

The Lake Lothing (Lowestoft) Third Crossing Order 201[*]



Lake Lothing
**THIRD
CROSSING**

Document 6.3: Environmental Statement Volume 3 Appendices

Appendix 9E

Watching Brief Report (Trial Pits)

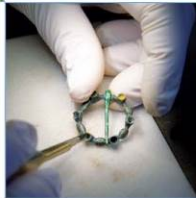
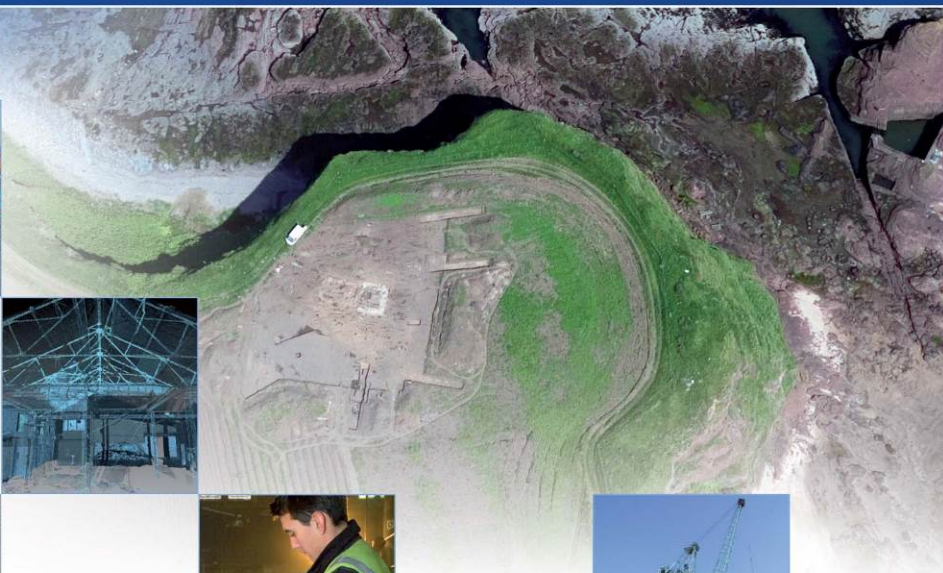
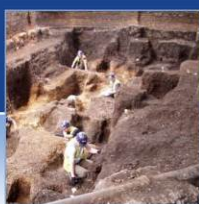
LAKE LOTHING THIRD CROSSING, LOWESTOFT, SUFFOLK: An Archaeological Watching Brief Report

National Grid Reference Number: TM 53814 92990 to TM 53963 92404

Site Code: LWT364

AOC Project No: 33536

Date: March 2018



AOC
Archaeology
Group

ARCHAEOLOGY

| HERITAGE

| CONSERVATION

Lake Lothing Third Crossing, Lowestoft, Suffolk: An Archaeological Watching Brief Report

On Behalf of:	WSP St John's House 2-10 Queen Street Manchester M2 5JB
National Grid Reference (NGR):	TM 53814 92990 to TM 53963 92404
AOC Project No:	33563
Prepared by:	Michelle Statton
Illustration by:	Andrej Celovsky
Date of Report:	March 2018

This document has been prepared in accordance with AOC standard operating procedures.

Author: Michelle Statton	Date: March 2018
Approved by: Catherine Edwards	Date: March 2018
Draft/Final Report Stage: Draft	Date: March 2018

Enquiries to: AOC Archaeology Group
Unit 7
St Margarets Business Centre
Moor Mead Road
Twickenham
TW1 1JS

Tel. 020 8843 7380
Fax. 020 8892 0549
e-mail. london@aocarchaeology.com



www.aocarchaeology.com

Contents

	Page
List of Illustrations	ii
List of Plates.....	ii
1. Introduction.....	4
2. Archaeological and Historical Background	5
3. Aims of the Investigation.....	7
4. Methodology.....	8
5. Results.....	8
6. Finds.....	26
7. Conclusion.....	26
8. Publication and Archive Deposition	27
9. Bibliography.....	27
Appendix A Context Register	29
Appendix B Finds	35
Appendix D OASIS Form	36
OASIS ID: aocarcha1-292685.....	36

List of Illustrations

Figure 1 - Site Location

Figure 2 - Detailed Test Pit Location Plan (North Area)

Figure 3 - Detailed Test Pit Location Plan (South Area)

List of Plates

Plate 1: Test Pit 1, south facing section

Plate 2: Test Pit 2, east facing section

Plate 3: Test Pit 2, east facing section

Plate 4: Test Pit 3, facing north

Plate 5: Test Pit 4, facing north

Plate 6: Test Pit 5, west facing section

Plate 7: Test Pit 6, west facing section

Plate 8: Test Pit 7, east facing section

Plate 9: Test Pit 8, facing west

Plate 10: Test Pit 10, Test Pit 10, west facing

Plate 11: Test Pit 11, Test Pit 11, southwest

Plate 12: Test Pit 12, Test Pit 12, facing south

Plate 13: Test Pit 13, Test Pit 13, facing east

Plate14: Test Pit 21, south facing section

Plate 15: Test Pit 22, west facing section

Plate 16: Test Pit 23, west facing section

Non-Technical Summary

AOC Archaeology were commissioned by WSP, to undertake an archaeological watching brief during GI investigations associated with the Lake Lothing Third Crossing. The works were carried out intermittently from July through to September 2017 and comprised the archaeological monitoring of intrusive geotechnical site investigation works.

The archaeological evaluation successfully characterised both the stratigraphic sequence and presence or absence of archaeology. The natural geology was observed in most test pits with the exception of four pits. Alluvial clays were observed in the base of five test pits (4, 6, 7, 8 and 21), with the remaining test pits containing natural sands varying from pale yellow, to grey white sand with some showing inclusions of gravel. Overlying the natural in the majority of test pits, was made ground or a series of made ground deposits associated with modern development, land management or land reclamation. The lack of unimpacted subsoil suggests that the stratigraphic sequence in all trenches has undergone horizontal truncation. Later development was observed in a number of test pits as a brick drainage related structure in and possible modern land fill. Due to the limited nature of the test pits, full assessment of the deposits is difficult to achieve, however the test pits indicate the lack of archaeological deposits or features. The only finds recovered are modern in date. These finds are of little significance beyond dating the superficial deposits encountered during the watching brief and are recommended for discard after recording.

The results of the watching brief will be summarised and published in the annual the local fieldwork round-up and via the Archaeological Data Service (ADS) website under OASIS ID: aocarcha1-292685

1. Introduction

1.1 Site Location

- 1.1.1 This document details the results of an archaeological watching brief undertaken by AOC Archaeology during ground investigations for the proposed Lake Lothing Third Crossing, Lowestoft; National Grid Reference TM 53814 92990 to TM 53963 92404 (Figure 1). The monitored works comprised the excavation of 15 geotechnical test pits.
- 1.1.2 Lake Lothing is a large saltwater lake, measuring c. c.180m at its widest point. The lake opens into the North Sea, forming the inner harbour of the Port of Lowestoft. The preferred Central Bridge option for the Lake Lothing Third Crossing would link Waveney Drive on the south side, to Denmark Road and Peto Way on the north side of Lake Lothing. The A12 forms a north-south route on the eastern (seaward) side of Lake Lothing which it crosses by means of a bascule bridge. Another north-south route is provided by the A146 and A1177, which crosses Lake Lothing to the west near Oulton Broad by means of a lifting bridge at Mutford Lock. The two north-south routes are linked by the A1144 and Denmark Road (north of Lake Lothing) and a section of the A146 (south of Lake Lothing).
- 1.1.3 The archaeological watching brief was carried out on site between July and September 2017 and was undertaken by professional archaeologists in accordance with all local, regional, and national standards and guidance.

