section 02, Sample 01, facing southwest (1m scale)



Plate 3. 0002 faggott drain, facing south-west (1m scale)



Plate 4. Trench 02, facing northeast



Plate 5. Section 05, Sample 02, facing south-east. 1m scale



Plate 6. Section 06, facing southeast (1m scale)

6. Palaeoenvironmental analysis

A monolith column of the peat sequence was collected from the central sondage in each trench (Samples 01 and 02, Sections 02 and 05 respectively), using overlapping 0.5m lengths of plastic guttering. Each column extended into the deposits above and below the peat sequence and was drawn and photographed *in situ*.

The samples were then submitted to Kristina Krawiec of Archaeology South-East for initial assessment, which read as follows:

A thick sequence of poorly humified peat (0020-0022) was recovered using kubiena tins from two locations (Sections 02 and 05). The basal sands were encountered up to 2.00m below ground level and were overlain by a thick floodplain peat sequence of the River Dove. The peat is poorly humified with visible woody and plant remains which have a high potential for the preservation of palaeoenvironmental remains. The basal peat displays a degree of compaction which trends into a red brown poorly humified peat (0021) which is silty in places. The peat is drier and more humified towards the top of the profile (0020) suggesting the hydrology of the surrounding area has been affected by land drainage and the creation of fish ponds. The upper deposits have been characterised as redeposited material deriving from the excavation of these fish ponds.

These deposits have been sampled from two trenches and despite some local variations represent the same suite of sediments. It is recommended that one sequence is selected for palaeoenvironmental analysis and radiocarbon dating. As no bulk samples are available this will comprise a pollen assessment (lithological description and c.12 pollen samples @ 14cm intervals through the 1.8m column) bracketed by radiocarbon dates to establish the onset and cessation of peat formation.

Sample 01 was subsequently analysed and the full report is included in Appendix 4. In summary it demonstrated that the site has typical floodplain peat deposits which have accumulated from the late Mesolithic to the Late Anglo-Saxon period. The preservation of environmental remains was variable but has provided a broad indication of the environmental conditions through these periods.

7. Conclusions

The evaluation trenching has not identified any firm evidence for past activity on the site other than the apparent redeposition of mixed material from the 20th century excavation of the ponds and the presence of relatively modern drainage channels. Neither trench was positioned to cross the former boundaries and drainage ditch shown on the historic mapping but there was no evidence for any other land-use or sub-division of the site.

The likelihood for the site to contain further unknown archaeological deposits is thought to be minimal. The total absence of any features or material pre-dating the 20th century strongly suggests that the site has historically been subject to only a low-level of use, most likely as floodplain meadowland for animal grazing.

While the nature of the proposed development will involve substantial groundworks it is considered to be unlikely that they will have any significant impact on heritage assets.

However the trench stratigraphy has demonstrated that the site contains palaeo-environment deposits, with a natural sequence of thick and relatively uniform peat deposits dating from the Late Mesolithic to the Late Anglo-Saxon period.

The analysis of sample 01 suggests that preservation of environmental remains at the site is variable however, and concludes that further analysis of the site samples is not recommended, although it notes that the data could form an important starting point for future investigation of the Dove valley as part of a comparative dataset.

Together this suggests that the impact of the development, although involving substantial groundworks, will only have a localised and so relatively minor impact upon deposits which have been characterised and are likely to extend across the remainder of the field and into the broader floodplain.

8. Archive deposition

Paper and photographic archive: SCCAS Bury St Edmunds

Digital archive: SCCAS R:\Environmental Protection\Conservation\Archaeology\
Archive\EYE\EYE 121 Fish Ponds eval

9. Acknowledgements

The project was managed and fieldwork directed by John Craven, with the fieldwork being carried out by Tim Carter and John Sims.

The specialist environmental assessment was organised by Anna West and produced by Kristina Krawiec (Archaeology South-East).

The report illustrations were created by John Craven and Beata Wieczorek-Olesky and the report was edited by Richenda Goffin.

10. Bibliography

Ordnance Survey, 1983, Soils of England and Wales: *Soil survey of England and Wales, sheet 4 Eastern England 1:250,000*. Harpenden.

Websites

British Geological Survey

<http://mapapps.bgs.ac.uk/geologyofbritain/home.html>

Appendix 1. Trench list

Trench No	Width	Length	Orientation	Geology	Topsoil Depth	Depth to Natural	Description
1	1.8	48.5	NW-SE	Mid/pale grey silt/sand	0.2m	c.2.5m	Trench exposed a relatively uniform soil profile along its length, with a topsoil layer overlying redeposited material, 0019. Removal of these exposed the top of a sequence of peat layers, the uppermost of which, 0020, and the first c.0.1m of 0021 was removed by machine.
2	18	45.5	SW-NE	Pale/mid grey silt/sand	0.2	c.2.3m	Similar profile to Trench 01 with topsoil and redeposited layers overlying sequence of peat deposits. Faggot drain running down length of trench, sealed by topsoil and of same construction as 0002. Three machined sondages to show profile, otherwise upper 0.1m-0.2m of layer 0021 removed.

Appendix 2. Context list

Context No	Trench No	Category	Group No	Description	Over	Under	Cut by	Cuts
0001				Number reserved for unstratified finds. None collected.				
0002	1	Cut		Linear slot, c.0.2m wide visible under topsoil cutting layer 0003 and 0004 and infilled with small branches/twigs and a larger branch at top. Relatively modern drainage feature.				0003, 0004
0003	1	Layer	0020	Dark grey silt and peat. Uppermost deposit in natural sequence. Appears to have been removed in places by 0006 deposits.	0004	0006	0002	
0004	1	Layer	0021	Mid brown peat with frequent woody material. 0.4m-0.9m thick	0018, 0005	0012, 0010, 0003	0002	
0005	1	Layer	0022	Black/dark brown peat. Basal deposit above natural geology?		0018, 0004		
0006	1	Layer	0019	Mid/dark brown/grey silty clay. Redeposited material - perhaps from landscaping/creation of existing ponds? Varies in depth and appearance across trench, at times appearing to truncate layer 0003.	0017, 0007, 0003			
0007	1	Layer	0020	Dark brown silty peat. High organic content but no preserved woody material. Drier than 0008.	0008	0006		
0008	1	Layer	0021	Very dark brown/black peat. High organic content with frequent woody material. Waterlogged.	0009	0007		
0009	1	Layer	0023	Pale/mid white/grey silt with fragments of preserved woody material. Natural geology with intrusive peat remains at surface?		0008		
0010	2	Layer		Layer of mid brown clay/silt, seen under 0012 in SW half of Trench 02. Overlies peat layer 0004/0016 and may be same as 0017.	0004	0012		
0011	2	Layer	0019	Mid brown silt. Probable sub-division within the general layer of redeposited material 0019.	0012			
0012	2	Layer	0019	Pale/mid grey silt/clay. Probable sub-division within the general layer of redeposited material 0019.	0004, 0010	0011		
0013	2	Layer	0023	Mid grey silt. Visible at base of Section 3. Probably natural.		0014		
0014	2	Layer	0022	Dark grey/brown silty peat. High organic content and preservation of woody material.	0013	0015		
0015	2	Layer	0021	Mid orange/brown silty peat. High preservation woody material. May be a sub-division of layer 0021 not identified elsewhere as horizons were diffuse.	0014	0016		
0016	2	Layer	0021	Layer of mid/dark orange/brown silty peat. High organic content and frequent large pieces of woody material.	0015	0017		
0017	2	Layer		Layer of mid/pale orange silty clay with some peat. Possibly same as 0010.	0016	0006		
0018	1	Layer		Layer of mixed mid grey silt and black peat. Lies between layers 0004 and 0005 in Section 3. Not seen elsewhere in trenching some a localised deposit.	0005	0004		
0019		Layer	0019	Overall group number for layer of redeposited material				
0020		Layer	0020	Overall group number for uppermost layer of dark brown/black peat				
0021		Layer	0021	Overall group number for main deposit of mid/dark brown peat and woody material				
0022		Layer	0022	Overall group number for basal black/dark brown peat deposit				
0023		Layer	0023	Overall group number for probable natural geology of pale/mid grey silt/sand				

Appendix 3. OASIS form

OASIS ID: suffolkc1-178938

Project details

Project name	EYE 121 Improvement of Eye Ponds, Eye.
Short description of the project	An archaeological evaluation carried out on land adjacent to the River Dove off of Cranley Hall Road, immediately to the south of Eye, Suffolk, did not identify any firm evidence for past activity on the site prior to the 20th century, suggesting that the site has historically been subject to only a low-level of use, most likely as floodplain meadowland for animal grazing. However the trench stratigraphy has demonstrated that the site contains significant palaeo-environment evidence, with a natural sequence of thick and relatively uniform peat deposits. Analysis of the peat sequence is pending and will be incorporated or added to this report in due course.
Project dates	Start: 23-06-2014 End: 24-06-2014
Previous/future work	No / Not known
Any associated project reference codes	EYE 121 - HER event no.
Any associated project reference codes	EYE 121 - Sitecode
Type of project	Field evaluation
Current Land use	Cultivated Land 1 - Minimal cultivation
Monument type	N/A None
Significant Finds	N/A None
Methods & techniques	"Environmental Sampling", "Sample Trenches"
Development type	Amenity area (e.g. public open space)
Prompt	National Planning Policy Framework - NPPF
Position in the planning process	Pre-application

Project location

Country	England
Site location	SUFFOLK MID SUFFOLK EYE EYE 121 Improvement of Eye Ponds, Eye.
Study area	1.57 Hectares
Site coordinates	TM 149 734 52.3160589599 1.15331272991 52 18 57 N 001 09 11 E Point
Height OD / Depth	Min: 26.00m Max: 27.00m

Project creators

Name of Organisation	Suffolk County Council Archaeological Service
Project brief originator	Local Authority Archaeologist and/or Planning Authority/advisory body
Project design originator	Suffolk County Council Archaeological Service, Field Team
Project director/manager	John Craven
Project supervisor	John Craven
Type of sponsor/funding body	Developer
Name of sponsor/funding body	Mr G Sadler

Project archives

Physical Archive Exists?	No
Digital Archive recipient	Suffolk County Council Archaeological Service
Digital Contents	"Environmental"
Digital Media available	"Database", "GIS", "Images raster / digital photography", "Text"

Paper Archive recipient	Suffolk County Council Archaeological Service
Paper Contents	"none"
Paper Media available	"Context sheet", "Photograph", "Plan", "Report", "Section"

Project bibliography

Publication type	Grey literature (unpublished document/manuscript)
Title	Improvement to Eye Ponds, Eye, Suffolk EYE 121.
Author(s)/Editor(s)	Craven, J. A.
Other bibliographic details	SCCAS Report No. 2014/082
Date	2014
Issuer or publisher	SCCAS/FT
Place of issue or publication	Bury St Edmunds, Suffolk
Description	SCCAS/FT evaluation report

Appendix 4.

