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LINDSEY ARCHAEOLOGICAL SERVICES
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Swineshead Rising Main and STW Extension: Archaeological Watching Brief

NGR: TF 2281 4196 - 2310 4130

Site Code **SRM 95**
LCNCC Museum Accn. No. **125.95**

Report prepared for Anglian Water Services Ltd
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Summary

A watching brief conducted during groundworks for a replacement rising main between Golden Cross Pumping Station, Swineshead, and an extended treatment plant at Swineshead Sewage Treatment Works produced a dense scatter of medieval pottery sherds from the topsoil but no trace of contemporary features. The material is suspected to have originated from an unlocated settlement site outside the pipeline easement, in the vicinity of Mill Farm or the Golden Cross road junction. An inspection of the trench excavated for a new aeration tank showed that silts extended deeper than -0.5m OD; the post-glacial ground surface was not exposed.

Introduction

Lindsey Archaeological Services (LAS) was commissioned by Anglian Water Services in August 1995 to monitor the topsoil removal and trenching for a 0.65km replacement rising main and plant extension in Swineshead parish (Fig. 1). An archaeological watching brief on this work was requested by the Lincolnshire County Archaeological Officer. The pipe trench was excavated beside the existing rising main between the rear of properties at North End (close to the Golden Cross public house) and the sewage treatment works beside Hammond Beck (Figs. 2 and 3). The aeration tank was constructed within a large trench excavated on land immediately to the NE of the existing works.

Fieldwork, by the author, started on 25th August 1995 and continued intermittently until 27th September; 10 monitoring visits were made.

Archaeological Background

Within Swineshead parish a marine inundation of sufficient duration to leave characteristic sandy silts above a peat layer has been dated by radiocarbon to the late Roman or immediate post-Roman period: two samples at the interface produced dates of 315-425 Cal. AD and 395-535 Cal. AD (Lane 1993, 88). Unlike some parts of the Fenland, there are few surviving peat formations between the marine sediment layers and dating the sequence of successive environments has not been completed.

Fieldwork for the present project found the silts to be more than 2.7m deep close to Hammond Beck. Progressively deeper ploughing where the silts are thinner has uncovered earlier archaeological finds, as has the excavation and cleaning of deep drainage ditches. A findspot of Romano-British pottery

found in the mid 19th century at about 15ft (5m) below the surface was recorded as from a drain - but the record is confused as to whether it was near High Bridge or Swineshead Bridge (Phillips 1970, 294). A further more recent report of Romano-British pottery from cleaning of Hammond Beck in 1975 (SMR 12590) reiterates the importance of monitoring deep excavations in the vicinity.

The findspot of the Bronze Age axe and Romano-British pottery from north of the Swineshead STW (SMR 12568, 12569 and 12589) is not close to a deep drain; post-medieval field ditches crossed by the pipeline were usually about 1.7m - 2m deep. This suggests that the local Romano-British ground surface was not flat, and that some finds are made on what used to be higher ground where the silt cover is thinner. Hallam wrote in 1970 that Romano-British finds in Swineshead parish had been part of a continuous belt of settlement linking with the Marshland area including Skegness and Ingoldmells, obscured by between 1 and 5 feet (0.3 - 1.5m) of later silt (Fig. 4; Phillips 1970, 42).

Swineshead is not mentioned in the 1086 Domesday Survey, although land holdings at Drayton and Stenning within the parish are recorded. A Cistercian abbey, built about 1148, had an outlying grange at Hardwick (about 0.5km west of the STW). North End, a focus of settlement close to the Golden Cross public house, probably developed from a small hamlet; the inn name may record a wayside cross associated with the abbey, but no documentary research into the name was conducted for this report. A pit, containing medieval pottery, animal bones and burnt material, was recorded during groundworks for a building east of High Bridge, apparently close to a habitation site. An undated pit was seen in similar conditions opposite the junction of Villa Lane; other medieval findspots lie closer to the present village centre about 1.2km SE of North End.

The Watching Brief

a) The Sewage Treatment Works

Groundworks for the project started with the erection of an extended compound fence and the installation of drain and service ducts around the interior edge of the existing sewage treatment works. These shallow trenches and holes did not reveal any trace of archaeological remains, not surprising as the site had undergone major excavation and construction works when the plant was installed.

An area to the NE of the existing works had been partly stripped of topsoil before the first monitoring visit, for use as a contractors' compound and temporary car park. This area had dried, but an inspection of the surface did not find pottery fragments or any sign of archaeological features on the exposed surface. The holes dug for a new fence around this extension were also examined but again no archaeological remains were found.