1.2 Project Background

- 1.2.1 The local planning authority is Suffolk County Council. Archaeological advice is provided to the council by the Suffolk County Council Archaeological Service (SCCAS).
- 1.2.2 The project requires a development consent order (DCO) and as part of the process for acquiring this, a Scoping Report, Cultural Heritage Baseline Assessment (Mouchel 2015) and a Preliminary Environmental Information Report (PEIR) (Suffolk County Council 2017) have so far been prepared.
- 1.2.3 In relation to the category of archaeological remains the PEIR concluded that:

'.... the number and density of recorded archaeological assets within the preliminary study area is relatively low, but this is perhaps a consequence of the limited scale and distribution of recent archaeological work rather than an accurate reflection of the archaeological assets present. It is not expected that the proposed scheme would have a large adverse effect on identified archaeological assets. However, a large adverse effect may occur to unknown subsurface archaeological assets due to construction related activities such as machine stripping of superficial deposits, deep excavation, such as piling, and as a consequence of compaction.

The proposed scheme could impact sub-surface archaeological assets and palaeoenvironmental evidence of the prehistoric periods, which may be preserved where deposits of alluvium and peat survive. The watching brief and geoarchaeological work will assess the degree to which assets of the prehistoric periods survive beneath the proposed scheme and the findings will be presented in the ES.

The proposed scheme may impact archaeological assets of the historic periods, either those associated with exploitation of a marginal wetland, estuarine environment, such as salterns and fish traps, or associated with the development of the port and related industries. The results of a

watching brief on GI trial pits will be used to enhance current understanding of the presence and survival of assets of the modern periods.

The proposed scheme may impact the remains of one recorded archaeological asset; the site of a World War II Type 22 pillbox and possible civil defence site is recorded at the junction of Waveney Drive and Riverside Road. This heritage asset was demolished post-war and it is unclear if any sub-surface remains will survive.

The preliminary assessment process has identified that the proposed scheme has the potential to have a minor or moderate adverse impact upon archaeological remains. Based upon professional judgement, the overall conclusion is that the proposed scheme would have a minor adverse impact on archaeological remains.'

- 1.2.4 In July 2017, AOC were awarded the contract for the archaeological watching brief on the geotechnical investigations. This report details the findings of this archaeological investigation.

1.3 Geology and Topography

- 1.3.1 Lake Lothing is an artificial channel which connects the River Waveney to the North Sea; it is located at the base of a broad, shallow, east-west aligned valley.
- 1.3.2 The area of the proposed Lake Lothing Third Crossing lies broadly level at c.3.6m AOD. However, this height is largely artificial, resulting from reclamation and levelling which was completed in the 19th and 20th centuries to form the dockside. The levelling deposits overlie deep deposits of Holocene alluvium, including remnants of peat, which was laid down over Pleistocene river sands and gravels.
- 1.3.3 The solid geology of the Lowestoft area is Jurassic Chalk. A thick deposit of Tertiary London Clay lies above the chalk, the clay is capped by Pliocene and Early Pleistocene sands of the Crag Group, which is capped in turn by a succession of glacial tills comprising the Happisburgh Formation (formerly Corton Formation) and the Lowestoft Formation. In the immediate environs of Lake Lothing the till is overlain by marine deposits, river sands and gravels, and peat of Holocene age.

2. Archaeological and Historical Background

- 2.1 The archaeological and historical background below is reproduced from the WSI prepared by Mouchel (2016).

Palaeolithic Period (Palaeolithic c. 500,000 – 10000 BC)

- 2.2 There is limited evidence of Palaeolithic activity in the vicinity of the proposed Third Crossing; in the 19th century five early Palaeolithic flints, including one possible handaxe, were recovered from 'Cannon-shot' gravels at Normanston. However, well preserved evidence of the period (c.700,000 BP) has been discovered at Pakefield c.2.5km to the south within the Cromer Forest Bed Formation. This geological formation is likely to be present at Lowestoft, but will be deeply buried beneath alluvial, marine and glacial deposits.

Mesolithic to Iron Age (Mesolithic c. 10000 BC – 43 AD Iron Age)

- 2.3 Evidence for activity of the Mesolithic, Neolithic, Bronze Age or Iron Age periods is restricted to an isolated Neolithic pit found at Walton Road, Lowestoft and scatters of Neolithic flint tools found at Victoria Road, Lowestoft and Heath Road, Oulton. Episodes of marine transgression affected the

area during the latter part of the Neolithic, the early part of the Bronze Age and the late Iron Age. Any evidence of the periods situated at lower lying areas may have been buried by marine, alluvial and peat deposits.

Roman period (c. AD 43 - 450)

- 2.4 It has been suggested that a Roman road from Colchester to Burgh Castle passed through Lowestoft. Archaeological remains tentatively interpreted as part of this road, or an associated bridge, were found during 19th century excavation of peat in the vicinity of the current Bascule Bridge. The evidence comprised several large tree trunks, 10-12 feet in length, laid out parallel and approximately two feet apart. The closest settlement evidence, including a coin hoard, a possible cremation urn and the skeletons of a number of horses was found approximately 700m to the north east of the proposed Lake Lothing Third Crossing during the 19th century at a part of Lowestoft now known as "Roman Hill". The HER also records five isolated findspots of Roman coins. The lower lying parts of the area continued to be affected by a marine transgression and its use may have been limited to exploitation of marine and estuarine resources.

Early Medieval (c. AD 450 - 1066)

- 2.5 The villages of Lowestoft and Kirkley are mentioned in the Domesday Book and consequently had been founded by the latter part of this period. The early focus of Lowestoft is thought to have been located some distance away from the present town centre, perhaps in the vicinity of St Margaret's church. It is probable that the area of the proposed Third Crossing was marginal land exploited for estuarine and wetland resources.

Medieval (c. AD 1066 - 1536)

- 2.6 Lowestoft was granted markets in 1308 and 1445 and by the end of the medieval period it was a significant fishing port and the most important settlement in the area. Until the latter part of this period the core of Lowestoft may have retained its focus around St Margaret's church. Lake Lothing is a remnant of a turbary, an extensive area of medieval peat cutting. Kirkley may have been the most important port at this part of the coast for a brief part of the 14th century. It has been suggested that Lake Lothing was open to the sea for some of the medieval period and that the area surrounding Kirkley Ham inlet may have seen activity associated with the medieval port of Kirkley. However, this interpretation is not supported by results of archaeological investigations completed around the inlet, which have not discovered any evidence of medieval activity. An alternative interpretation is that during the medieval period Lake Lothing may have been a small freshwater mere separated from the sea by a sand bar (Mouchel 2015).

Post-medieval (c. AD 1536 - 1900)

- 2.7 The town and port of Lowestoft saw significant growth during the 19th century and the conurbation eventually expanded to the south of Lake Lothing. The eastern end of the lake was used as a harbour, with boat and ship building yards, fish processing, ancillary and manufacturing industries located along each side. The higher ground in proximity to the proposed Third Crossing remained agricultural land for the majority of this period.

Modern (c. AD 1900+)

- 2.8 Lowestoft continued to expand into the early part of the 20th century with the fishing fleet, boat building and associated trades being the mainstay of its economy. By 1911 the population had reached 37,886, which reflects the peak in production for the British fishing industry.
- 2.9 The First World War saw some of the more capable local boats requisitioned by the Admiralty for patrolling and minesweeping. The town was bombed on a number of occasions, and on 25th April 1916, the German High Sea Fleet shelled the town and harbour leaving forty houses destroyed, two hundred damaged and four people killed.
- 2.10 During the inter war period the fishing industry and the town suffered a decline, but the start of the Second World War saw the town transformed into an important naval base with an all-round defensive perimeter of trenches, pillboxes and dense belts of barbed wire. None of the defences now survive but many of their locations have been recorded by the HER and the Defence of Britain project. The town was extensively bombed during the Second World War and much redevelopment was necessary during the post war period.