A PALAEOENVIRONMENTAL ASSESSMENT EYE PONDS, EYE, SUFFOLK.

**NGR: 614963 273388
(TM149 733)**

**ASE Project No: 6561
Site Code: EYE121**

ASE Report No: 2014400

**Kristina Krawiec
With contributions by
Rob Batchelor**

December 2014

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Abstract

In December 2014 Archaeology South-East were commissioned to undertake palaeoenvironmental assessment of floodplain deposit encountered at Eye ponds, Eye, Suffolk. The site was sampled from open sections by Suffolk County Council Archaeological Service and these samples were subject to palynological assessment.

The onset of peat formation at the site was radiocarbon dated to the late Mesolithic with cessation dated to the late Anglo-Saxon period. The preservation was in general quite poor, particularly in the lower half of the sequence. Due to this, only a broad account of the vegetational history of the sample site can be given. At the beginning of peat inception the site is dominated by wetland vegetation such as grasses and occasional stands of alder. There is evidence of large amounts of burning with the presence of micro-charcoal within the samples during this early period perhaps suggesting clearance. Towards the top of the profile the preservation improved and evidence for human activity was recorded by the presence of cereal-type grains.

Due to the poor level of preservation at the site no further work is recommended on the samples recovered.

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- 1.0 Introduction
- 2.0 Archaeological Background
- 3.0 Archaeological Methodology
- 4.0 Results
- 5.0 Discussion and Conclusions

Bibliography
Acknowledgements

HER Summary Sheet

Appendix 1: Sediment logs
Appendix 2: Troels-Smith classification table

TABLES

Table 1: Quantification of site archive
Table 2: Results of the pollen assessment
Table 3: Radiocarbon dating results

1.0 INTRODUCTION

1.1 Site Background

1.1.1 Archaeology South-East (ASE), the contracting division of the Centre for Applied Archaeology (CAA), Institute of Archaeology (IoA), University College London (UCL) was commissioned by Suffolk County Council Archaeological Service (SCAAS) to undertake a palaeoenvironmental assessment of deposits recovered from Eye ponds, Eye, Suffolk (NGR 614963 273388). The samples were taken from open sections using monolith tins and these were subsampled at ASE.

1.2 Geology and Topography

1.2.1 The site is located on the floodplain of the River Dover to the south of the town of Eye. The site is currently occupied by large fish ponds that date to the 19th century.

1.2.2 The underlying solid geology comprises the sand and gravel of the Crag formation which is overlain by peat and alluvium on the valley floor and river terrace gravels on the valley sides.

1.3 Planning Background

1.3.1 The survey was carried out on behalf of SCAAS prior to the improvement and extension of four existing artificial fish ponds at the site.

1.4 Scope of Report

1.4.1 This report presents the results the assessment of palaeoenvironmental proxies and radiocarbon dating.

2.0 ARCHAEOLOGICAL BACKGROUND

2.1 Introduction

2.1.1 The full archaeological background can be found within the main evaluation report produced by SCAAS. The site is located to the south of the medieval core of Eye and adjacent to the post-medieval Kings Bridge.

2.2 Project Research Aims and Objectives

2.2.1 The project aimed to establish the potential for the survival and significance of palaeoenvironmental evidence.

2.2.2 The main objectives were:

- The characterisation of the sequence across the development area
- Identify variations in the sequence in relation to potential features such as palaeochannels
- Retrieve suitable samples to assess the potential for the preservation of environmental remains and material for scientific dating

3.0 ARCHAEOLOGICAL METHODOLOGY

3.1 Fieldwork Methodology

3.1.1 The site was subject to archaeological evaluation by means of two trial trenches. The trenches were sampled using monolith tins (plastic) and these were subsampled at ASE facilities. A total of two sequences were recovered although only sample <1> was selected for assessment. The lithology of the sequence was recorded on site using the Troels-Smith classification system (1955, see Appendix 2 for table). The scheme breaks down a sediment sample into four main components and allows the inclusion of extra components that are also present, but that are not dominant. Key physical properties of the sediment layers are also identified according to darkness (Da), stratification (St), elasticity (El), dryness of the sediment (Dr) and the sharpness of the upper sediment boundary (UB). The sediment logs, which were supplemented by digital photography, can be found in Appendix 1.

3.2 Pollen by Rob Batchelor (QUEST)

3.2.1 Twelve sub-samples were extracted as follows: (1) sampling a standard volume of sediment (4gms); (2) adding two tablets of the exotic clubmoss *Lycopodium clavatum* to provide a measure of pollen concentration in each sample; (3) deflocculation of the sample in 1% Sodium pyrophosphate; (4) sieving of the sample to remove coarse mineral and organic fractions (>125µ); (5) acetolysis; (6) removal of finer minerogenic fraction using Sodium polytungstate (specific gravity of 2.0g/cm³); (7) mounting of the sample in glycerol jelly. Each stage of the procedure was preceded and followed by thorough sample cleaning in filtered distilled water. Quality control is maintained by periodic checking of residues, and assembling sample batches from various depths to test for systematic laboratory effects. The assessment consisted of recording the concentration, preservation and main taxa of pollen and spores recorded on 10% of the slide. Pollen grains and spores were identified using the University of Reading pollen type collection and the following sources of keys and photographs: Moore et al (1991); Reille (1992). The concentration of microscopic charred particles is also recorded. The results are shown in Table 2.

3.3 Radiocarbon Dating

3.3.1 A total of two samples were submitted for radiocarbon dating to BETA Analytic Inc, Florida. A bulk sample of sediment was submitted from the base of the sequence at 1.66m bgl (below ground level) (24.51m OD) and one from the top of the sequence at 0.12m bgl (26.07m OD). After processing by the lab the plant material from the sediment was dated.

3.4 Archive

3.4.1 The site archive is currently held at the offices of ASE. The contents of the archive are tabulated below (Table 1).

Number of Contexts	0
No. of files/paper record	sediment logs
Plan and sections sheets	survey
Bulk Samples	3
Photographs	8 digital photographs

Table 1: Quantification of site archive

4.0 RESULTS

4.1 Lithology

- 4.1.1 A total of two sequences were recovered from the two trenches at the site although only Sample <1> was selected for recording and assessment as both sequences represented the same suite of deposits. The full sediment log can be found in Appendix 1.
- 4.1.2 The underlying silt-sand deposits were encountered at 2.00m bgl (24.16m OD) in Trench 1 which was overlain by peat deposits. A total of four plastic monolith tins were recovered from Section 2 in Trench 1.
- 4.1.3 The pale grey silt sand, thought to represent the upper Crag sand deposit, was weakly laminated with bands of shelly silt (context 009). This was overlain by a pale grey/black shell rich silt which was also weakly laminated (corresponds to contexts 008/009). These laminated deposits were then overlain by a poorly humified woody peat (008). This contained recognisable plant remains including leaves and *Phragmites* (reeds) indicating a stagnant depositional environment.
- 4.1.4 This deposit became extremely dry towards the top of the profile (recorded as 007) with an increased silt content and more frequent pale rootlets. The overlying unit (006) was a light brown organic silt with occasional sand and clay.

4.2 Pollen by Rob Batchelor (QUEST)

- 4.2.1 The results of the assessment indicate that the nine samples extracted between 24.40 and 25.80m OD (layers 0023 and 0021), contain a very low concentration and preservation of pollen; no more than 13 grains were recorded during the assessment of each sample. The taxa recorded included sporadic grains of *Pinus* (pine), *Quercus* (oak), *Alnus* (alder), *Tilia* (lime), *Corylus* type (e.g. hazel), Cyperaceae (sedges), Poaceae (grasses), Asteraceae (daisies) and *Filicales* (ferns). Minimal environmental reconstruction can be provided on the basis of this reconstruction, but it would appear that the floodplain environment was dominated by sedges and grasses with occasional stands of alder, whilst the dryland supported the growth of at least some oak, hazel and pine woodland. Also of note was the often high concentration of micro-charcoal fragments - particularly towards the base of the sequence – which is suggestive of a large amount of burning in the local environment.
- 4.2.2 The samples extracted between 25.88 and 26.16m OD (layers 0020 and 0019) contained a much higher concentration of pollen, dominated by Cyperaceae with *Quercus*, Poaceae, Lactuceae (dandelions), Asteraceae, and sporadic occurrences of *Plantago lanceolata* (ribwort plantain), *Cirsium* type (thistle), *Centaurea nigra* (knapweed) and *Cereale* type (e.g. barley). This assemblage is indicative of an open floodplain environment dominated by sedges, grasses and mixed herbs. The relatively low concentration of arboreal pollen also indicates an open dryland environment in the vicinity with some oak woodland. Micro-charcoal concentrations were negligible during this period.