After the pipeline had been laid, a 2.7m deep trench was excavated in the extension area (previously stripped of topsoil) for the foundations of a new Aeration Tank (Pls. 1 and 2). The stratigraphic sequence was:

0.00 - 0.30m topsoil (removed)
0.30 - 1.50m brown silty clay, becoming lighter with depth
1.50 - 3.00m grey sandy silt
3.00m trench base (-0.5m OD)

The sandy silt was saturated and the trench face slumped during excavation so there was no opportunity to clean or examine the trench side. The soil was clearly composed of flat sediment lenses which extended deeper than the trench base and were apparently the product of marine deposition or freshwater deposition close to marine influence (the material was not submitted for analysis). It was not possible to establish the actual depth of the flood silts here or to determine the number of flooding episodes; no peat deposits were present.

The Pipeline Route (Fig. 3)
The fields comprising most of the pipeline route were planted with young brassica crops at different stages of growth, but much of the field surface was visible (Pls. 3 and 4). An intensive fieldwalking exercise in advance of topsoil stripping recovered 32 sherds of medieval pottery from Field 2 but almost no trace of early activity in Field 1.

Field 1 ch. 580:
The stratigraphy revealed in the pipe trench close to its northern end was recorded; no archaeological features were noted in this field and the sequence represents natural deposits (Pl. 5)

.
0.00 - 0.25m topsoil
0.25 - 0.40m brown silt
0.40 - 0.55m light brown silt
0.55 - 0.75m grey brown silt
0.75m+ light brown silt

Field 2
2A Finds from the topsoil and the easement surface
94 sherds of pottery and 7 fragments of clay tobacco pipe were recovered. Seven sherds were of undiagnostic Romano-British fabrics; the remainder were medieval and post-medieval (see Appendix 2). One of the pipe fragments was from a bowl tentatively identified as made by John Naylor of Boston between 1776 and 1818 (see Appendix 3).

2B ch. 340
A copper alloy fragment was found in the topsoil and submitted for examination. The fragment proved undateable and unidentifiable but may have been scrap (perhaps from a vessel or a bell) intended for recycling.

2C ch 375 and ch 365
Two backfilled field ditches were identified, 9m apart and aligned NE-SW. Both ditches were about 0.8m deep and 2.5m wide, with steeply sloping sides and rounded bases. The fills were dark brown silty clay suggesting a relatively recent backfilling but neither ditch had been replaced by a land drain.

One of these ditches seemed to be a projection of the open field ditch on the eastern side of a farm track to the north of Mill Lane, and on this basis the pair of ditches were assumed to represent drainage either side of a removed post-medieval field access track.

2D ch 383-387
Ditch, 3.5m wide and 1.3m deep below stripped easement. Fill: very dark brown clay loam with infrequent post-medieval and modern pottery and brick fragments. 1 sherd of post-medieval pottery was retained. The ditch seemed to be associated with about 10m of raised ground, probably remains of its upcast bank.

2E ch 372
A possible 4m wide NE-SW ditch was seen in the trench face, cutting the flood silt. The upper fill of dark brown clay was 0.4m thick, overlying 0.5m of grey speckled silt containing shell fragments. Light brown flood silt extended below the trench base. The actual shape and depth of this feature was not clear, but it was suspected that the silt with shell had been redeposited and represented a primary fill; slightly west of this observation similar shelly material was seen under 0.5m of light brown silt, apparently deposited during the marine incursions.

2F ch. 356 - 363
Another ditch or backfilled depression in the surface of the flood silt was identified 12m to the SE. This feature survived to a depth of only 0.12m below the stripped easement and was about 7m wide, aligned NE-SW. It had gently sloping sides and an almost flat base; its fill was a grey silt with fine shell fragments.

There were slight traces of a shallow post-medieval ditch at ch. 345 but the trench face was too smeared to identify the feature.

2G ch. 335 - 340
A broad ditch, 5m wide and with a 1m thick fill of dark brown silt loam was seen (Pl. 6).

2H ch. 263 and ch. 275
Two ditches with similar characteristics and fills were recorded. Each was 6m wide with its base 1.5m below the stripped easement. The latest surviving fill was dark brown silty clay above an earlier grey/brown silt with infrequent shell fragments. A small number of post-medieval and modern pottery sherds

were seen but not collected. These ditches probably define a NE-SW aligned post-medieval trackway between fields (Pl. 7).

Field 3

This field was under pasture and could not be fieldwalked before topsoil stripping took place.

3A Finds from the topsoil and the easement surface

39 sherds of pottery and 4 fragments of clay tobacco pipe were found. Much of the pottery was from unidentified local medieval sources or post-medieval kilns at Bourne. The latest pipe fragment was of 18th or 19th century date.

3B ch. 220 - 230

A ditch, 10m wide and 0.75m deep below the stripped easement was identified, filled with grey/brown clay. The adjacent stratigraphy was:
topsoil
light brown silt 0.2m thick
grey silt 0.25m
light brown silt 1.3m+

3C ch. 215

A ditch, about 2m wide and 1.45m deep, was cut through light brown silt (Pl. 8). The top 1.15m of its fill was dark brown clay and a whetstone was found from it; the primary fill was black, with an animal bone fragment, fired clay and burnt material. The whetstone could not be dated on typological grounds more precisely than after the 9th century AD.