Areas of Archaeological Potential

- 2.11 Evidence of Lower Palaeolithic pre-modern human activity could be preserved within the Cromer Forest Bed Formation. This formation may be present beneath the study area, but will be deeply buried (c.20m bgl) beneath glacial, alluvial, peat and marine deposits. The preliminary deposit model (Mouchel 2015, Appendix 9B) identified that areas of truncated peat deposits survive at either side of Lake Lothing. The peat will have accumulated during, or before the Bronze Age and is located beneath alluvial sediments and recent levelling deposits at depths of between 3m and 15m below ground level. The peat is likely to preserve evidence of the environment, and could preserve heritage assets of the Mesolithic and later prehistoric periods. A recent study of field names and topography has suggested that an Anglo-Saxon / Anglo-Scandinavian settlement may have been located in the vicinity of the scheme's northern roundabout junction with Denmark Road (Mouchel 2015).
- 2.12 Areas of truncated peat deposits survive at either side of Lake Lothing. The peat will have accumulated during, or before the Bronze Age and is located beneath alluvial sediments and recent levelling deposits at depths of between 3m and 15m below ground level. The peat is likely to preserve evidence of the environment, and could preserve heritage assets of the later prehistoric periods.
- 2.13 Evidence of historic exploitation of the area flanking Lake Lothing may be preserved beneath the levelling deposits making up the modern quays and wharves. Any such evidence is likely to be restricted to heritage assets consistent with exploitation of marine, estuarine and marginal drier environments e.g. fish traps, salterns, mooring posts and perhaps the medieval peat cutting which led to the formation of Lake Lothing.
- 2.14 The 19th and 20th century growth of the port may be evidenced by artefacts or the remains of foundations of buildings within the levelling deposits forming the modern quaysides.

3. Aims of the Investigation

- 3.1 The specific aims of the watching brief were:
- to examine and record the character, extent, significance, condition, quality, depth and date of any archaeological deposits, features and artefacts revealed by GI trial pits and trenches; and,

- to record the presence or absence of palaeoenvironmental deposits, such as alluvium and peat.

3.2 The objectives of the project are:

- to use the results of the archaeological monitoring to inform a future mitigation strategy; and
- to complete a report and archive to the required standard.

3.3 Standards: The project was to be carried out with reference to Standards for Field Archaeology in the East of England (Gurney 2003) the Chartered Institute for Archaeologists (CIfA) Code of Conduct, the CIfA Standard and Guidance for an archaeological watching brief (2014a) and other relevant CIfA Standards and Guidance documents.

4. Methodology

4.1 A Written Scheme of Investigation (WSI) prepared by Mouchel (2016) defined the site procedures for the archaeological evaluation. All work was carried out in accordance with local, regional and national guidelines (CIfA 2014 a, b & c and Historic England 2011, and 2015 a-d).

4.2 A unique site code (LWT364) was assigned to the project by AOC Archaeology and was used as the site identifier.

4.3 The watching brief was conducted by George Beardow and Amy Talbot, under the overall direction of Catherine Edwards, Operations Manager at AOC Archaeology, and Alastair Hancock, Senior Heritage Consultant with WSP.

5. Results

5.1 Archaeological monitoring was undertaken on a programme of geotechnical monitoring intended to comprise of the machine excavation of twenty three trial pits distributed along the route of the proposed third crossing. Due to a variety of practical reasons only a total of 15 test pits were excavated. The results of these investigations are reported below.

Test Pit 1 (TPC01)

Table of Stratigraphic Sequence

Context Number	Depth	Height of Deposit (bgl)	Description / Interpretation
TPC01/01	0.20m	0.00 - 0.20m	Turf - rooting. MODERN.
TPC01/02	0.25m	0.20 - 0.45m	Subsoil. MODERN.
TPC01/14	2.55m	0.45 – 3.00m	Light greyish yellow loose sand. MODERN MADE GROUND.

5.2 Test Pit 1 was located at the northern end of the proposed crossing, on a grass verge along the southern side of Denmark Road (Figure 2). It measured 2.27m long by 0.60m wide and was excavated to a depth of 3.00m bgl. The earliest deposit identified in TPC01 was deposit (TPC01/14), a loose light greyish yellow sand evident from 0.45m below ground level (bgl) and measuring in

excess of 2.45m thick. This deposit was described as a modern imported sand by the Geotechnical team.

- 5.3 Overlying (TPC01/14) was a 0.25m thick layer modern subsoil (TPC01/02), recorded at an uppermost height of 0.20m bgl, above which, was a 0.20m thick modern topsoil and turf layer (TPC01/01).
- 5.4 No archaeological features or finds were observed within TPC01



Plate 7: Test Pit 1, south facing section

Test Pit 2 (TPC02)

Table of Stratigraphic Sequence

Context Number	Depth	Height of Deposit (bgl)	Description / Interpretation
TPC02/01	0.30m	0.00m – 0.30m	Concrete and hardcore. MODERN HARDSTANDING.
TPC02/02	0.40m	0.30m – 0.70m	Black silt and building debris. MADE GROUND.
TPC02/03	0.40m	0.70m – 1.10m	Black and brown silty sand. SUBSOIL/MADE GROUND.
TPC02/04	<0.40m	1.10m – 1.50m	Pale yellow sand. NATURAL.

- 5.5 Test Pit 2 was again located along the southern side of Denmark Road, a short distance to the east of Test Pit 1 (Figure 2). The test pit measured 1.50m long by 1.00m wide and was excavated to a depth of 1.50m. The earliest deposit encountered within the test pit was (TPC02/04), a pale yellow sand, recorded at a height of the 1.10m bgl, and has been interpreted as a possible natural deposit.

- 5.6 Overlying the natural was a layer of black and brown silty sand recorded as (TPC02/03). This deposit, evident from 0.70m bgl, measured 0.40m thick and has been interpreted as a reworked subsoil. Cut into this layer was a modern red and pale red brick drainage structure, possible a man hole (TPC02/05), orientated east to west.
- 5.7 Lying above the subsoil was made-ground deposit (TPC02/02), a dark brown/black silt with frequent inclusions of building rubble. This deposit, which abutted the culvert, measured 0.40m thick from 0.30m bgl. Modern services and service trenches were also observed cutting into (TPC02/02).
- 5.8 A 0.30m thick layer of concrete and hardcore, recorded as (TPC02/01), sealed the made ground.



Plate 8: Test Pit 2, east facing section



Plate 9: Test Pit 2, east facing section

Test Pit 3 (TPC03)

Table of Stratigraphic Sequence

Context Number	Depth	Height of Deposit (mOD)	Description / Interpretation
TPC03-10	0.30m	2.66m – 2.36m	Concrete. MODERN SURFACE.
TPC03-11	0.10m	2.36m – 2.26m	Dark brownish silty sand. MADE GROUND
TPC03-12	0.30m	2.26m – 1.96m	Dark blackish silty sand with industrial waste. MADE GROUND.
TPC03-13	0.25m	1.96m – 1.71m	Dark blackish silty sand. MADE GROUND.
TPC03-14	0.30m	1.71m – 1.41m	Light greyish yellow silty sand. MADE GROUND.
TPC03-05	0.75m	1.41m – 0.66m	Light greyish/white silty sand with gravel, iron panning and water seepage. NATURAL.

- 5.9 Test Pit 3 was located a short distance southeast of Test Pit 2 (Figure 2), measuring 1.70m long by 1.15m wide and to a depth of 2.00m. The earliest deposit evidenced within the test pit was a naturally lain greyish white silty sand recorded as (TPC03-05). This deposit measured in excess of 0.75m thick and was recorded from 1.41mOD.



Plate 10: Test Pit 3, facing north

- 5.10 Above the natural horizon was a sequence of four modern made ground deposits, recorded as (TPC03-11), (TPC03-12), (TPC03-13), and (TPC03-14) which in total measured 0.95m thick. Sealing these was a 0.30m thick layer of modern concrete.
- 5.11 No archaeological features or finds were identified in Test Pit 3.

Test Pit 4 (TPC04)

Table of Stratigraphic Sequence

Context Number	Depth	Height of Deposit (mOD)	Description / Interpretation
TPC04-10	0.20m	2.40m – 2.20m	Concrete. MODERN SURFACE.
TPC04-11	0.11m	2.20m – 2.09m	Dark brown silty sand. MADE GROUND.
TPC04-12	0.26m	2.09m – 1.77m	Dark blackish loam with mixed building rubble. MADE GROUND.
TPC04-13	0.32m	1.77m – 1.45m	Dark black silty sand – no inclusions. MADE GROUND.
TPC04-14	0.73m	1.45m – 0.72m	Light brownish yellow silty sand. MADE GROUND.
TPC04-04	0.25m+	0.72m+	Light brownish grey silty clay – alluvial clay. NATURAL.