Table 2: Results of the pollen assessment

	Depth (m BGL)	0.01	0.17	0.29	0.37	0.51	0.77	0.89	1.01	1.17	1.33	1.61	1.77
	Depth (m OD)	26.16	26.00	25.88	25.80	25.66	25.40	25.28	25.16	25.00	24.84	24.56	24.40
	Context	006	007	007	007/ 008	008	008	008	008	008	008	009	009
	Layer	0019	0020	0020	0020/ 0021	0021	0021	0021	0021	0021	0021	0023	0023
Latin name	Common name												
Trees													
<i>Alnus</i>	alder	1			1	4	1					1	
<i>Quercus</i>	oak	1	7	1		2			1	1	1		
<i>Pinus</i>	pine		1			2	1		1		5	4	4
<i>Ulmus</i>	elm									1			
<i>Tilia</i>	lime				1		1	1	1	1			
Shrubs													
<i>Corylus</i> type	e.g. hazel		1	1				1			2	3	3
<i>Hedera</i>	ivy								1				
Herbs													
Cyperaceae	sedge family	19	35	9					2	5	3	3	1
Poaceae	grass family	4	3	2			1	1		1	1	1	
cf Cereale type	cereal pollen		2										
Lactuceae	dandelion family	2	1	4									
Asteraceae	daisy family	1	2	1								1	1
<i>Cirsium</i> type	thistle	1											
<i>Centaurea nigra</i>	knapweed		1										
<i>Plantago lanceolata</i>	ribwort plantain		2										
Apiaceae	carrot family				1								
<i>Ranunculus</i> type	buttercup		1										

	Depth (m BGL)	0.01	0.17	0.29	0.37	0.51	0.77	0.89	1.01	1.17	1.33	1.61	1.77
	Depth (m OD)	26.16	26.00	25.88	25.80	25.66	25.40	25.28	25.16	25.00	24.84	24.56	24.40
	Context	006	007	007	007/ 008	008	008	008	008	008	008	009	009
	Layer	0019	0020	0020	0020/ 0021	0021	0021	0021	0021	0021	0021	0023	0023
Aquatics													
<i>Elodea</i> type													
<i>Typha latifolia</i>	bulrush												
Spores													
<i>Filicales</i>	ferns	5	2		1	33	5		6	25	8	49	2
<i>Sphagnum</i>	moss						1						
<i>Pteridium aquilinum</i>	bracken	1		1								1	
<i>Polypodium vulgare</i>	polypody									1			
Unidentifiable		1		4						1			
Total Land Pollen (grains counted)		29	56	18	3	8	4	3	6	9	12	13	9
Concentration*		4	5	3	1	1	1	1	1	2	2	2	2
Preservation**		3	4	3	2	3-4	2	2	2	2	2	2	2-3
Microcharcoal Concentration***		1	1	1	0	1	2	3	3	2-3	5	4	3-4
Suitable for analysis		YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO

Key:

*Concentration: 0 = 0 grains; 1 =1-75 grains, 2 = 76-150 grains, 3 =151-225 grains, 4 = 226-300, 5 =300+ grains per slide

**Preservation: 0 = absent; 1 = very poor; 2 = poor; 3 = moderate; 4 = good; 5 = excellent

***Microcharcoal Concentration: 0 = none, 1= negligible, 2 = occasional, 3 = moderate, 4 = frequent, 5 = abundant

4.3 Radiocarbon Dating

4.3.1 The radiocarbon dating results are given below. The sample recovered from the lower organic silt, context (008/009) 24.51m OD, has returned a late Mesolithic date (Beta-396377 6180 \pm 30BP). The sample recovered from the upper peat ASE_DS_00728 (26.07m OD, Beta-396376 1100 \pm 30BP) has returned a late Anglo-Saxon date.

Lab number	Sample number	Material	$^{13}\text{C}/^{12}\text{C}$ ratio	2 Sigma Calibration	Conventional Radiocarbon Age
BETA-396376	ASE_DS_00278-0.10-0.12m	Plant material	-28.7‰	Cal AD 885-1015 (Cal BP 1065-935)	1100 \pm 30BP
BETA-396377	ASE_DS_00279_1.66-1.68m	Plant material	-27.0 ‰	Cal BC 5215-5040 (Cal BP 7165-6990)	6180 \pm 30BP

Table 3: Radiocarbon dating results

5.0 DISCUSSION

5.1 Assessment results

5.1.1 The deposits recorded in Trench 1 were of a typical floodplain peat overlying a laminated shelly silt sand, representing two depositional environments. The laminated sands indicate low energy depositional conditions with periods of stagnation represented by the layers contained higher organic matter content. The sandy component suggests a channel edge setting with fluctuating water levels, probably seasonally influenced. The molluscan component was not assessed but was extremely fragmentary and was considered to be of low potential for analysis. The preservation of pollen from these coarser deposits was poor with only a few grains of robust tree pollen which probably indicate the preservation potential of the deposit rather than the suite of species occupying the area at the time of deposition. This may be due to fluctuating water levels leading to sub-optimal preservation conditions. These deposits (009) returned a late Mesolithic date (Beta-396377, 6180 \pm 30BP, Cal BC 5215-5040), suggesting that the Dove was a wider channel during this period.

5.1.2 Perhaps more significant are the concentrations of micro-charcoal found within these lower samples which was of a higher concentration than in the upper part of the profile. This concentration indicates large amounts of burning proximal to the site although whether by human action or natural processes is by no means certain but given the proximity of the settlement at Eye it is certainly possible that this is anthropogenic in nature. If this activity does indeed date to the late Mesolithic it is similar to activity noted in the region at sites such as Borough and Newborough Fens (Murphy in Glazebrook 1997, 10).

5.1.3 The laminated silt sands represent active, periodic deposition under fluvial conditions and may represent channel edge accumulation. They were overlain by a thick floodplain peat deposit which was extremely woody towards the middle of the profile. Again pollen was poorly preserved but with indications that the floodplain was dominated by sedges with stands of alder carr. The large concentration of wood fragments (probably *in situ* rooting) within these deposits may suggest that the

floodplain was periodically dry leading to poor preservation of the pollen record. Curiously the best preservation was located within the upper peat deposits (006/007), which have been dated to the late Anglo-Saxon period (Beta-396376 1100±30BP, 885-1015 Cal AD). This suggests the surrounding landscape to be a largely open floodplain environment with small amounts of oak woodland and some cultivation occurring nearby in this period.

- 5.1.4 The results of the assessment demonstrate that the majority of the samples from the fishponds have very limited potential to provide a reconstruction of the site's vegetation history and evidence of human activity until the very final stages of infill. Therefore, no further work is recommended.

5.2 Deposit survival

- 5.2.1 The preservation of environmental remains in these deposits is variable. The pollen assemblage recovered at this location is extremely poorly preserved and can only offer a broad indication of the environmental conditions at the site. The macrofossil component of the assemblage was not examined although plant remains were visible within the peat deposits. It is possible that the macrofossil (waterlogged plant, insects) component of the deposits has survived to a greater degree and may offer more detail as to the onsite environmental conditions. Although the site has clearly been waterlogged for some time there may have been fluctuations within the hydrology of the site that have affected the preservation of the pollen record.
- 5.2.2 There has been little targeted study of the deposits of the River Dove. Excavations by SCAAS to the northeast revealed episodes of colluviation within a floodplain edge context and palaeoenvironmental preservation at the site was low (Gearey and Hill 2007, SCAAS 2012). Remedial work carried out during ditch re-cutting to the northeast of the Eye ponds site revealed *in-situ* archaeological deposits within the peat including worked wooden stakes radiocarbon dated to the 5th-6th centuries AD (K.Krawiec unpublished data).
- 5.2.3 The deposits at the site have accumulated over a significant period of time, from the late Mesolithic to the Late Anglo-Saxon period. This timespan would have seen a considerable amount of landscape change which may have affected the preservation potential at the site. It may be that peat accumulation may have outpaced water table rise leading to periods of the drying out. Certainly the lower, coarser deposits suggest the channel of the Dove may have been more extensive during the early Holocene. If the channel migrated or contracted this would also lead to changes in floodplain hydrology and alteration of the preservation environment. Such wet-dry cycles have been recorded in river valleys elsewhere in Suffolk, most notably in the Waveney (Gearey *et al.*, forthcoming). The micro and macrofossil evidence recorded at the site at Beccles demonstrated differential preservation across the environmental proxies examined with pollen being affected by changes in the burial environment.
- 5.2.4 The pollen preservation improved towards the top of the profile with a more accurate picture of the landscape during the Anglo-Saxon period. At this time the site lay within an open floodplain dominated by grasses and sedges with some oak woodland on the dryland. Cultivation is suggested by the presence of cereal pollen and *Plantago*. The settlement at Eye was well established by the Anglo-Saxon period and several buildings were recorded during excavations to the north east of the sampling site (SCAAS 2012).

5.3 Consideration of research aims

- 5.3.1 The aims of the project have been met in that the deposits have been dated and assessed in order to characterise the potential of the sample site. The assessment has found differential preservation of palynological remains at the sampling site. Whether this is due to fluctuations in groundwater level over a long period of time or due to the management of the site for fishponds is unclear. The assessment has established the onset and cessation of peat formation at the site and provided a broad indication of the environmental conditions.
- 5.3.2 There is a suggestion that large amounts of burning were occurring at an early stage, being deposited at the site by fluvial processes from the late Mesolithic. This may suggest a possible episode/s of clearance, however the pollen record is unable to confirm this due to poor preservation but the regional picture seems to suggest this is not an unusual date for this type of activity (Murphy in Glazebrook 1997, 10).
- 5.3.3 The lack of well-dated palaeoenvironmental sequences of in Suffolk, and in the Dove valley in general makes this assessment an important starting point to encourage future investigation. The sample site has shown the burial environment to preserve environmental proxies differentially through the sequence. As this is a single sequence it is by no means an indicator for the suite of deposits present in the Dove valley more generally and if other sample sites become available this can be seen as part of a comparative dataset.