Field 4

This field was covered with tall rough vegetation and could not be fieldwalked in advance of topsoil stripping. Very few sherds were recovered during topsoil removal, but after the topsoil heap had weathered for a few days some sherds were exposed on its surface.

4A ch. 175

56 sherds of pottery, 1 fragment of clay tobacco pipe and 1 piece of brick were found on the bare ground at the base of the modern fence, extending about 40m either side of the pipeline easement. The pottery ranged evenly from medieval to post-medieval; the tobacco pipe was probably 19th century.

4B Finds from the topsoil and the easement surface

19 sherds of pottery (medieval and post-medieval) and 4 fragments of clay tobacco pipe were found on the topsoil heap or on the stripped easement.

4C ch. 170

Just within Field 4, a 4m wide ditch 1.5m deep was seen in the trench side; the upper fill was grey/blue clay, with a dark brown clay primary fill. There was a broad shallower shelf on the western side, about 2.5m wide. This was thought to be a removed field boundary of comparitively recent date, since replaced with a fence.

4D ch. 165
A ditch, 3m wide at the trench base, and more than 1.6m deep was identified. The fill was a dark brown clay loam, which produced an early post-medieval sherd near the top of its fill.

4E ch. 162
A ditch 1.5m wide, and greater than 1.6m deep was observed. The latest fill was light brown silt, sealing earlier dark brown fills (Pl. 9).

4F ch. 135 - 100
The stratigraphic sequence close to the SE end of the trenched pipeline was:
0.00 - 0.15m topsoil
0.15 - 1.35m light brown flood silt
1.35 - 1.75m+ brown sandy silt

Conclusion
The monitoring of the deepest works at the STW extension site found no trace of archaeological remains but was able to show that the prehistoric land surface lay more than 3m below the modern surface. The differences in the trench stratigraphy, probably reflecting different episodes of marine transgression, could not be investigated as the ground conditions at this depth were unsafe (Pl. 10). The project was unable to locate the prehistoric or Roman land surface anywhere along the route.

The concentration of medieval pottery sherds from the topsoil in Fields 2-4, north and east of Mill Farm, was much denser (93 sherds) than usually produced by spreading of farmyard waste onto fields as fertiliser. Although no medieval occupation features were found on the present pipeline route the quantity of sherds indicated that rubbish pits had probably been disturbed close to the route, perhaps when the existing Rising Main was laid or when field ditches had been cleaned. Rubbish pits would mark the rear of medieval domestic properties.

The pottery was most frequent about 200m NW of the present rear gardens of the houses fronting onto the A52. The arrangement suggested that the medieval settlement - probably more than one dwelling - had not been on the site of the present developed frontage. The most likely site was on land close to Mill Lane, near Mill House and on land now occupied by a farm. There was no evidence that the present windmill occupied the site of an earlier mill.

Traces of 14 ditch-like features were recorded along the route in addition to those in use or recently backfilled. Without knowing the precise angle at which the feature crossed the pipeline route, the exact shape and width of these features could not be ascertained from the trench sides in the smeared conditions. Most of the ditches seemed to have been roughly at right-angles to the pipe trench and the alignments described in the text are based on that assumption. This implied that the ditches were similarly aligned (presumably

reflecting an arranged pattern of landholding and/or drainage) but the evidence for this was lacking.

Apart from a ditch with post-medieval pottery, there was no artefactual dating evidence from the features. The ditches cut into the flood silt deposit, and although this has not been closely dated here, the likely dating for the sediments is probably late and post-Roman; sediment deposition may have continued until the Saxon period. The ditches with lighter fills could reflect earlier features, cut and backfilled when the humic content of the soil was lowest; more recently backfilled ditches may be those with markedly darker fills.

The drainage pattern across this route in the recent past was much more complex than that which survives today. The 1906 Ordnance Survey map (surveyed 1887) shows more open ditches and ditched field accesses and some of these coincide with the archaeological observations (OS 1906). The amalgamation of land plots has probably only been recent as mechanisation has increased and interruption to vehicle movement combined with the greatest use of the available soil area has become important. Ditches are no longer used to separate distinct landholdings on this land. During the watching brief it was noted that land drainage pipes of any date were seldom seen, despite the very wet nature of this land; in fact only 2 runs were visible in the trench faces. Modern drainage has probably been affected by the existing rising main 5m from the new line, but no redundant truncated drains were seen. This situation was puzzling but it was assumed that the present pipeline lay close to an approximately parallel land drain course.

The watching brief, which was hoped to have produced evidence of buried Romano-British or earlier activity, instead located the periphery of a medieval settlement and produced an assemblage of medieval and post-medieval pottery. It was disappointing that the site of the medieval settlement could not be pinpointed, but this project caused no discernible damage to archaeological deposits.