- 5.12 Test Pit 4 was located to the southwest of the roundabout, at the junction between Denmark Road and Rotterdam Road (Figure 2). The pit measured 2.10m long by 1.30m wide and was excavated to a depth of 2.70m bgl. The earliest deposit recorded in Test Pit 4 was a light brownish grey naturally lain alluvial clay, recorded at 0.72mOD and measured in excess of 0.25m thick.
- 5.13 Recorded above the natural was a sequence of made ground deposits recorded as (TPC04-11), (TPC04-12), (TPC04-13), and (TPC04-14), measuring in total 1.42m thick, recorded at an upper height of 2.20mOD. Sealing the above was a 0.20m thick layer of modern concrete with a ground height of 2.40mOD.
- 5.14 No archaeological features or finds were identified within Test Pit 4.



Plate 11: Test Pit 4, facing north

Test Pit 5 (TPC05)

Table of Stratigraphic Sequence

Context Number	Depth	Height of Deposit (mOD)	Description / Interpretation
TPC05-10	0.16m	2.47m – 2.31m	Concrete. MODERN SURFACE.
TPC05-11	0.05m	2.31m – 2.26m	Brown silty sand redeposited modern substrate. MADE GROUND.
TPC05-12	0.14m	2.26m – 2.12m	Black tarmac/gravel with modern debris. MADE GROUND.
TPC05-13	0.65m	2.12m – 1.47m	Black loam with fragments of timber planks. MADE GROUND.
TPC05-03	0.34m	1.47m – 1.13m	Dark greyish yellow silty sand. NATURAL.
TPC05-05	0.76m	1.13m – 0.37m	Brownish yellow sand. No inclusions. NATURAL
TPC05-06	0.90m	0.37m – 0.53m	Dark grey coarse silty sand. NATURAL.

- 5.15 Test Pit 5 was located to the east of Test Pit 4 (Figure 2) and measured 2.50m long by 1.30m wide and 3.00m deep. The earliest deposit recorded within Test Pit 5 was (TPC05-06), a 0.90m thick dark grey naturally lain silty sand, recorded at an upper height of 0.37mOD. Above (TPC05-06), at an upper height of 1.13mOD, was (TPC05-05), a brownish yellow sand measuring up to 0.76m thick. This in turn was overlain by a dark greyish yellow silty sand (TPC05-03), a 0.34m thick and was recorded at 1.47mOD.

- 5.16 Overlying the above was a sequence of made ground deposits comprised of (TPC05-11), (TPC05-12), and (TPC05-13). In total, these measured 0.84m thick, from a height of 2.31mOD. Sealing the made ground deposits was a 0.16m thick deposit of concrete, which formed the modern ground surface at a height of 2.47mOD.
- 5.17 No archaeological features or finds were identified within Test Pit 5.



Plate 12: Test Pit 5, west facing section

Test Pit 6 (TPC06)

Table of Stratigraphic Sequence

Context Number	Depth	Height of Deposit (mOD)	Description / Interpretation
TPC06-10	0.20m	2.43m – 2.23m	Concrete. MODERN SURFACE.
TPC06-11	0.10m	2.23m – 2.13m	Dark brownish grey silty sand with building rubble. MADE GROUND.
TPC06-12	0.23m	2.13m – 1.90m	Dark blackish silty sand with building rubble. MADE GROUND.
TPC06-13	0.26m	1.90m – 1.64m	Dark blackish silty loam. MADE GROUND.
TPC06-14	1.11m	1.64m – 0.53m	Light greyish yellow silty sand, no inclusions. MADE GROUND.
TPC06-15	1.30m	0.53m – 0.77m	Dark blueish black plastic soft clay. ALLUVIUM NATURAL.

- 5.18 Test Pit 6 was located directly south of the roundabout at the junction between Denmark Road and Rotterdam Road (Figure 2). It measured 2.45m long by 1.00m wide to a depth of 3.20m. The earliest deposit recorded in Test Pit 6 was a 1.30m+ thick naturally lain dark blueish black alluvial clay, recorded at an upper height of 0.53mOD.
- 5.19 Overlying the natural clay was a sequence of made ground deposits recorded as (TPC06-14), (TPC06-13), (TPC06-12), and (TPC06-11), recorded at an upper height of 2.23mOD and measuring 1.70m thick in total.
- 5.20 Sealing the made ground was a 0.20m thick slab of concrete, which formed the current ground surface recorded at 2.43mOD.



Plate 7: Test Pit 6, west facing section

Test Pit 7 (TPC-07)

Table of Stratigraphic Sequence

Context Number	Depth	Height of Deposit (bgl)	Description / Interpretation
TPC07-01	0.10m	0.00m – 0.10m	Concrete. MODERN SURFACE.
TPC07-02	0.10m	0.10m – 0.20m	Yellow/ orange coarse sand and gravel (hardcore). MODERN LEVELLING LAYER.
TPC07-03	0.20m	0.20m – 0.40m	Black silt with some broken brick and slate. MADE GOUND.
TPC07-04	0.70m	0.40m – 1.10m	Clean yellow/orange sand. NATURAL?
TPC07-05	0.50m	1.10m – 1.60m	Yellow sand with patches of grey clay. NATURAL.

- 5.21 Test Pit 7 was the most southern test pit, south of the roundabout, along the northern side of the Greater East Anglia railway track (Figure 2). It measured 1.50m long by 1.00m wide and was excavated to a depth of 1.60m bgl.
- 5.22 The earliest deposit recorded in Test Pit 7 was (TPC07-05), a 0.50m thick, grey natural lain clay with patches of yellow sand, recorded at 1.10m bgl. Above this was (TPC07-04), a 0.70m thick deposit of possibly natural yellow/ orange sand (TPC07-04), recorded at an upper height of 0.40m bgl.
- 5.23 Above (TPC07-04), was (TPC07-03), a 0.20m thick layer of made ground, composed of black silt and building rubble. Overlying this, was (TPC07-02), a 0.10m thick earlier modern surface of coarse sand and gravel. Sealing this was (TPC07-01), a 0.10m thick concrete slab that formed the current ground surface.
- 5.24 No archaeological features or finds were recorded from this test pit.



Plate 8: Test Pit 7, east facing section

Test Pit 8 (TPC08)

Table of Stratigraphic Sequence

Context Number	Depth	Height of Deposit (bgl)	Description / Interpretation
TPC08-01	0.10m	0.00m – 0.10m	Concrete. MODERN SURFACE.
TPC08-02	0.20m	0.10m – 0.30m	Yellow/orange sands and gravels (hardcore). MODERN LEVELLING LAYER.
TPC08-05	0.10m	0.30m – 0.40m	Brown sandy silt. SUBSOIL.
TPC08-06	0.50m	0.40m – 0.90m	Mottled yellow/brown sand. NATURAL.
TPC08-07	1.60m	0.90m – 2.50m	Mottled grey sand and brown clay. NATURAL.

- 5.25 Test Pit 8 was located further east along the northern side of the Greater East Anglia railway line (Figure 2), measuring 3.00m long by 1.00m wide and was excavated to a depth of 2.50m bgl.
- 5.26 The earliest deposit recorded was (TPC08-07), a 1.60m thick layer of naturally lain mottled grey sand and brown clay, measuring from 0.90m bgl. Above the clay and sand, was a 0.50m thick layer of natural yellow/ brown sand recorded as (TPC08-06).
- 5.27 Overlying (TPC08-06), was deposit (TPC08-05), a 0.10m thick layer of brown silty sand which was cut by a modern service trench [TPC08-03] and (TPC08-04), partially revealed at the eastern end of the test pit.
- 5.28 Sealing the above was (TPC08-02), a 0.20m thick layer of hardcore, which in turn was overlaid by (TPC08-01), a 0.10m thick layer of the concrete ground surface.
- 5.29 No archaeological features or finds were identified in Test Pit 8.



Plate 9: Test Pit 8, facing west

Test Pit 10 (TPC10)

Table of Stratigraphic Sequence

Context Number	Depth	Height of Deposit (mOD)	Description / Interpretation
TPC10-01	0.24m	3.33m – 3.09m	Concrete. MODERN SURFACE.
TPC10-02	0.08m	3.09m – 3.01m	Hardcore. MODERN LEVELLING LAYER.
TPC10-03	0.18m	3.01m – 2.83m	Soft brown silt. MADE GROUND.