5.4 Conclusions

- 5.4.1 The assessment at Eye ponds has established that preservation conditions for microfossils at the site are variable. Although no further work is recommended on the sequence recovered, should other opportunities to recover samples become available it is recommended that both monolith and bulk sediment samples are taken to allow multi-proxy analysis to be carried out. This may help to establish wet-dry cycles within the floodplain accumulation and establish a better understanding of landscape evolution.

BIBLIOGRAPHY

Gearey, B.R, Chapman, H, and Howard, A. Forthcoming. Down By the River: Excavations of Prehistoric Post-Alignments in the Waveney Valley, Suffolk. *CBA monograph*

Gearey, B.R and Hill, T.C.B. 2007. Eye, Suffolk. *A palaeoenvironmental assessment of deposits encountered during archaeological investigations*. BA-E unpublished report 1671

Glazebrook, J (ed). 1997. Research and Archaeology: a framework for the Eastern Counties, resource assessment. East Anglian Archaeology, occasional paper no.3

Moore, P.D., Webb, J.A. and Collinson, M.E. (1991) *Pollen Analysis (2nd Ed.)*. Oxford: Blackwell.

Reille, M. (1992) *Pollen et Spores d'Europe et d'Afrique du Nord*. Marseille : Laboratoire de Botanique Historique et Palynologie.

SCAAS 2012. Land south of Hartismere High School, Suffolk, EYE083. Post-excavation assessment report. Report no 2012/067

Troel-Smith, 1955. Karakterisering af løse jordarter (characterisation of unconsolidated sediments). *Denmarks Geologiske Undersogelse, Series IV/3, 10, 73*

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HER Summary Form

Site Code	EYE121					
Identification Name and Address	Eye ponds, Eye					
County, District &/or Borough	Suffolk					
OS Grid Refs.	614963 273388					
Geology	Peat; Alluvium; River terrace gravels					
Arch. South-East Project Number	6561					
Type of Fieldwork	Eval.	Excav.	Watching Brief	Standing Structure	Survey	Other
Type of Site	Green Field	Shallow Urban	Deep Urban	Other		
Dates of Fieldwork	Eval.	Excav.	WB.	Other 2014		
Sponsor/Client	Suffolk County Council Archaeological service					
Project Manager	Jon Sygrave/Jim Stevenson					
Project Supervisor	Kristina Krawiec					
Period Summary	Palaeo.	Meso.	Neo.	BA	IA	RB
	AS	MED	PM	Other Modern		
<p>Summary</p> <p><i>In December 2014 Archaeology South-East were commissioned to undertake palaeoenvironmental assessment of floodplain deposit encountered at Eye ponds, Eye, Suffolk. The site was sampled from open sections by Suffolk County Council Archaeological Service and these samples were subject to palynological assessment.</i></p> <p><i>The onset of peat formation at the site was radiocarbon dated to late Mesolithic and cessation during the late Anglo-Saxon period. The preservation was in general quite poor particularly in the lower half of the sequence. Due to this only a broad account of the vegetational history of the sample site can be given. At the beginning of peat inception at the site is dominated by wetland vegetation such as grasses and occasional stands of alder. There is evidence of large amounts of burning with the presence of micro-charcoal within the samples during this early period perhaps suggesting clearance. Towards the top of the profile the preservation improved and evidence for human activity was recorded by the presence of cereal-type grains.</i></p> <p><i>Due to the poor level of preservation at the site no further work is recommended on the samples recovered.</i></p>						

Appendix 1 Sediment Logs

6561 Eye ponds, EYE121

4 x 50cm tins, Sample Number 1 (26.17m OD)

CONTEXT NUMBERS IN BRACKETS

0-0.08m	DA ¾	ST 0	EL 1	SICC 3	UB 0	(006)
	Ag3 As++Sh1 Gmin ptm Light brown organic silt, occ clay, well humified organics, occ sand, pale rootles, occasional molluscs					
0.08-0.36	DA 4	ST 1	EL 2	SICC 3	UB 4	(007)
	Ag1 Sh3 Dh++ ptm Black brown silty peat, well humified, rooty at top, black band at 0.14m, <i>phragmites</i>					
0.36-1.58m	DA 4	ST 0	EL 2	SICC 2/3	UB 3	(008)
	Ag++ Dh1Sh1 T11 Poorly humified peat, occ silty, woody, reedy with depth, <i>phragmites</i> , visible leaves					
1.58-1.69m	DA 4	ST 2	EL 1	SICC 2/3	UB 2	(008/009)
	Ag2 Sh2 T1+ Dh++ ptm++ Pale grey /black weakly laminated organic shelly silt, mollusc frags					
1.69-1.80m	DA 2/3	ST 1	EL 1	SICC 2/3	UB 3	(009)
	Ag3 Sh1 Dh++ ptm++ T1 Pale grey /black weakly laminated organic shelly silt, occ woody frags, less organic than above					

Appendix 2: Troels-Smith classification table

Darkness	Degree of Stratification	Degree of Elasticity	Degree of Dryness
nig.4 black	strf.4 well stratified	elas.4 very elastic	sicc.4 very dry
nig.3	strf.3	elas.3	sicc.3
nig.2	strf.2	elas.2	sicc.2
nig.1	strf.1	elas.1	sicc.1
nig.0 white	strf.0 no stratification	elas.0 no elasticity	sicc.0 water

Sharpness of Upper Boundary	
lim.4	< 0.5mm
lim.3	< 1.0 & > 0.5mm
lim.2	< 2.0 & > 1.0mm
lim.1	< 10.0 & > 2.0mm
lim.0	> 10.0mm

	<i>Sh</i>	<i>Substantia humosa</i>	Humous substance, homogeneous microscopic structure
<i>I Turfa</i>	<i>Tb</i>	<i>T. bryophytica</i>	Mosses +/- humous substance
	<i>Tl</i>	<i>T. lignosa</i>	Stumps, roots, intertwined rootlets, of ligneous plants
	<i>Th</i>	<i>T. herbacea</i>	Roots, intertwined rootlets, rhizomes of herbaceous plants
	<i>II Detritus</i>	<i>DI</i>	<i>D. lignosus</i>
<i>Dh</i>		<i>D. herbosus</i>	Fragments of herbaceous plants >2mm
<i>Dg</i>		<i>D. granosus</i>	Fragments of ligneous and herbaceous plants <2mm >0.1mm
<i>III Limus</i>	<i>Lf</i>	<i>L. ferrugineus</i>	Rust, non-hardened. Particles <0.1mm
<i>IV Argilla</i>	<i>As</i>	<i>A. steatodes</i>	Particles of clay
	<i>Ag</i>	<i>A. granosa</i>	Particles of silt
<i>V Grana</i>	<i>Ga</i>	<i>G. arenosa</i>	Mineral particles 0.6 to 0.2mm
	<i>Gs</i>	<i>G. saburralia</i>	Mineral particles 2.0 to 0.6mm
	<i>Gg(min)</i>	<i>G. glareosa minora</i>	Mineral particles 6.0 to 2.0mm
	<i>Gg(maj)</i>	<i>G. glareosa majora</i>	Mineral particles 20.0 to 6.0mm
	<i>Ptm</i>	<i>Particulae testae molloscorum</i>	Fragments of calcareous shells

Physical and sedimentary properties of deposits according to Troels-Smith (1955)

Appendix 5

Improvement to Eye Ponds, Eye, Suffolk EYE 121

Written Scheme of Investigation and Risk Assessment Archaeological Evaluation

Client: Mr G Sadler

Suffolk County Council Archaeological Service Field Team

Author: John Craven

May 2014

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Project details

Planning Application No:	Pre-planning
Curatorial Officer:	Rachael Monk, SCCAS/CT
Grid Reference:	TM 149 734
Area:	5.1ha
HER Event No/Site Code:	EYE 121
Oasis Reference:	178938
Project Start date	TBC
Project Duration:	c.2 days
Client/Funding Body:	Mr G Sadler
SCCAS/FT Project Manager	John Craven
SCCAS/FT Project Officer:	TBC
SCCAS/FT Job Code:	EYEAPON001

1. Introduction

- A program of archaeological evaluation is required to assess the proposed redevelopment/improvement of a series of fish ponds on land off of Cranley Green Road, Eye, Suffolk (Fig. 1) for heritage and palaeoenvironmental assets, prior to consideration of a future planning application, in accordance with paragraph 141 of the National Planning Policy Framework.
- The work required is detailed in a Brief (dated 09/01/2014), produced by the archaeological adviser to the Local Planning Authority (LPA), Rachael Monk of Suffolk County Council Archaeological Service Conservation Team (SCCAS/CT).
- Suffolk County Council Archaeological Service Field Team (SCCAS/FT) has been contracted to carry out the project. This document details how the requirements of the Brief and general SCCAS/CT guidelines (SCCAS/CT 2011) will be met, and has been submitted to SCCAS/CT for approval on behalf of the LPA. It provides the basis for measurable standards and will be adhered to in full, unless otherwise agreed with SCCAS/CT.

2. The Site

- The site is an open pasture field, measuring c.5.1ha, which contains four late 20th century artificial fishing ponds, each measuring c.75m by 17m (Fig. 1).
- The site lies at a height of c.29m above Ordnance Datum and is broadly flat, lying on the River Dove floodplain within Floodzones 2 and 3, as identified by the Environment Agency. The southern edge of the site begins to climb the gentle north facing slope of the river valley edge.
- The site geology consists of clayey soils, changing to well drained loam to the south-west as ground levels begin to rise (Ordnance Survey 1983). These overlie superficial deposits of peat or alluvial silt, clay, sand and gravels which in turn overlie bedrock of Crag Group sands (British Geological Survey website).