Acknowledgements

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Curatorial advice was provided by Jim Bonnor (Boston Community Archaeologist) with further comments from Hilary Healey when the Boston Site and Find Index was consulted. The author is grateful to Colin Palmer-Brown for access to information presented in an unpublished report. Access to early Ordnance Survey maps was provided by staff at the Lincolnshire Archives Office.

Finds processing was by Mick McDaid. The finds were examined by Jen Mann (clay tobacco pipes and copper alloy), Jane Young and Judy Wilkinson (pottery) and Rick Kemp (tile and brick) at the City of Lincoln Archaeology Unit. Metal objects were x-rayed and conserved by Rob White, City of Lincoln Conservation Laboratory.

Geoff Tann
Lindsey Archaeological Services
December 22nd 1995

References

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OS 1906 Ordnance Survey 1:10,560 2nd edition map, Sheets 108 SW and 117 NW; surveyed 1887, revised 1903.

Palmer-Brown, C. 1995 *Station Road, Swineshead: Archaeological Desk Top Assessment and Phase 1 Field Evaluation* (unpublished report by Pre-Construct Archaeology for Morley Newborn).

Phillips, C.W. (ed.) 1970 The Fenland in Roman Times

Archive Summary

Field Recording Sheets
Archaeological Finds:
- pottery
- copper alloy
- animal bone
- brick/fired clay
- clay tobacco pipes

Specialists' archive lists/reports (as above)
Correspondence
Anglian Water plans (annotated)

Appendix 1

Summary of Reported Archaeological Sites and Finds

(Sources: **SMR** = Lincs. County Sites and Monuments Record
All SMR records are from OS Sheet 24 SW
HTL = Records held by Community Archaeologist for Boston District)

SMR No./ code	HTL No. (19/)	NGR (TF)	Description
12568	23	2320 4210	Romano-British pottery from Creasey Plot
12589		"	Medieval pottery sherd
12569	24	2322 4211	Bronze Age copper alloy axe; Roman and medieval pottery found 1957
12570	30	2311 4182	Neolithic polished stone axe, found 1954
12574		2280 4150	Neolithic flint scraper, possibly imported to findspot with gravel. Found 1976
TF 23 NW: P		242 395	Romano-British pottery, much medieval pottery; possible saltern material
TF 24 SE: P	4	236 406	Medieval pot
TF 23 NW: D		2475 3965	Human skeletons; 16th-17th century pottery, tile fragments. Site of St Adrian's Chapel
	1	223 410	Soilmarks on air photographs 1975: probably settlement enclosure and field system
	6	2375 4020	St. Mary's Church
	31	221 433	Romano-British pottery: greywares, Samian and colour-coated wares
12590	32	229 422	Romano-British pottery from cleaning of New Hammond Beck.
	40	235 408	Human skeleton, with 14th-15th century pottery, 1.2m deep in sewer trench
	41	2320 4125	Undated pit seen during watching brief
	44	226 417	Pit with medieval pottery, burnt deposits and animal bones
	45	236 407	Site of timber-framed mud and stud cottage; medieval pottery
		231 399	Site of Estevening Hall
		225 420	Site of Hardwick Grange
		227 420	2 sherds medieval pottery, 5 sherds post-medieval pottery found during fieldwalkin 1995

Appendix 2:

Report on the Roman and Post-Roman Pottery

SRM95 POST-ROMAN POTTERY ARCHIVE

	2A	2D	3A	4A	4B	Total
R	7	0	0	0	0	7
MISC	0	0	1	0	0	1
LSW2	0	0	2	0	0	2
SLST	1	0	0	0	0	1
BOUA	4	0	3	3	3	13
MEDLOC	19	0	11	19	5	54
TOY	1	0	0	4	1	6
MEDX	0	0	1	0	0	1
LSW2/3	0	0	0	0	1	1
LSW3	2	0	2	3	0	7
LANG	0	0	1	0	0	1
HUM	0	0	1	0	0	1
LMLOC	5	0	0	0	0	5
TB	11	0	8	8	2	29
BOU	14	0	2	10	2	28
FREC	1	0	0	0	0	1
MY	2	0	0	0	0	2
PGE	1	0	0	0	0	1
RGRE	2	0	0	0	0	2
GRE	3	0	1	1	0	5
BERTH	0	0	0	2	0	2
SLIP	1	0	0	1	1	3
BL	15	1	5	3	4	28
BS	2	0	1	0	0	3
LERTH	1	0	0	2	0	3
LSTON	2	0	0	0	0	2
Total	94	1	39	56	19	209