- 5.30 Test Pit 10 was located on the southern side of Lowestoft Inner Harbour, along the northern side of Riverside Road (Figure 3). The test pit measured 1.00m long by 0.80m wide and was excavated to a depth of 0.50m.
- 5.31 The earliest deposit identified within the test pit was (TPC10-03), a 0.18m thick layer of soft brown silt that was recorded at an upper height of 3.01mOD. Above this was (TPC10-02), a 0.08m thick layer of hardcore recorded at a height of 3.09mOD. This had been used as a levelling deposit for the current concrete surface (TPC10-01), which was recorded at an upper height of 3.33mOD.
- 5.32 No archaeological features or finds were recorded from this test pit.



Plate 10: Test Pit 10, west facing

Test Pit 11 (TPC101)

Table of Stratigraphic Sequence

Context Number	Depth	Height of Deposit (mOD)	Description / Interpretation
TPC101-10	0.20m	2.54m – 2.34m	Concrete. MODERN SURFACE.
TPC101-11	0.12m	2.34m – 2.22m	Loose light brown silty sand. MADE GROUND?
TPC101-17	0.15m	2.22m – 2.07m	Base of concrete. Modern industrial
TPC101-14	1.58m	2.07m – 0.49m	Light greyish white silty sand with industrial waste. Modern industrial.

- 5.33 Test Pit 11 was located on the northern side of the Inner Harbour, to the south of TPC01. The test pit measured 2.30m long by 1.17m wide and was excavated to a depth of 2.05m bgl.
- 5.34 The earliest deposit recorded was (TPC101-14), a 1.58m+ layer of light grey white silty sand indicated to be imported sand by the geotechnical team and recorded at an upper height of 2.07mOD. This was overlain by a 0.15 thick layer of concrete recorded as (TPC101-17). Above (TPC101-17), was a 0.12m thick layer of made ground recorded as a light brown silty sand (TPC101-11), which in turn was overlaid by (TPC101-10), a 0.20m thick layer of modern concrete which formed the current surface recorded at an upper height of 2.54mOD.
- 5.35 No archaeological features or finds were recorded from this test pit.



Plate 11: Test Pit 11, southwest

Test Pit 12 (TPC102)

Table of Stratigraphic Sequence

Context Number	Depth	Height of Deposit (mOD)	Description / Interpretation
TPC102-01	0.12m	4.12m – 4.00m	Turf. MODERN TURF.
TPC102-02	0.18m	4.00m – 3.82m	Dark brownish grey silty loam. SUBSOIL.
TPC102-14	1.10m	3.82m – 2.72m	Light yellowish brown silty sand. MADE GROUND.
TPC102-05	1.40m	2.72m – 1.32m	Light greyish white silty sand with occasional gravel. NATURAL.

- 5.36 Test pit 12 was located on the grass verge along the southern side of Denmark Road (Figure 2), measuring 1.82m long by 1.10m wide and was excavated to a depth of 2.80m.
- 5.37 The earliest deposit recorded was (TPC102-05), a naturally lain sand deposit that was encountered at 2.72mOD and measured in excess of 1.40m thick. This deposit was overlain by (TPC102-14), a made ground deposit of light yellowish brown silty sand, measuring 1.10m thick at an upper height of 3.82mOD.
- 5.38 Above the made ground at 4.00mod, was a 0.18m thick subsoil (TPC102-02) which was in turn sealed by a 0.12m thick turf layer with a ground height of 4.12mOD.
- 5.39 No archaeological features or finds were recorded from this test pit.



Plate 12: Test Pit 12, facing south

Test Pit 13 (TPC103)

Table of Stratigraphic Sequence

Context Number	Depth	Height of Deposit (mOD)	Description / Interpretation
TPC103-10	0.22m	2.50m – 2.28m	Concrete. MODERN SURFACE.
TPC103-11	0.10m	2.28m – 2.18m	Light brownish silty sand. MADE GROUND.
TPC103-12	0.13m	2.18m – 2.05m	Dark blackish loam with assorted construction waste. MADE GROUND.
TPC103-13	0.50m	2.05m – 1.55m	Dark blackish silty sand with no inclusions. MADE GROUND.
TPC103-03	0.64m	1.55m – 0.91m	Alluvial sand – light greyish yellow silty sand – no inclusions. NATURAL.
TPC103-05	0.60m	0.91m – 0.31m	Light greyish brown silty sand – no inclusions. NATURAL.

- 5.40 Test pit 13 was located to the south east of TCP03 and southwest of TPC04 (Figure 2), measuring 2.40m long by 1.20m wide and was excavated to a depth of 2.19m.
- 5.41 The earliest deposit recorded was (TPC103-05), a naturally lain sand deposit that was encountered at 0.91mOD and measured in excess of 0.60m+ thick. It was overlain by a further layer of natural sand recorded as (TPC103-03) and measuring 1.10m thick.

- 5.42 Above the natural sand, was a sequence of made ground deposits recorded as (TPC103-13), (TPC103-12) and (TPC103-11), measuring in total 0.73m thick at an upper height of 2.28mOD. Sealing the made ground was a 0.22m thick slab of modern concrete.
- 5.43 No archaeological features or finds were recorded from this test pit.



Plate 13: Test Pit 13, facing east

Test Pit 21 (TPC21)

Table of Stratigraphic Sequence

Context Number	Depth	Height of Deposit (mOD)	Description / Interpretation
TPC21-01	0.12m	3.43m – 3.31m	Asphalt. MODERN SURFACE.
TPC21-02	0.35m	3.31m – 2.96m	Pale grey rubble layer. MADE GROUND.
TPC21-03	0.15m	2.96m – 2.81m	Loose coarse orange sand. MADE GROUND.
TPC21-04	0.60m	2.81m – 2.21m	Soft black sand. MADE GROUND.
TPC21-05	1.90m	2.21m – 0.31m	Compact, mottled blue and mid light brown sandy clay. ALLUVIAL NATURAL.

- 5.44 Test Pit 21 was located on the southern side of the Inner Harbour towards the northwestern end of Riverside road (Figure 3). The test pit measured 1.50m long by 0.80m wide and was excavated to a depth of 3.12m.
- 5.45 The earliest deposit recorded, at a height of 2.21mOD, was (TPC21-05); a naturally lain mottled blue and mid light brown sandy clay that measured in excess of 1.90m thick. Overlying the natural, was a sequence of made ground deposits (TPC21-04), (TPC21-03) and (TPC21-02), which measured

1.10m thick in total, with an uppermost height of 3.31mOD. Sealing these deposits was a 0.12m layer of modern asphalt with a ground height of 3.43mOD.

5.46 No archaeological features or finds were recorded from this test pit.



Plate14: Test Pit 21, south facing section

Test Pit 22 (TPC22)

Table of Stratigraphic Sequence

Context Number	Depth	Height of Deposit (bgl)	Description / Interpretation
TPC22-01	0.12m	0.00m – 0.12m	Friable grey brown sandy silt. TOPSOIL.
TPC22-02	0.24m	0.12m – 0.36m	Grey brown sandy silt and gravel. SUBSOIL.
TPC22-03	0.50m	0.36m – 0.86m	Course dirty yellow brown sand. DISTURBED NATURAL.
TPC22-04	2.14m	0.86m – 3.00m	Course yellow sand with patches of orange sand and gravel. POSSIBLY NATURAL.

5.47 Test Pit 22 was located on the southern side of the Inner Harbour along the boundary between the Suffolk County Council Riverside buildings carpark and the grassland area to the north of the Registry office (Figure 3). The test pit measured 1.60m long by 0.90m wide and was excavated to a depth of 3.00m.

5.48 The earliest deposit recorded was (TPC22-04), a possible naturally lain yellow sand deposit measuring in excess of 1.90m thick. Overlying the above was (TPC22-03), a second 0.50m thick deposit of natural sand deposit recorded at an upper height of 0.36m bgl.

- 5.49 Above the natural was (TPC22-02), a deposit of grey brown sandy silt and gravel measuring 0.24m thick, which in turn was overlain by a 0.12m thick topsoil composed of friable grey brown sandy silt.
- 5.50 No archaeological features or finds were recorded in this test pit.