- The proposed development is to create an improved fishing amenity for the local area by creating a larger irregular pond through connecting three of the four already existing (Fig. 2). The outline of the proposed pond, particularly to the south and west broadly follows the edge of Flood Zone 2. A series of landscaping bunds are also proposed along the south-east and south-west edges of the site.

3. Archaeological and historical background

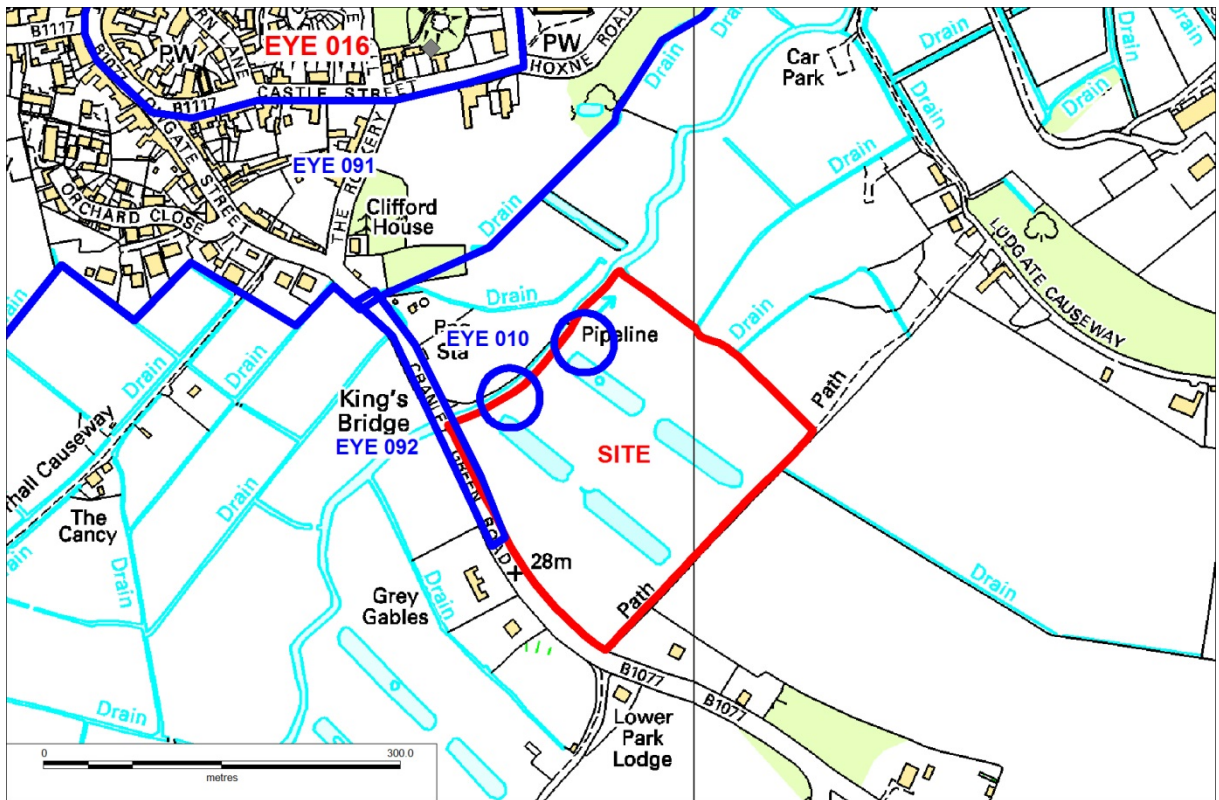
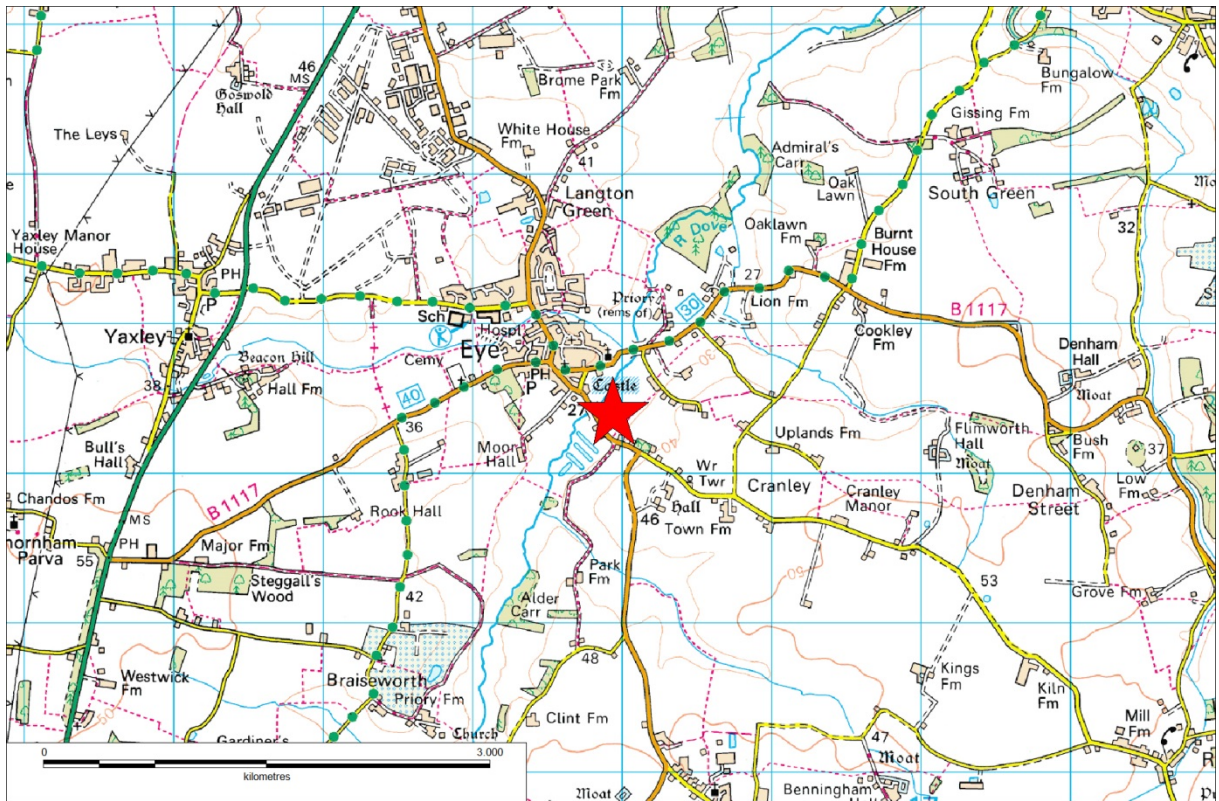
- The condition has been placed as the site is located just to the south of the medieval core of Eye (Suffolk Historic Environment Record No. EYE 091), on the opposite side of the River Dove. The site of Eye Castle lies c.270m to the north (EYE 016) and the proposed site lies adjacent to the post-medieval Kings Bridge (EYE 092) and Cranley Hall Road, which is depicted on Hodkinson's map of 1783 as the main road south out of the town and is so likely to have medieval or earlier origins. Two pieces of medieval quern stone having been recorded on the bank of the river within the site (EYE 010) and so the area is thought to have potential for further archaeological deposits.
- The site's position within the River Dove floodplain also indicates high potential for the presence of palaeo-environmental deposits.
- The proposed development will involve significant ground disturbance and this could have a detrimental impact upon any archaeological or palaeo-environmental deposits that exist.

4. Project Objectives

- The aim of the evaluation is to accurately quantify the quality and extent of the sites archaeological and palaeoenvironmental resource so that an assessment of the developments impact can be made.
- The evaluation will:
 - Establish whether any archaeological deposits exist in the application area, with

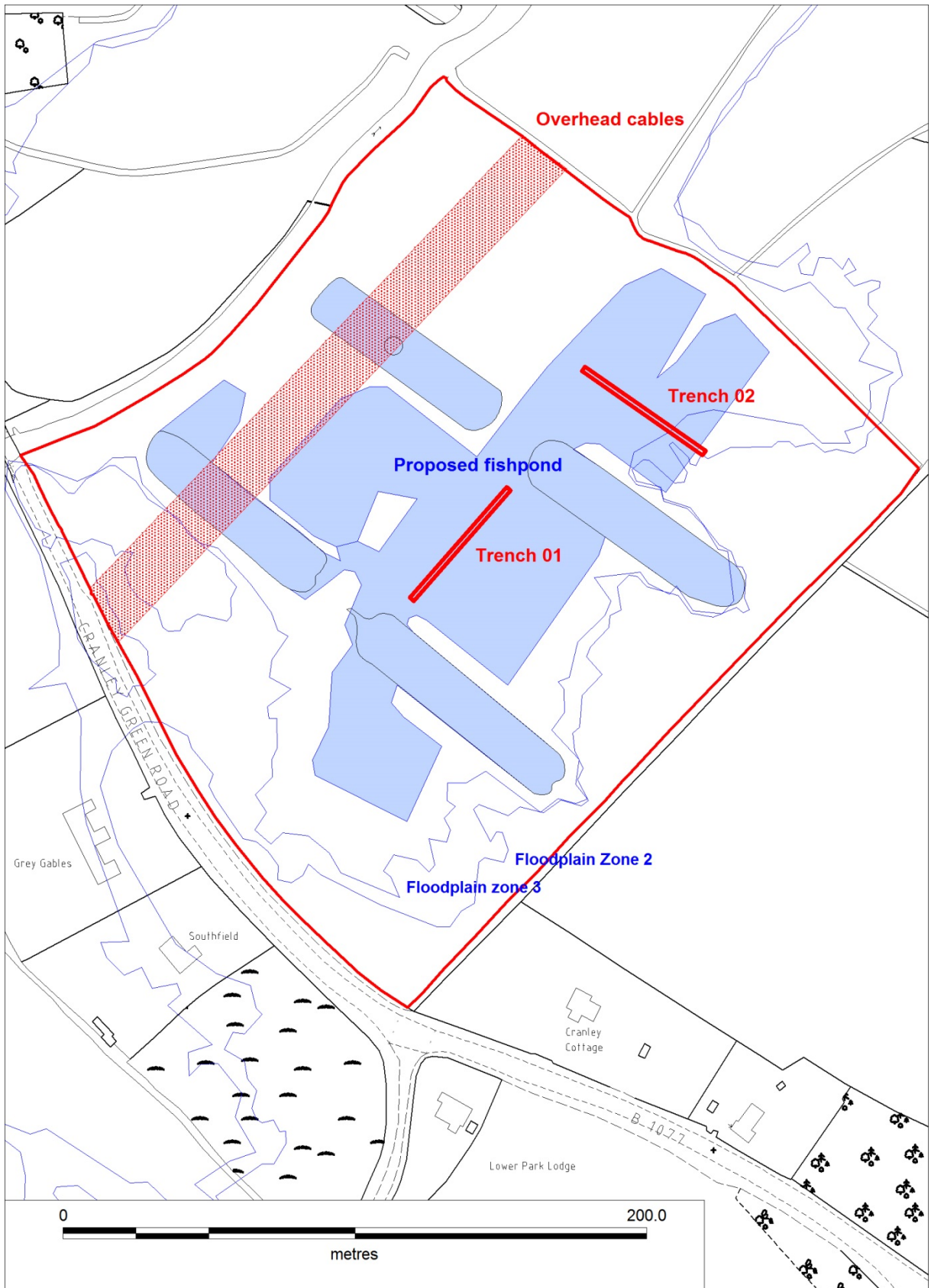
particular regard to any which are of sufficient importance to merit preservation *in situ*.