SRM95 POST-ROMAN POTTERY ARCHIVE

Context	Ware	Sherds	Form	Comments
2A	BL	1	-	17/18TH
2A	BL	1	-	17/18TH
2A	BL	1	-	17/18TH
2A	BL	1	-	17/18TH
2A	BL	1	-	17/18TH
2A	BL	1	-	17/18TH
2A	BL	1	-	17/18TH
2A	BL	1	-	17/18TH
2A	BL	1	-	17/18TH
2A	BL	1	-	17/18TH
2A	BL	1	-	? ID NO GLZE
2A	BL	1	-	? ID NO GLZE
2A	BL	1	BOWL	17/18TH
2A	BL	1	JAR	17/18TH
2A	BL	1	JAR	17/18TH
2A	BOU	1	BOWL	-
2A	BOU	1	JAR/JUG	-
2A	BOU	1	JAR/JUG	-
2A	BOU	1	JAR/JUG	-
2A	BOU	1	JAR/JUG	-
2A	BOU	1	JAR/JUG	-
2A	BOU	1	JAR/JUG	-
2A	BOU	1	JAR/JUG	-
2A	BOU	1	JAR/JUG	-
2A	BOU	1	JAR/JUG	-
2A	BOU	1	JAR/JUG	-
2A	BOU	1	JAR/JUG	-
2A	BOU	1	JAR/JUG	-
2A	BOU	1	JAR/JUG	RIM
2A	BOUA	1	-	NO GLZE
2A	BOUA	1	-	UNGLZE
2A	BOUA	1	BOWL	-
2A	BOUA	1	BOWL	RIM
2A	BS	2	-	-
2A	FREC	1	JUG	GROOVED STRAP HANDLE
2A	GRE	1	-	-
2A	GRE	1	-	-
2A	GRE	1	-	-
2A	LERTH	1	-	18/19THOR PANTILE
2A	LMLOC	1	BOWL?	QUARTZ FABRIC;INT GLZE
2A	LMLOC	1	JAR/JUG	QUARTZ FABRIC
2A	LMLOC	1	JAR/JUG	QUARTZ FABRIC
2A	LMLOC	1	JAR/JUG	QUARTZ FABRIC
2A	LMLOC	1	JAR/JUG	QUARTZ FABRIC
2A	LSTON	1	-	18/19TH
2A	LSTON	1	-	19TH
2A	LSW3	1	JUG	-
2A	LSW3	1	JUG	?ID
2A	MEDLOC	1	-	FABRIC INCLUDES SHELL + SUB-ROUND QUARTZ;

				UNGLZE
2A	MEDLOC	1	-	FABRIC INCLUDES SHELL IN A SOFT MICACEOUS MATRIX
2A	MEDLOC	1	-	FABRIC INCLUDES SUB-ANGULAR TO SUB-ROUNDED QUARTZ + OCC CA + MICA +FE;NO GLZE
2A	MEDLOC	1	-	FABRIC INCLUDES SUB-ANGULAR TO SUB-ROUNDED QUARTZ + OCC CA + MICA +FE;NO GLZE
2A	MEDLOC	1	-	FABRIC INCLUDES SUB-ROUNDED QUARTZ + MICA +FE; NO GLZE
2A	MEDLOC	1	-	FABRIC INCLUDES SUB-ROUNDED QUARTZ + MICA +FE; NO GLZE
2A	MEDLOC	1	-	FABRIC INCLUDES SUB-ROUNDED QUARTZ + MICA +FE; NO GLZE
2A	MEDLOC	1	-	FABRIC INCLUDES SUB-ROUNDED QUARTZ + MICA +FE; NO GLZE
2A	MEDLOC	1	-	FABRIC INCLUDES SUB-ROUNDED QUARTZ + MICA +FE; NO GLZE
2A	MEDLOC	1	-	FABRIC INCLUDES SUB-ROUNDED QUARTZ + MICA +FE; NO GLZE
2A	MEDLOC	1	-	FABRIC INCLUDES VERY POOR SORTED SUB-ROUNDED QUARTZ + OCC CA;GLZE
2A	MEDLOC	1	BOWL	FABRIC INCLUDES SUB-ROUNDED QUARTZ + MICA + FE;INT GLZE
2A	MEDLOC	1	JUG	FABRIC INCLUDES FINE SUB-ROUNDED OCC LARGER QUARTZ + OCC CA + MICA + FE;GLZE
2A	MEDLOC	1	JUG	FABRIC INCLUDES POOR SORTED SUB-ANGULAR QUARTZ + OCC CA + MICA;NO GLZE
2A	MEDLOC	1	JUG	FABRIC INCLUDES POOR SORTED SUB-ANGULAR QUARTZ + OCC CA + MICA;NO GLZE
2A	MEDLOC	1	JUG	FABRIC INCLUDES SUB-ROUNDED QUARTZ + MICA + FE;GLZE
2A	MEDLOC	1	JUG	FABRIC INCLUDES SUB-ROUNDED QUARTZ + MICA + FE;GLZE
2A	MEDLOC	1	JUG	FABRIC INCLUDES SUB-ROUNDED QUARTZ + MICA + FE;GLZE
2A	MEDLOC	1	JUG;SMALL	FABRIC INCLUDES POOR SORTED SUB-ANGULAR QUARTZ + OCC CA + MICA;GLZE
2A	MY	1	-	-
2A	MY	1	-	-
2A	PGE	1	BOWL	-
2A	R	7	-	-
2A	RGRE	1	-	-
2A	RGRE	1	-	-
2A	SLIP	1	DISH	TAN & BROWN TRAILED DEC
2A	SLST	1	BOWL	RIM
2A	TB	1	BOWL	-
2A	TB	1	BOWL	-
2A	TB	1	BOWL	-
2A	TB	1	BOWL	-
2A	TB	1	BOWL	-
2A	TB	1	JAR/JUG	-
2A	TB	1	JAR/JUG	-
2A	TB	1	JAR/JUG	-