Plate 15: Test Pit 22, west facing section

Test Pit 23 (TPC23)

Table of Stratigraphic Sequence

Context Number	Depth	Height of Deposit (bgl)	Description / Interpretation
TPC23-01	0.20m	0.00m – 0.20m	Friable grey brown sandy silt. TOPSOIL.
TPC23-02	0.20m	0.20m – 0.40m	Friable grey brown sand and gravel. SUBSOIL.
TPC23-04	0.09m	0.40m – 0.49m	Loose yellow sand. RE-DEPOSITED NATURAL.
TPC23-05	0.18m	0.49m – 0.67m	Grey ashy silt and sand. MADE GROUND.
TPC23-06	0.10m	0.67m – 0.77m	Loose yellow sand. RE-DEPOSITED NATURAL.
TPC23-07	0.12m	0.77m – 0.89m	Black cinder, building debris. MADE GROUND.
TPC23-08	0.25m	0.89m – 1.14m	Brown decayed metal, large amounts of glass/wood. MADE GROUND.
TPC23-09	0.10m	1.14m – 1.24m	Black cinder and building debris. MADE GROUND.
TPC23-10	0.15m	1.24m – 1.39m	Grey ashy silt building material. MADE GROUND.
TPC23-11	1.20m	1.39m – 2.59m	Firm dark grey/black silt. MADE GROUND.
TPC23-12	0.41m	2.59m – 3.00m	Course yellow sand. Possibly Imported Sand.

- 5.51 Test Pit 23 was located on the southern side of the Inner Harbour and slightly north of the entrance to the Council buildings vehicle entrance (Figure 3), measuring 1.70m long by 0.90m wide and was excavated to a depth of 3.00m bgl. The earliest deposit recorded was (TPC23-12), a possible imported layer of yellow sand that measured in excess of 0.41m thick. It is unclear if this represents natural.
- 5.52 In the western half of the test pit the above sand layer was overlain by a sequence of made ground deposits (TPC23-11), (TPC23-10), (TPC23-09), (TPC23-08), (TPC23-07) and (TPC23-05), interspersed with layers of redeposited natural (TPC23-06) and (TPC23-04). The sequence measured a total thickness of 2.19m. A glass condiment jar was recovered from (TPC23-04) and has been dated to the 1930s to 1940s.
- 5.53 Above the sequence of made ground, was (TPC23-02), a 0.20m thick layer of subsoil composed of a friable grey brown sand and gravel.
- 5.54 In the eastern half of the trench, the above stratigraphy was truncated by a 2.00m deep cut recorded as [TPC23-03]. The full extent and function of this feature is unclear, however historic OS maps indicate that the area had been subject to quarrying in the early 20th century, possibly in association with the construction of Riverside Road and that a series of terraced houses were present. Later, in the mid-20th century the area was used as a refuse tip. The backfill of the feature was composed of

modern building rubble including fragments of concrete with rebar, brick, CBM, glass, rope and wood which may indicate landfill.

- 5.55 Sealing all of the above, was a 0.20m thick layer of topsoil (TPC23-01).



Plate 16: Test Pit 23, west facing section

6. Finds

- 6.1 The finds assemblage from Lake Lothing Third Crossing, Lowestoft, comprise of just one brick sample and a glass condiments jar, both of which are of 20th century date. Further information on these two items may be found in Appendix B.
- 6.2 As a very small, modern assemblage (20th century), no further work is recommended on the CBM or glass.

7. Conclusion

- 7.1 The archaeological evaluation successfully characterised both the stratigraphic sequence and presence or absence of archaeology. The natural geology was observed in most test pits with the exception of TPC01, TPC101 and possibly both TPC22 and TPC23. Alluvium clays were observed in the base of test pits 4, 6, 7, 8 and 21 whilst the remaining test pits indicated natural sands varying in colour from pale yellow, to grey white with some showing inclusions of gravel. Overlying the natural in the majority of test pits was made ground or a series of made ground deposits associated with modern development, land management or land reclamation. The amount of made ground varied from three to four layers in the majority of test pits to eight layers in Test Pit 23. The lack of unimpacted subsoil, with the possible exception of Test Pit 8, suggests that the stratigraphic sequence in all trenches has undergone horizontal truncation. Later development was observed in a number of test pits as a brick drainage related structure in Test Pit 2, possible modern land fill in Test Pit 23.

- 7.2 No archaeological remains were observed in any test pits, nor were there any deposits suitable for environmental sampling such as organic remains.

8. Publication and Archive Deposition

- 8.1 Copies of the watching brief report will be issued to the client, the Archaeology Advisor to the local Planning Authority and – ultimately – the local studies library, on the understanding that it will become a public document after an appropriate period of time. A digital copy of the report will also be submitted to the HER and NMR. A summary of the findings will be submitted to the Archaeological Data Service (ADS) (Appendix C).
- 8.2 The archive, consisting of paper records, drawings and digital photographs, will be prepared in accordance with Guidelines for Preparation and Deposition of Archaeological Archives in Suffolk (SCCAS Conservation Team 2014). MoRPHE (Historic England 2015), Guidelines for the Preparation of Excavation Archives for Long-term Storage (United Kingdom Institute for Conservation, 1990), Standards in the Museum Care of Archaeological Collections (Museums and Galleries Commission, 1994); and relevant ClfA standards and guidance will be used as good practice guidance. The archive will be security copied and deposited with the Suffolk Archaeological Services Store.

9. Bibliography

Mouchel (2015), Lake Lothing, Lowestoft: Third Crossing Cultural Heritage Assessment

Mouchel (2016), Lake Lothing Third Crossing, Lowestoft, Suffolk, Written Scheme of Investigation for Watching Brief during Geotechnical Ground Investigation.

Chartered Institute for Archaeologists (2014a) *Standards and Guidance and Guidelines for the collection, documentation, conservation and research of archaeological materials.*

Chartered Institute for Archaeologists (2014b) *Standards and Guidance for an Archaeological Watching Brief.*

Chartered Institute for Archaeologists (2014c) *Code of Conduct.*

Historic England (2011) *Environmental Archaeology: A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation* (2nd edition). <https://historicengland.org.uk/images-books/publications/environmental-archaeology-2nd/>

Historic England (2015a) *Project Management for Heritage*
<https://historicengland.org.uk/advice/technical-advice/project-management-for-heritage/>

Historic England (2015c) *Archaeological Guidance Paper 3: Standards and Practices in Archaeological Fieldwork.* <https://content.historicengland.org.uk/images-books/publications/glaas-standards-for-archaeological-work/glaas-archaeological-standards-apr15.pdf/>

Suffolk County Council (2017), Preliminary Environmental Information Report (PEIR) The Lake Lothing Third Crossing, Lowestoft Development Consent Order