- Identify the date, approximate form and function of any archaeological deposits within the application area.
- Establish the extent, depth and quality of preservation of any archaeological deposits within the application area.
- Characterise the sequence and patterns of the accumulation of palaeoenvironmental/ geoarchaeological deposits across the development area, including the depth and lateral extent of major stratigraphic units, and the character of any potential land surfaces/buried soils within or pre-dating these sediments.
- Identify significant variations in the deposition sequences indicative of localised features, particularly in relation topographic variation and the presence of features such as palaeochannels.
- Identify the location and extent of any waterlogged organic deposits and retrieve suitable samples to assess environmental remains and material for scientific dating.
- Clarify the relationship between sediment sequences and other deposit types, including periods of 'soil', peat growth, and archaeological remains.
- Provide absolute dates of critical contacts.
- Assess the potential of the site to address research aims defined in the Regional Research Framework for the Eastern Counties (Brown and Glazebrook 2000, Medlycott 2011) and to aid understanding of past environments, palaeoclimates, sea-level changes and human interaction.
- Provide sufficient information for SCCAS/CT to construct a conservation strategy dealing with preservation or the further recording of archaeological or palaeoenvironmental deposits.
- Provide sufficient information for the client to establish time and cost implications for the development regarding the application areas heritage assets.



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Figure 1. Location map



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Figure 2. Proposed trench plan

5. Archaeological method statement

5.1. Management

- The project will be managed by SCCAS/FT Project Officer John Craven in accordance with the principles of *Management of Research in the Historic Environment* (MoRPHE, English Heritage 2006).
- SCCAS/CT will be given ten days notice of the commencement of the fieldwork and arrangements made for SCCAS/CT visits to enable the works to be monitored effectively.
- Full details of project staff, including sub-contractors and specialists are given in section 6 below.

5.2. Project preparation

- A desk-based assessment consisting of consultation of the Suffolk Historic Environment Record (HER) and study of readily available historic maps and aerial photographs held by SCCAS will be carried out prior to the start of fieldwork.
- An event number has been obtained from the Suffolk HER Officer (EYE 121) and will be included on all future project documentation.
- An OASIS online record has been initiated and key fields in details, location and creator forms have been completed.
- A pre-site inspection and Risk Assessment for the project has been completed.

5.3. Fieldwork

- Fieldwork standards will be guided by 'Standards for Field Archaeology in the East of England', EAA Occasional Papers 14, and the Institute For Archaeology's (IFA) paper 'Standard and Guidance for archaeological field evaluation', revised 2008.
- The archaeological fieldwork will be carried out by members of SCCAS/FT led by a Project Officer. The fieldwork team will be drawn from a pool of suitable staff at SCCAS/FT and will include an experienced metal detectorist/excavator.

- The project Brief requires the application area to be evaluated by the excavation of two 50m trenches, positioned in a 'T' shape. Since the Brief was written the project design has been altered meaning that the proposed trench plan included above (Fig. 2) is more appropriate, with one trench targeting the centre of the ponds and the other being designed to cross the boundary of the defined Floodzones. If necessary minor modifications to the trench plan may be made onsite to respect any previously unknown buried services, areas of disturbance/contamination or other obstacles.
- The trench locations will be marked out by an RTK GPS system.
- The trenches will be excavated using a machine equipped with a back-acting arm and toothless ditching bucket (measuring at least 1.6m wide), under the supervision of an archaeologist. This will involve the removal of an estimated 0.3m-0.5m of topsoils and then potentially preserved subsoil deposits until the first visible archaeological surface or natural ground surface is reached.
- Spoilheaps will be created adjacent to each trench and topsoil and subsoil will be kept separate if required. Spoilheaps will be examined and metal-detected for archaeological material.
- The trench sides, base and archaeological surfaces will be cleaned by hand as necessary to identify archaeological deposits and artefacts and allow decisions to be made on the method of further investigation by the Project Officer. Further use of the machine, i.e. to investigate thick sequences of deposits by excavation of test pits etc, may be undertaken as necessary after consultation with SCCAS/CT.
- There will be a presumption that a minimum of disturbance will be caused whilst achieving adequate evaluation of the site, i.e. establishing the period, depth and nature of archaeological deposits. Typically 50% of discrete features such as pits and 1m slots across linear features will be sampled by hand excavation, although in some instances 100% may be removed, with the aim of establishing date and function. All identified features will be investigated by excavation unless otherwise agreed with SCCAS/CT. Significant archaeological features such as solid or bonded structural remains, building slots or postholes will be preserved intact if possible.

- Sieving of deposits using a 10mm mesh will be undertaken if they clearly appear to be occupation deposits or structurally related. Other deposits may be sieved at the judgement of the excavation team or if directed by SCCAS/CT.
- Any fabricated surface (floors, yards etc) will be fully exposed and cleaned.
- The depth and nature of colluvial or other masking deposits across the site will be recorded.
- Metal detector searches of trenches and archaeological deposits will take place throughout the evaluation by an experienced SCCAS/FT metal-detectorist.
- An overall site plan showing trench locations, feature positions, sections and levels will be made using an RTK GPS or Total Station Theodolite. Individual detailed trench or feature plans etc will be recorded by hand at 1:10, 1:20 or 1:50 as appropriate to complexity. All excavated sections will be recorded at a scale of 1:10 or 1:20, also as appropriate to complexity. All such drawings will be in pencil on A3 pro forma gridded permatrace sheets. All levels will refer to Ordnance Datum. Section and plan drawing registers will be maintained.
- All trenches, archaeological features and deposits will be recorded using standard pro forma SCCAS/FT registers and recording sheets and numbering systems. Record keeping will be consistent with the requirements of the Suffolk HER and will be compatible with its archive.
- A photographic record, consisting of high resolution digital images, will be made throughout the evaluation. A number board displaying site code and, if appropriate, context number and a metric scale will be clearly visible in all photographs. A photographic register will be maintained.
- All pre-modern finds will be kept and no discard policy will be considered until all the finds have been processed and assessed. Finds on site will be treated following appropriate guidelines (Watkinson & Neal 2001) and a conservator will be available for on-site consultation as required.
- All finds will be brought back to the SCCAS/FT finds department at the end of each day for processing, quantifying, packing and, where necessary, preliminary conservation. Finds will be processed and receive an initial assessment during the fieldwork phase and this information will be fed back to site to inform the on-site evaluation methodology.

- If human remains are encountered guidelines from the Ministry of Justice will be followed. Human remains will be treated at all stages with care and respect, and will be dealt with in accordance with the law and the provisions of Section 25 of the Burial Act 1857. The evaluation will attempt to establish the extent, depth and date of burials whilst leaving remains in situ. If human remains are to be lifted, for instance if analysis is required to fully evaluate the site, then a Ministry of Justice license for their removal will be obtained in advance. In such cases appropriate guidance (McKinley & Roberts 1993, Brickley & McKinley 2004) will be followed and, on completion of full recording and analysis, the remains, where appropriate, will be reburied or kept as part of the project archive.
- In the event of unexpected or significant deposits being encountered on site, the client and SCCAS/CT will be informed. Such circumstances may necessitate changes to the Brief and hence evaluation methodology, in which case a new archaeological quotation will have to be agreed with the client, to allow for the recording of said unexpected deposits. If an evaluation is aborted, i.e. because unexpected deposits have made development unviable, then all exposed archaeological features will be recorded as usual prior to backfilling and a report produced.
- Trenches will not be backfilled without the prior approval of SCCAS/CT. Trenches will be backfilled, subsoil first then topsoil, and compacted to ground-level, unless otherwise specified by the client. Original ground surfaces will not be reinstated but will be left as neat as practicable.

5.4. Environmental sampling

- Environmental sampling of archaeological contexts will, where possible, be carried out to assess the site for palaeoenvironmental remains and will follow appropriate guidance (English Heritage 2011). In order to obtain palaeoenvironmental evidence, bulk soil samples (of at least 40 litres each, or 100% of the context) will be taken using a combination of judgement and systematic sampling from selected archaeological features, particularly those which are both datable and interpretable. All bulk samples will be retained until an appropriate specialist has

assessed their potential for palaeoenvironmental remains. Decisions will be made on the need for further analysis following these assessments.