2A	TB	1	JAR/JUG	-
2A	TB	1	JAR/JUG	-
2A	TB	1	JAR/JUG	-
2A	TOY	1	JUG?	-
2D	BL	1	BOWL?	SLIPPED;LATE 17/18TH
3A	BL	1	-	17/18TH
3A	BL	1	-	17/18TH
3A	BL	1	-	17/18TH
3A	BL	1	-	17/18TH
3A	BL	1	BOWL	SLIPPED;LATE17/18TH
3A	BOU	1	-	-
3A	BOU	1	-	BASE
3A	BOUA	3	-	SV;? ID
3A	BS	1	-	-
3A	GRE	1	-	-
3A	HUM	1	-	SCRAP
3A	LANG	1	JUG;LARGE	-
3A	LSW2	1	JUG	? ID
3A	LSW2	1	JUG	? ID;CU GLZE;APPLIED STRIP
3A	LSW3	1	JUG	-
3A	LSW3	1	JUG	? ID
3A	MEDLOC	1	-	FABRIC FINE SUB-ROUNDED QUARTZ + OCC LARGER + FE + MICA + CA + OCC FLINT;NO GLZE
3A	MEDLOC	1	-	FABRIC FINE SUB-ROUNDED QUARTZ + OCC LARGER + FE + MICA + CA + OCC FLINT;NO GLZE
3A	MEDLOC	1	-	FABRIC POOR SORTED SUB-ANGULAR QUARTZ + OCC CA;GLZE
3A	MEDLOC	1	-	FABRIC SUB-ROUNDED QUARTZ + FE + MICA; NO GLZE
3A	MEDLOC	1	-	FABRIC VERY POOR SORTED SUB-ROUNDED QUARTZ + OCC CA;NO GLZE
3A	MEDLOC	1	JAR/PIP	FABRIC FINE SUB-ROUNDED QUARTZ + OCC LARGER + FE + MICA + CA + OCC FLINT; NO GLZE
3A	MEDLOC	1	JUG	FABRIC POOR SORTED SUB-ANGULAR QUARTZ + OCC CA + MICA;GLZE;BASE
3A	MEDLOC	1	JUG	FABRIC SUB-ROUNDED QUARTZ + FE + MICA; CU SPLASHED GLZE
3A	MEDLOC	1	JUG	FABRIC SUB-ROUNDED QUARTZ + FE + MICA; NO GLZE
3A	MEDLOC	1	JUG/CISTERN	FABRIC POOR SORTED SUB-ANGULAR QUARTZ + OCC CA + MICA;GLZE
3A	MEDLOC	1	JUG/CISTERN	FABRIC SUB-ROUNDED QUARTZ + FE + MICA;NO GLZE
3A	MEDX	1	-	FABRIC POOR SORTED SUB-ROUNDED QUARTZ + OCC CA + OCC FE;GLZE;COMBED FE STRIP
3A	MISC	1	-	REDUCED FABRIC SUB-ROUND QUARTZ + OCC CA + MICA;UNGLZE;R?
3A	TB	1	BOWL	INT GLZE
3A	TB	1	BOWL	INT GLZE
3A	TB	1	BOWL	INT GLZE
3A	TB	1	BOWL	INT GLZE
3A	TB	1	JAR/JUG	-