LAKE LOTHING THIRD CROSSING, LOWESTOFT, SUFFOLK:
AN ARCHAEOLOGICAL WATCHING BRIEF REPORT

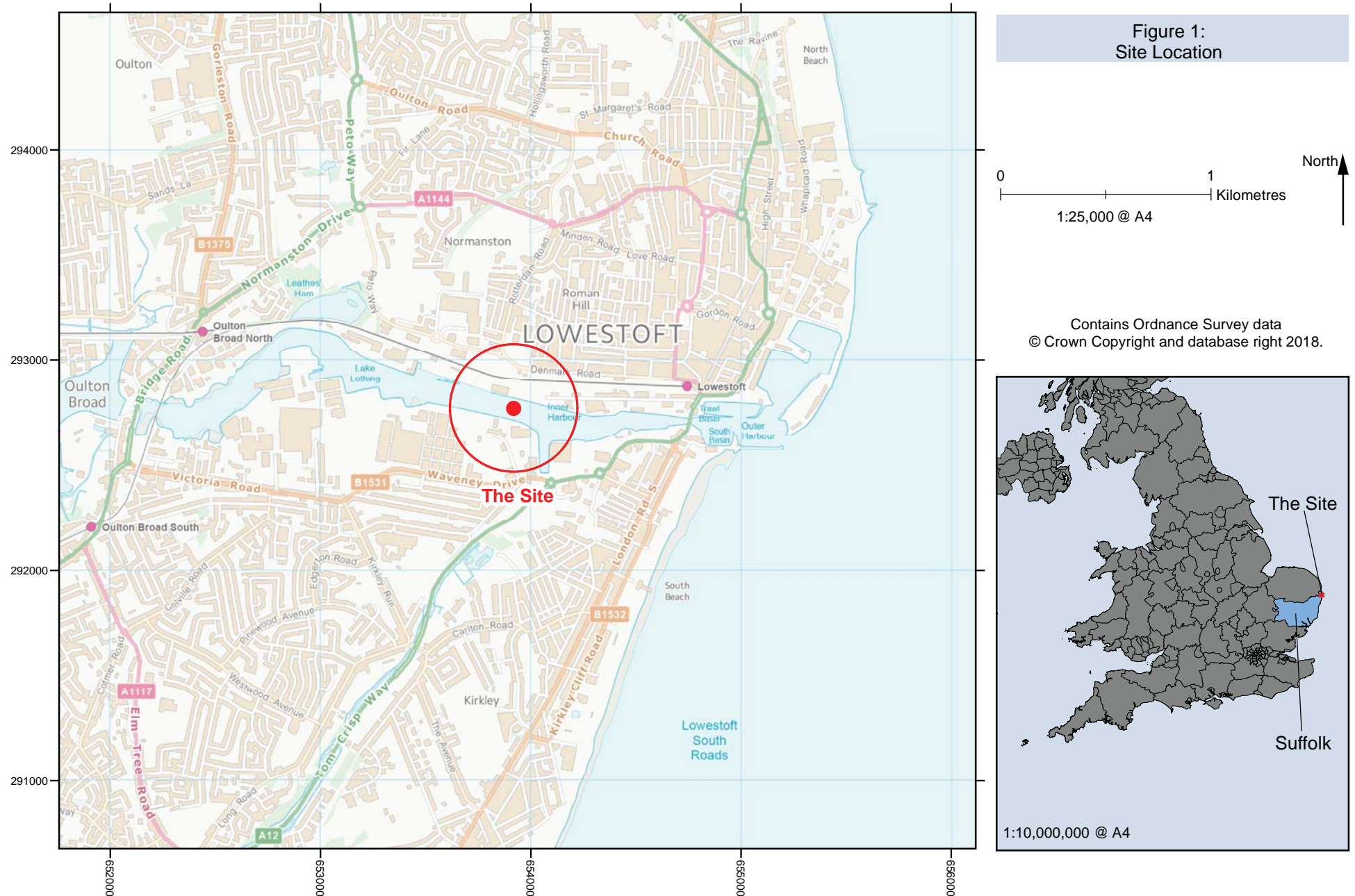






Figure 3: Detailed Test Pit Location Plan (South Area)

Appendices

Appendix A Context Register

Context Number	Description / Interpretation	Length	Width	Thickness
Test Pit 1				
TPC01/01	Turf - rooting. MODERN.	2.27m	0.60m	0.20m
TPC01/02	Subsoil. MODERN.	2.27m	0.60m	0.25m
TPC01/14	Light greyish yellow loose sand. MODERN MADE GROUND.	2.27m	0.60m	2.55m
Test Pit 2				
TPC02/01	Concrete and hardcore. MODERN HARDSTANDING.	1.50m	1.00m	0.30m
TPC02/02	Black silt and building debris. MADE GROUND.	1.50m	1.00m	0.40m
TPC02/03	Black and brown silty sand. SUBSOIL/MADE GROUND.	1.50m	1.00m	0.40m
TPC02/04	Pale yellow sand. NATURAL.	1.50m	1.00m	<0.40m
Test Pit 3				
TPC03-10	Concrete. MODERN SURFACE.	1.70m	1.15m	0.30m
TPC03-11	Dark brownish silty sand. MADE GROUND	1.70m	1.15m	0.10m
TPC03-12	Dark blackish silty sand with industrial waste. MADE GROUND.	1.70m	1.15m	0.30m
TPC03-13	Dark blackish silty sand. MADE GROUND.	1.70m	1.15m	0.25m
TPC03-14	Light greyish yellow silty sand. MADE GROUND.	1.70m	1.15m	0.30m
TPC03-05	Light greyish/white silty sand with gravel, iron panning and water seepage. NATURAL.	1.70m	1.15m	0.75m
Test Pit 4				
TPC04-10	Concrete. MODERN SURFACE.	2.10m	1.30m	0.20m

TPC04-11	Dark brown silty sand. MADE GROUND.	2.10m	1.30m	0.11m
TPC04-12	Dark blackish loam with mixed building rubble. MADE GROUND.	2.10m	1.30m	0.26m
TPC04-13	Dark black silty sand – no inclusions. MADE GROUND.	2.10m	1.30m	0.32m
TPC04-14	Light brownish yellow silty sand. MADE GROUND.	2.10m	1.30m	0.73m
TPC04-04	Light brownish grey silty clay – alluvial clay. NATURAL.	2.10m	1.30m	0.25m+
Test Pit 5				
TPC05-10	Concrete. MODERN SURFACE.	2.50m	1.30m	0.16m
TPC05-11	Brown silty sand redeposited modern substrate. MADE GROUND.	2.50m	1.30m	0.05m
TPC05-12	Black tarmac/gravel with modern debris. MADE GROUND.	2.50m	1.30m	0.14m
TPC05-13	Black loam with fragments of timber planks. MADE GROUND.	2.50m	1.30m	0.65m
TPC05-03	Dark greyish yellow silty sand. NATURAL.	2.50m	1.30m	0.34m
TPC05-05	Brownish yellow sand. No inclusions. NATURAL	2.50m	1.30m	0.76m
TPC05-06	Dark grey coarse silty sand. NATURAL.	2.50m	1.30m	0.90m
Test Pit 6				
TPC06-10	Concrete. MODERN SURFACE.	2.45m	1.00m	0.20m
TPC06-11	Dark brownish grey silty sand with building rubble. MADE GROUND.	2.45m	1.00m	0.10m
TPC06-12	Dark blackish silty sand with building rubble. MADE GROUND.	2.45m	1.00m	0.23m
TPC06-13	Dark blackish silty loam. MADE GROUND.	2.45m	1.00m	0.26m
TPC06-14	Light greyish yellow silty sand, no inclusions. MADE GROUND.	2.45m	1.00m	1.11m

TPC06-15	Dark blueish black plastic soft clay. ALLUVIUM NATURAL.	2.45m	1.00m	1.30m
Test Pit 7				
TPC07-01	Concrete. MODERN SURFACE.	1.50m	1.00m	0.10m
TPC07-02	Yellow/ orange coarse sand and gravel (hardcore). MODERN LEVELLING LAYER.	1.50m	1.00m	0.10m
TPC07-03	Black silt with some broken brick and slate. MADE GOUND.	1.50m	1.00m	0.20m
TPC07-04	Clean yellow/orange sand. NATURAL?	1.50m	1.00m	0.70m
TPC07-05	Yellow sand with patches of grey clay. NATURAL.	1.50m	1.00m	0.50m
Test Pit 8				
TPC08-01	Concrete. MODERN SURFACE.	3.00m	1.00m	0.10m
TPC08-02	Yellow/orange sands and gravels (hardcore). MODERN LEVELLING LAYER.	3.00m	1.00m	0.20m
TPC08-03	Service cut	3.00m	1.00m	-
TPC08-04	Fill of service cut	3.00m	1.00m	-
TPC08-05	Brown sandy silt. SUBSOIL.	3.00m	1.00m	0.10m
TPC08-06	Mottled yellow/brown sand. NATURAL.	3.00m	1.00m	0.50m
TPC08-07	Mottled grey sand and brown clay. NATURAL.	3.00m	1.00m	1.60m
Test Pit 10				
TPC10-01	Concrete. MODERN SURFACE.	1.00m	0.80m	0.24m
TPC10-02	Hardcore. MODERN LEVELLING LAYER.	1.00m	0.80m	0.08m
TPC10-03	Soft brown silt. MADE GROUND.	1.00m	0.80m	0.18m
Test Pit 11				