- It is considered highly likely that palaeoenvironmental deposits in the form of widespread natural peat layers will be encountered. If these are present a single monolith column will be taken from a suitable point within each trench. The position of each column will be recorded on the site plan and on a drawn section of the trench profile.
- Monolith column samples will be sent to Dr Steve Boreham, University of Cambridge for assessment and analysis. Provision has been made for the acquisition of radiocarbon dates from the start and end points of peat deposition within each column.

5.5. Post-excavation

- The post-excavation finds work will be managed by the SCCAS/FT Finds Team Manager, Richenda Goffin, with the overall post-excavation managed by John Craven. Specialist finds staff, whether internal SCCAS/FT personnel or external specialists, are experienced in local and regional types and periods for their field.
- All finds will be processed and marked (HER site code and context number) following Institute for Conservation (ICON) guidelines and the requirements of the Suffolk HER. For the duration of the project all finds will be stored according to their material requirements in the SCCAS Archaeological Stores at Bury St. Edmunds or Ipswich. Metal finds will be stored in accordance with ICON) guidelines, *initially recorded and assessed for significance* before dispatch to a conservation laboratory within 4 weeks of the end of the excavation. All pre-modern silver, copper alloy and ferrous metal artefacts and coins will be x-rayed if necessary for identification. Sensitive finds will be conserved if necessary and deposited in bags/boxes suitable for long term storage to ICON standards. All coins will be identified to a standard acceptable to normal numismatic research.
- All on-site derived site data will be entered onto a digital (Microsoft Access) SCCAS/FT database compatible with the Suffolk HER.
- Bulk finds will be fully quantified and the subsequent data will be added to the digital site database. Finds quantification will fully cover weights and numbers of

finds by context and will include a clear statement for specialists on the degree of apparent residuality observed.

- Assessment reports for all categories of collected bulk finds will be prepared in-house or commissioned as necessary and will meet appropriate regional or national standards. Specialist reports will include sufficient detail and tabulation by context of data to allow assessment of potential for analysis and will include non-technical summaries.
- Representative portions of bulk soil samples will be processed by wet sieving and flotation in-house in order to recover any environmental material which will be assessed by external specialists. The assessment will include a clear statement of potential for further analysis either on the remaining sample material or in future fieldwork.
- All hand drawn site plans and sections will be scanned.
- All raw data from GPS or TST surveys will be uploaded to the project folder, suitably labelled and kept as part of the project archive.
- Selected plan drawings will then be digitised as appropriate for combination with the results of digital site survey to produce a full site plan, compatible with MapInfo GIS software.
- All hand-drawn sections will be digitised using autocad software.
- Digital photographs will be allocated and renumbered with a code from the Suffolk HER photographic index.

5.6. Report

- A full written report on the fieldwork will be produced, consistent with the principles of MoRPHE (English Heritage 2006), to a scale commensurate with the archaeological results. The report will contain a description of the project background, location plans, evaluation methodology, a period by period description of results, finds assessments and a full inventory of finds and contexts. The report will also include scale plans, sections drawings, illustrations and photographic plates as required.

- The objective account of the archaeological evidence will be clearly separated from an interpretation of the results, which will include a discussion of the results in relation to relevant known sites in the region that are recorded in the Suffolk HER and other readily available documentary or cartographic sources.
- The report will include a statement as to the value, significance and potential of the site and its significance in the context of the Regional Research Framework for the East of England (Brown and Glazebrook, 2000, Medlycott 2011). This will include an assessment of potential research aims that could be addressed by the site evidence.
- The report will contain sufficient information to stand as an archive report should further work not be required.
- The report may include SCCAS/FT's opinion as to the necessity for further archaeological work to mitigate the impact of the sites development. The final decision as to whether any recommendations for further work will be made however lies solely with SCCAS/CT and the LPA.
- The report will include a summary in the established format for inclusion in the annual '*Archaeology in Suffolk*' section of the Proceedings of the Suffolk Institute of Archaeology and History.
- A copy of this Written Scheme of investigation will be included as an appendix in the report.
- The report will include a copy of the completed project OASIS form as an appendix.
- An unbound draft copy of the report will be submitted to SCCAS/CT for approval within 4 weeks of completion of fieldwork.

5.7. Project archive

- On approval of the report a printed and bound copy will be lodged with the Suffolk HER. A digital .pdf file will also be supplied, together with a digital and fully georeferenced vector plan showing the application area and trench locations, compatible with MapInfo software.

- The online OASIS form for the project will be completed and a .pdf version of the report uploaded to the OASIS website for online publication by the Archaeological Data Service. A paper copy of the form will be included in the project archive.
- An unbound copy of the report will be included with the project archive.
- A digital .pdf copy of the approved report will be supplied to the client, together with our final invoice for outstanding fees. Printed and bound copies will be supplied on request.
- The project archive, consisting of the complete artefactual assemblage, and all paper and digital records, will be deposited in the SCCAS Archaeological Store at Bury St Edmunds within 6 months of completion of fieldwork. The project archive will be consistent with MoRPHE (English Heritage 2006) and ICON guidelines. The project archive will also meet the requirements of SCCAS (SCCAS/CT 2010).
- All physical site records and paperwork will be labelled and filed appropriately. Digital files will be stored in the relevant SCCAS archive parish folder on the SCC network site.
- The project costing includes a sum to meet SCCAS archive charges. A form transferring ownership of the archive to SCCAS will be completed and included in the project archive.
- If the client, on completion of the project, does not agree to deposit the archive with, and transfer to, SCCAS, they will be expected to either nominate another suitable depository approved by SCCAS/CT or provide as necessary for additional recording of the finds archive (such as photography and illustration) and analysis. A duplicate copy of the written archive in such circumstances would be deposited with the Suffolk HER.
- Exceptions from the deposition of the archive described above include:
 - Objects that qualify as Treasure, as detailed by the Treasure Act 1996. The client will be informed as soon as possible of any such objects are discovered/identified and the find will be reported to SCCAS/CT and the Suffolk Finds Liaison Officer and hence the Coroner within 14 days of discovery or identification. Treasure objects will immediately be moved to secure storage at SCCAS and appropriate security measures will be taken on site if required. Any material which is eventually declared as Treasure by a Coroners Inquest will, if not acquired by a museum, be

returned to the client and/or landowner. Employees of SCCAS, or volunteers etc present on site, will not be eligible for any share of a treasure reward.

- Other items of monetary value in which the landowner or client has expressed an interest. In these circumstances individual arrangements as to the curation and ownership of specific items will be negotiated.
- Human skeletal remains. The client/landowner by law will have no claim to ownership of human remains and any such will be stored by SCCAS, in accordance with a Ministry of Justice licence, until a decision is reached upon their long term future, i.e. reburial or permanent storage.

6. Bibliography

- Brickley, M., and McKinley, J. I., 2004, *Guidelines to the Standards for Recording Human Remains*. IFA Professional Practice Paper No 7.
- Brown, N and Glazebrook, J. (Eds), 2000, *Research and Archaeology: a Framework for the Eastern Counties, 2. Research Agenda and Strategy*. East Anglian Archaeology Occasional Paper No. 8.
- English Heritage, 2006, *Management of Research in the Historic Environment (MoRPHE)*.
- English Heritage, 2011, *Environmental archaeology, A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation (2nd Ed)*.
- Gurney, D., 2003, *Standards for Field Archaeology in the East of England*. East Anglian Archaeology Occasional Paper No 14.
- Institute for Archaeologists, 2008, *Standard and Guidance for archaeological field evaluation*.
- McKinley, J., I and Roberts, C., 1993, *Excavation and post-excavation treatment of cremated and inhumed human remains*. IFA Technical Paper No 13.
- Medlycott, M. (Ed), 2011, *Research and Archaeology Revisited: A revised framework for the East of England*. EAA Occasional Paper 24.
- Ordnance Survey, 1983, 'Soils of England and Wales': *Soil survey of England and Wales, sheet 4 Eastern England 1:250,000*. Harpenden.
- SCCAS/CT, 2010, *Deposition of Archaeological Archives in Suffolk*.
- SCCAS/CT, 2011, *Requirements for Trenched Archaeological Evaluation 2011, ver 1.2*.
- Watkinson, D. and Neal, V., 2001, *First Aid for Finds*. Third Edition, revised. Rescue/UKIC Archaeology Section, London.

Websites

British Geological Survey

<http://mapapps.bgs.ac.uk/geologyofbritain/home.html>

7. Project Staffing

Management

SCCAS/FT Manager Western Office	Dr Rhodri Gardner
SCCAS/FT Project Manager	John Craven
SCCAS/FT Finds Dept	Richenda Goffin
SCCAS/FT Graphics Dept	Crane Begg

7.1. Fieldwork

The fieldwork team will be derived from the following pool of SCCAS/FT staff.

Name	Job Title	First Aid	Other skills/qualifications
John Craven	Project Officer		
Kieron Heard	Project Officer		
Simon Cass	Project Officer	Yes	
Robert Brooks	Project Officer	Yes	Surveyor
Andrew Beverton	Project Officer	Yes	Surveyor
John Sims	Supervisor	Yes	
Tim Carter	Project Assistant		Metal detectorist
Felix Reeves-Whymark	Project Assistant		Metal detectorist
Alan Smith	Project Assistant		Metal detectorist

7.2. Post-excavation and report production

The production of the site report and submission of the project archive will be carried out by the fieldwork project officer. The post-excavation finds analysis will be managed by Richenda Goffin. The following SCCAS/FT specialist staff will contribute to the report as required.