3A	TB	1	JAR/JUG	-
3A	TB	1	JAR/JUG	-
3A	TB	1	JAR/JUG	INT DEP
4A	BERTH	1	-	17/18TH
4A	BERTH	1	BOWL	RIM;17/18TH
4A	BL	1	-	17/18TH
4A	BL	1	-	INT GLZE;17/18TH
4A	BL	1	-	INT GLZE;17/18TH
4A	BOU	1	-	BASE
4A	BOU	1	BOWL	-
4A	BOU	1	BOWL	INT GLZE
4A	BOU	1	JAR/JUG	-
4A	BOU	1	JAR/JUG	-
4A	BOU	1	JAR/JUG	-
4A	BOU	1	JAR/JUG	-
4A	BOU	1	JAR/JUG	-
4A	BOU	1	JAR/JUG	-
4A	BOU	1	JAR/JUG	-
4A	BOUA	1	JAR?	INT GLZE
4A	BOUA	1	JAR?	NO GLZE
4A	BOUA	1	JUG?	GLZE
4A	GRE	1	JAR	-
4A	LERTH	1	-	SLIP/BL;17/18TH
4A	LERTH	1	PLANTPOT	-
4A	LSW3	1	JUG	-
4A	LSW3	1	JUG	BASE
4A	LSW3	1	JUG	INCISED HORIZ LINES
4A	MEDLOC	1	-	FABRIC INCLUDES FINE SUB-ROUNDED QUARTZ + OCC LARGER + CA + FE + MICA + OCC FLINT; GLZE;BASE
4A	MEDLOC	1	-	FABRIC INCLUDES FINE SUB-ROUNDED QUARTZ + OCC LARGER + CA + FE + MICA + OCC FLINT; NO GLZE
4A	MEDLOC	1	-	FABRIC INCLUDES FINE SUB-ROUNDED QUARTZ + OCC LARGER + CA + FE + MICA + OCC FLINT; NO GLZE
4A	MEDLOC	1	-	FABRIC INCLUDES POORLY SORTED SUB-ANGULAR QUARTZ + OCC CA + MICA;GLZE
4A	MEDLOC	1	-	FABRIC INCLUDES POORLY SORTED SUB-ANGULAR QUARTZ + OCC CA + MICA;GLZE
4A	MEDLOC	1	-	FABRIC INCLUDES POORLY SORTED SUB-ANGULAR QUARTZ + OCC CA + MICA;NO GLZE
4A	MEDLOC	1	-	FABRIC INCLUDES POORLY SORTED SUB-ANGULAR QUARTZ + OCC CA + MICA;NO GLZE
4A	MEDLOC	1	-	FABRIC INCLUDES POORLY SORTED SUB-ANGULAR QUARTZ + OCC CA + MICA;NO GLZE
4A	MEDLOC	1	-	FABRIC INCLUDES POORLY SORTED SUB-ANGULAR QUARTZ + OCC CA;GLZE
4A	MEDLOC	1	-	FABRIC INCLUDES POORLY SORTED SUB-ANGULAR QUARTZ + OCC CA;GLZE
4A	MEDLOC	1	-	FABRIC INCLUDES POORLY SORTED SUB-ANGULAR QUARTZ + OCC CA;NO GLZE
4A	MEDLOC	1	-	FABRIC INCLUDES SUB-ROUNDED QUARTZ

				+ FE + MICA;GLZE
4A	MEDLOC	1	-	FABRIC INCLUDES SUB-ROUNDED QUARTZ + FE + MICA;GLZE;APPLIED STRIP
4A	MEDLOC	1	-	FABRIC INCLUDES SUB-ROUNDED QUARTZ + FE + MICA;NO GLZE
4A	MEDLOC	1	-	FABRIC INCLUDES SUB-ROUNDED QUARTZ + FE + MICA;NO GLZE
4A	MEDLOC	1	-	FABRIC INCLUDES SUB-ROUNDED QUARTZ + FE + MICA;NO GLZE
4A	MEDLOC	1	-	FABRIC INCLUDES SUB-ROUNDED QUARTZ + FE + MICA;NO GLZE
4A	MEDLOC	1	-	FABRIC INCLUDES VERY POOR SORTED SUB-ROUNDED QUARTZ + OCC CA; NO GLZE
4A	MEDLOC	1	JAR	FABRIC INCLUDES SUB-ROUNDED QUARTZ + FE + MICA;GLZE;RIM
4A	SLIP	1	-	18TH
4A	TB	1	BOWL	RIM
4A	TB	1	BOWL	RIM;INT GLZE
4A	TB	1	BOWL	RIM;INT GLZE
4A	TB	1	BOWL	RIM;INT GLZE
4A	TB	1	CISTERN	BUNG
4A	TB	1	JUG;DRINK	RIM;NO GLZE
4A	TB	2	BOWL?	INT GLZE
4A	TOY	1	?	-
4A	TOY	1	JUG	FE STRIP
4A	TOY	1	JUG	RIM
4A	TOY	1	JUG	SV
4B	BL	1	-	17/18TH
4B	BL	1	-	17/18TH
4B	BL	1	-	17/18TH
4B	BL	1	-	17/18TH
4B	BOU	2	JAR/JUG	-
4B	BOUA	1	-	NO GLZE
4B	BOUA	1	-	NO GLZE
4B	BOUA	1	JAR	UNGLZE
4B	LSW2/3	1	JUG	-
4B	MEDLOC	1	-	FABRIC POOR SORTED SUB-ANGULAR QUARTZ + OCC CA + MICA;GLZE
4B	MEDLOC	1	-	FABRIC POOR SORTED SUB-ANGULAR QUARTZ + OCC CA + MICA;GLZE
4B	MEDLOC	1	-	FABRIC VERY POOR SORTED SUB-ROUNDED QUARTZ + OCC CA;GLZE
4B	MEDLOC	1	-	FABRIC VERY POOR SORTED SUB-ROUNDED QUARTZ + OCC CA;NO GLZE
4B	MEDLOC	1	JUG;LARGE	FABRIC FINE SUB-ROUNDED QUARTZ + OCC LARGER + OCC CA + MICA + FE + OCC FLINT;GLZE
4B	SLIP	1	DISH	JOGGLED
4B	TB	1	JAR/JUG	BASE
4B	TB	1	JAR/JUG	BASE
4B	TOY	1	-	OR TB