TPC101-10	Concrete. MODERN SURFACE.	2.30m	1.17m	0.20m
TPC101-11	Loose light brown silty sand. MADE GROUND?	1.50m	1.15m	0.12m
TPC101-17	Base of concrete. Modern industrial	1.50m	1.15m	0.15m
TPC101-14	Light greyish white silty sand with industrial waste. Modern industrial.	1.50m	1.15m	1.58m
Test Pit 12				
TPC102-01	Turf. MODERN TURF.	1.82m	1.10m	0.12m
TPC102-02	Dark brownish grey silty loam. SUBSOIL.	1.82m	1.10m	0.18m
TPC102-14	Light yellowish brown silty sand. MADE GROUND.	1.82m	1.10m	1.10m
TPC102-05	Light greyish white silty sand with occasional gravel. NATURAL.	1.82m	1.10m	1.40m
Test Pit 13				
TPC103-10	Concrete. MODERN SURFACE.	2.40m	1.20m	0.22m
TPC103-11	Light brownish silty sand. MADE GROUND.	2.40m	1.20m	0.10m
TPC103-12	Dark blackish loam with assorted construction waste. MADE GROUND.	2.40m	1.20m	0.13m
TPC103-13	Dark blackish silty sand with no inclusions. MADE GROUND.	2.40m	1.20m	0.50m
TPC103-03	Alluvial sand – light greyish yellow silty sand – no inclusions. NATURAL.	2.40m	1.20m	0.64m
TPC103-05	Light greyish brown silty sand – no inclusions. NATURAL.	2.40m	1.20m	0.60m
Test Pit 21				
TPC21-01	Asphalt. MODERN SURFACE.	1.50m	0.80m	0.12m

TPC21-02	Pale grey rubble layer. MADE GROUND.	1.50m	0.80m	0.35m
TPC21-03	Loose coarse orange sand. MADE GROUND.	1.50m	0.80m	0.15m
TPC21-04	Soft black sand. MADE GROUND.	1.50m	0.80m	0.60m
TPC21-05	Compact, mottled blue and mid light brown sandy clay. ALLUVIAL NATURAL.	1.50m	0.80m	1.90m
Test Pit 22				
TPC22-01	Friable grey brown sandy silt. TOPSOIL.	1.60m	0.90m	0.12m
TPC22-02	Grey brown sandy silt and gravel. SUBSOIL.	1.60m	0.90m	0.24m
TPC22-03	Course dirty yellow brown sand. DISTURBED NATURAL.	1.60m	0.90m	0.50m
TPC22-04	Course yellow sand with patches of orange sand and gravel. POSSIBLY NATURAL.	1.60m	0.90m	2.14m
Test Pit 23				
TPC23-01	Friable grey brown sandy silt. TOPSOIL.	1.70m	0.90m	0.20m
TPC23-02	Friable grey brown sand and gravel. SUBSOIL.	1.70m	0.90m	0.20m
TPC23-03	Large modern Cut	1.70m	0.90m	2.00m+
TPC23-04	Loose yellow sand. RE-DEPOSITED NATURAL.	1.70m	0.90m	0.09m
TPC23-05	Grey ashy silt and sand. MADE GROUND.	1.70m	0.90m	0.18m
TPC23-06	Loose yellow sand. RE-DEPOSITED NATURAL.	1.70m	0.90m	0.10m
TPC23-07	Black cinder, building debris. MADE GROUND.	1.70m	0.90m	0.12m
TPC23-08	Brown decayed metal, large amounts of glass/wood. MADE GROUND.	1.70m	0.90m	0.25m
TPC23-09	Black cinder and building debris. MADE GROUND.	1.70m	0.90m	0.10m

TPC23-10	Grey ashy silt building material. MADE GROUND.	1.70m	0.90m	0.15m
TPC23-11	Firm dark grey/black silt. MADE GROUND.	1.70m	0.90m	1.20m
TPC23-12	Course yellow sand. Possibly Imported Sand.	1.70m	0.90m	0.41m
TPC23-01	Loose yellow sand. RE-DEPOSITED NATURAL.			0.09m

Appendix B Finds

The Finds

by Kylie McDermott

Introduction

The finds assemblage from Lake Lothing Third Crossing, Lowestoft, contains one brick sample and a glass condiments jar. Both finds are 20th century in date.

Methodology

The assemblage in this report has been quantified using sherd count and weight (g), the glass was identified with reference to the Museum of London Code Expansions- Glass and recorded on an excel spreadsheet, to be included with the site archive.

Discussion

The CBM

One brick (2.1kg) from sample <1>, was recovered from made ground deposit (23-03).

The brick is frogged and inscribed "LBC" for the London Brick Company, with a date range of 1930s+.

The Glass

One (168g) colourless (COL) condiments jar (JAR) was recovered from context (23-04). In almost complete condition, the jar has embossed with decoration and "CWS" lettering. "CWS" is the initials for Co-operative Wholesale Society, a precursor to the modern day The Co-operative Group. The front of the jar has an embossed shield, presumably where the product label would have been attached. The date range for this jar is likely c.1930-1940s.

Recommendations

As a very small, modern assemblage (20th century), no further work is recommended on the CBM or glass.

Bibliography

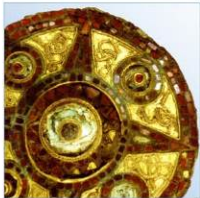
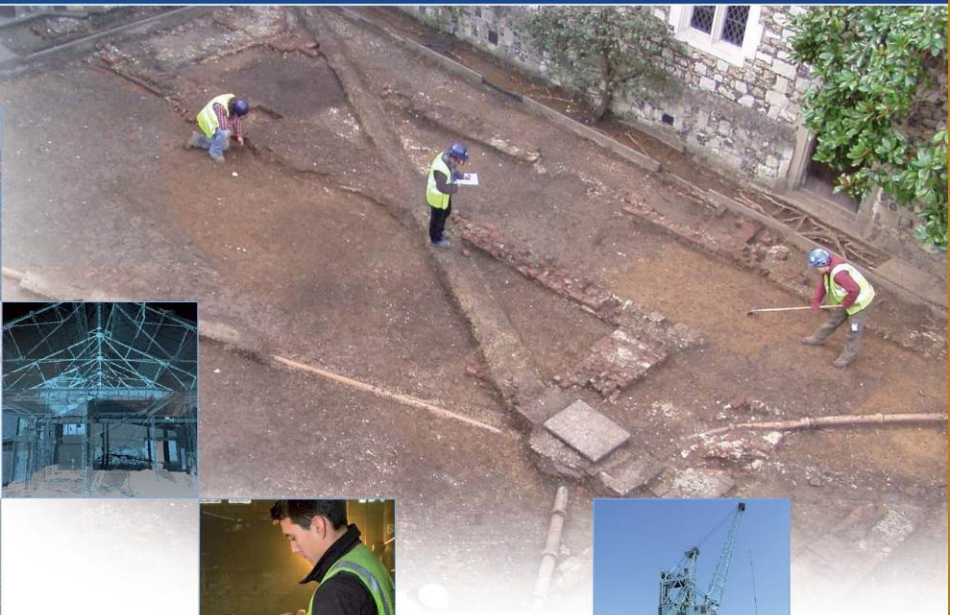
The Co-operative Group, "Co-op history", <https://www.co-operative.coop/about-us/history>, viewed 18/01/2018

Appendix D OASIS Form

OASIS ID: aocarcha1-292685

Project details

Project name	Lake Lothing Third Crossing, Lowestoft
Short description of the project	Watching brief and Geoarchaeological survey
Project dates	Start: 31-07-2017 End: 25-08-2017
Any associated project reference codes	33536 - Contracting Unit No.
Type of project	Field evaluation
Project location	
Country	England
Site location	SUFFOLK WAVENEY LOWESTOFT Lake Lothing Third Crossing
Project creators	
Name of Organisation	AOC Archaeology
Project director/manager	Catherine Edwards



AOC Archaeology Group, Unit 7, St Margarets Business Centre, Moor Mead Road, Twickenham TW1 1JS
tel: 020 8843 7380 | fax: 020 8892 0549 | e-mail: london@aocarchaeology.com

www.aocarchaeology.com