Graphics	Crane Begg
Graphics	Ellie Cox, Gemma Bowen, Beata Wieczorek-Olesky
Illustration	Donna Wreathall
Post Roman pottery and CBM	Richenda Goffin
Roman Pottery	Cathy Tester, Stephen Benfield
Environmental sample processing	Anna West
Finds Processing	Jonathan Van Jennians

SCCAS also uses a range of external consultants for post-excavation analysis who will be sub-contracted as required. The most commonly used of these are listed below.

Sue Anderson	Human skeletal remains	Freelance
Sarah Bates	Lithics	Freelance
Dr Steve Boreham	Palaeoenvironmental analysis	University of Cambridge
Julie Curl	Animal bone	Freelance
Anna Doherty	Prehistoric pottery	Archaeology South-East
Val Fryer	Plant macrofossils	Freelance
SUERC	Radiocarbon dating	Scottish Universities Environmental Research Centre

Economy, Skills and Environment
9–10 The Churchyard, Shire Hall
Bury St Edmunds
Suffolk
IP33 1RX

Brief for a Trenched Archaeological Evaluation

AT

Eye Ponds, Eye

PLANNING AUTHORITY:	Mid Suffolk District Council
PLANNING APPLICATION NUMBER:	To be arranged
HER NO. FOR THIS PROJECT:	To be arranged
GRID REFERENCE:	TM 149 734
DEVELOPMENT PROPOSAL:	Expansion of fish ponds
THIS BRIEF ISSUED BY:	Rachael Monk Assistant Archaeological Officer Conservation Team Tel. : 01284 741230 E-mail: Rachael.monk@suffolk.gov.uk
Date:	9 th January 2014

Summary

- 1.1 The Local Planning Authority (LPA) will be advised that any planning consent should be conditional upon an agreed programme of archaeological investigation work taking place before development takes place in accordance with a Written Scheme of Investigation which has been submitted to and approved in writing by the LPA.
- 1.2 The archaeological contractor must submit a copy of their Written Scheme of Investigation (WSI) or Method Statement, based upon this brief of minimum requirements (and in conjunction with our standard Requirements for a Trenched Evaluation 2011 Ver. 1.3), to the Conservation Team of Suffolk County Council's Archaeological Service (SCCAS/CT) for scrutiny; SCCAS/CT is the advisory body to the LPA on archaeological issues.
- 1.3 The WSI should be approved before costs are agreed with the commissioning client, in line with Institute for Archaeologists' guidance. Failure to do so could result in additional and unanticipated costs.
- 1.4 The WSI will *provide the basis for measurable standards* and will be used to establish whether the requirements of the planning condition will be adequately

met. If the approved WSI is not carried through in its entirety (particularly in the instance of trenching being incomplete) the evaluation report may be rejected.

Archaeological Background

- 2.1 The site is located just to the south of Eye and two pieces of medieval quern stone were found on the back of the River Dove within the site (recorded in the County Historic Environment Record as EYE 010). There is high potential for palaeo-environmental deposits to be disturbed by development at this location given the landscape setting, within the floodplain of the River Dove.

Fieldwork Requirements for Archaeological Investigation

- 3.1 A linear trenched evaluation is required of the development area to enable the archaeological resource, both in quality and extent, to be accurately quantified.
- 3.2 Trial Trenching is required to:
- Identify the date, approximate form and purpose of any archaeological deposit, together with its likely extent, localised depth and quality of preservation.
 - Evaluate the likely impact of past land uses, and the possible presence of masking colluvial/alluvial deposits.
 - Establish the potential for the survival of environmental evidence.
 - Provide sufficient information to construct an archaeological conservation strategy, dealing with preservation, the recording of archaeological deposits, working practices, timetables and orders of cost.
- 3.3 Further evaluation could be required if unusual deposits or other archaeological finds of significance are recovered; if so, this would be the subject of an additional brief.
- 3.4 Two linear trial trenches are to be excavated, each measuring 50.00m long x 1.80m wide, arranged in a 'T-shape' to sample the areas of the development site which are both within and on the edge of the flood plain.
- 3.5 A scale plan showing the proposed location of the trial trenches should be included in the WSI and the detailed trench design must be approved by SCCAS/CT before fieldwork begins.
- 3.6 Paleoenvironmental assessment should also be undertaken as part of the evaluation as this site. The project will need to consider the following objectives:
- The characterisation of the sequence and patterns of the accumulation of palaeoenvironmental/ geoarchaeological deposits across the development area, including the depth and lateral extent of major stratigraphic units, and the character of any potential land surfaces/buried soils within or pre-dating these sediments.
 - Identify significant variations in the deposition sequences indicative of localised features, particularly in relation topographic variation and the presence of features such as palaeochannels.

- Identify the location and extent of any waterlogged organic deposits and retrieve suitable samples to assess environmental remains and material for scientific dating.
 - Clarify the relationship between sediment sequences and other deposit types, including periods of 'soil', peat growth, and archaeological remains.
 - To provide for the absolute dating of critical contacts.
 - To focus academically upon the high potential for this site to produce palaeoenvironmental evidence, with the potential to inform on our understanding of past environments, palaeoclimates, sea-level changes and human interaction.
 - To make the results of the investigation available through suitable reportage.
- 3.7 Best practice should allow for sampling of interpretable and datable archaeological deposits and provision should be made for this. The contractor shall show in the WSI what provision has been made for specialist environmental assessment of the site and must provide details of the sampling strategies for retrieving artefacts, biological remains (for palaeoenvironmental and palaeoeconomic investigations), and samples of sediments and/or soils (for micromorphological and other pedological/sedimentological analyses. If required, advice on the appropriateness of the proposed strategies should be sought from the English Heritage Regional Adviser for Archaeological Science (East of England). It may be necessary to discuss the sampling strategy on site, depending on the deposits.
- 3.8 The cores/sections should be assessed for pollen and plant macrofossils. In addition, the samples may be assessed for diatoms, foraminifera, insect, and molluscs. Pollen assessments are expected to include range finder dating. Provision should be made for the dating of suitable deposits and requirements for any AMS and OSL dating and samples may be submitted to the contractor's preferred dating laboratory.
- 3.9 The palaeoenvironmental assessment must be undertaken by an environmental archaeologist of recognised competence, fully experienced in work of this character and formally acknowledged by the SCCAS/CT. Details, including the name, qualifications and experience, of the site director and all other key project personnel (including specialist staff) will be communicated to SCCAS/CT as part of a specification of works that conforms to the guidelines contained in English Heritage's MoRPHE publication.

Arrangements for Archaeological Investigation

- 4.1 The composition of the archaeological contractor's staff must be detailed and agreed by SCCAS/CT, including any subcontractors/specialists. Ceramic specialists, in particular, must have relevant experience from this region, including knowledge of local ceramic sequences.
- 4.2 All arrangements for the evaluation of the site, the timing of the work and access to the site, are to be defined and negotiated by the archaeological contractor with the commissioning body.

- 4.3 The project manager must also carry out a risk assessment and ensure that all potential risks are minimised, before commencing the fieldwork. The responsibility for identifying any constraints on fieldwork (e.g. designated status, public utilities or other services, tree preservation orders, SSSIs, wildlife sites and other ecological considerations rests with the commissioning body and its archaeological contractor.

Reporting and Archival Requirements

- 5.1 The project manager must consult the Suffolk HER Officer to obtain an event number for the work before fieldwork commences. This number will be unique for each project or site and must be clearly marked on all documentation relating to the work.
- 5.2 An archive of all records and finds is to be prepared and must be adequate to perform the function of a final archive for deposition in the Archaeological Service's Store or in a suitable museum in Suffolk.
- 5.3 It is expected that the landowner will deposit the full site archive, and transfer title to, the Archaeological Service or the designated Suffolk museum, and this should be agreed before the fieldwork commences. The intended depository should be stated in the WSI, for approval.
- 5.4 The project manager should consult the intended archive depository before the archive is prepared regarding the specific requirements for the archive deposition and curation (including the digital archive), and regarding any specific cost implications of deposition.
- 5.5 A report on the fieldwork and archive must be provided. Its conclusions must include a clear statement of the archaeological value of the results, and their significance. The results should be related to the relevant known archaeological information held in the Suffolk HER.
- 5.6 An opinion as to the necessity for further evaluation and its scope may be given, although the final decision lies with SCCAS/CT. No further site work should be embarked upon until the evaluation results are assessed and the need for further work is established.
- 5.7 Following approval of the report by SCCAS/CT, a single copy of the report should be presented to the Suffolk HER as well as a digital copy of the approved report.
- 5.8 All parts of the OASIS online form <http://ads.ahds.ac.uk/project/oasis/> must be completed and a copy must be included in the final report and also with the site archive. A digital copy of the report should be uploaded to the OASIS website.
- 5.9 Where positive results are drawn from a project, a summary report must be prepared for the *Proceedings of the Suffolk Institute of Archaeology and History*.
- 5.10 This brief remains valid for 12 months. If work is not carried out in full within that time this document will lapse; the brief may need to be revised and re-issued to take account of new discoveries, changes in policy and techniques.

Standards and Guidance

Further detailed requirements are to be found in our Requirements for Trenched Archaeological Evaluation 2011 Ver. 1.3.

Standards, information and advice to supplement this brief are to be found in *Standards for Field Archaeology in the East of England*, East Anglian Archaeology Occasional Papers 14, 2003.

The Institute for Archaeologists' *Standard and Guidance for archaeological field evaluation* (revised 2001) should be used for additional guidance in the execution of the project and in drawing up the report.

Notes

The Institute for Archaeologists maintains a list of registered archaeological contractors (www.archaeologists.net or 0118 378 6446). There are a number of archaeological contractors that regularly undertake work in the County and SCCAS will provide advice on request. SCCAS/CT does not give advice on the costs of archaeological projects.

Archaeological Service Field Projects Team

Delivering a full range of archaeological services

- Desk-based assessments and advice
- Site investigation
- Outreach and educational resources
- Historic Building Recording
- Environmental processing
- Finds analysis and photography
- Graphics design and illustration

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