Glossary of Fabric Codes

R	Roman
Misc	undated wares
Lsw2	glazed Lincoln ware: 13th century
Slst	South Lincs Shelly ware: early 12th - late 14th centuries
Boua	Bourne fabrics A-C: mid 12th - late 14th centuries
Medloc	medieval, local origin: early 13th/late 15th centuries
Toy	Toynton All Saints ware, Kiln 1 (Roses); early 13th-mid 14th century
Medx	medieval, non-local/uncertain origin: early 13th-late 15th centuries
Lsw 2/3	glazed Lincoln ware: 13th - 15th centuries
Lsw 3	glazed Lincoln ware: late 13th - late 15th centuries
Lang	Langerwehe stoneware: mid 14th - mid 16th centuries
Hum	Humber ware: mid 14th/late 16th centuries
Lmloc	Late medieval local fabrics: late 14th - mid 16th centuries
TB	Toynton All Saints/ Bolingbroke kilns: mid 15th/mid 18th centuries
Bou	Bourne Fabric D: mid 15th - mid 17th centuries
Frec	Frechen/Cologne stoneware: mid 16th - mid 18th centuries
My	Midland Yellow type ware: mid 16th - mid 18th centuries
Pge	light-bodied glazed earthenwares: mid 16th/late 17th centuries
Rgre	reduced glazed red earthenwares: mid 16th/late 18th centuries
Gre	glazed red earthenwares: mid 16th/late 18th centuries
Berth	Brown earthenwares: mid 16th/early 19th centuries
Slip	slipwares: early 17th/20th centuries
Bl	Blackware: mid 16th - modern
Bs	Brown stoneware: late 17th century - modern
Lerth	late earthenwares: mid 18th/20th centuries
Lston	late stonewares: late 18th/20th centuries

Appendix 3:

Report on Copper Alloy objects and Clay Tobacco Pipes

SRM95: REGISTERED FINDS AND BULK MATERIALS ARCHIVE LIST

Registered Finds

Context	Finds No	Material	Object	Comments
3C	1	STON	HONE	SCH (NRAG?)
2B	2	COPP	-	VESS/BELL RIM SCRAP?

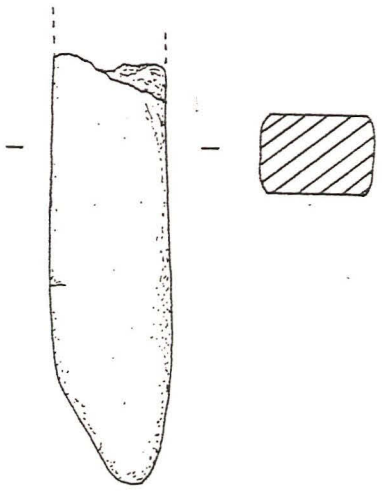
Mus Acc No 125.95	Sitecode SRM95	Context 3C	Reg No 1
Material STONE	Object HONE	Type	Date

Description

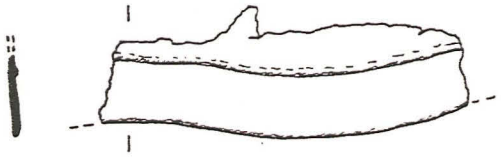
Fragment, rectangular-sectioned. All surfaces + edges worn. Mica schist — 'Norwegian Ragstone'?

Dimensions (in mm) 76 x 27 x 20 max

Sketch



Lab Card	X-ray	
B/W Photo	Drawing	Spec Report
Slide	Pub	LA

lus Acc No 125.1995	Sitecode SRM95	Context 2B	Reg No 2
Material COPPER ALLOY	Object	Type	Date
escription		Sketch	
Rim fragment, sheet, with slight moulding parallel to edge. Torn + bent, possibly = scrap for recycling?			
(max) Dimensions (in mm) L: 49 W: 18 Th: 1.25			
ab Card	X-ray SRM11.1995		
B/W Photo	Drawing	Spec Report	
Slide	Pub		LA

The two registered finds are not closely datable, although I suspect the copper alloy sheet could be medieval or post-medieval (possibly representing a scrap fragment intended to be recycled). The hone looks like Norwegian Ragstone, which does not occur in this country before the late 9th century, and continues in use right up until modern times.

Bulk Materials

Context	Type	Count	Comments
2A	CTPB	1	PMED;M17;
2A	CTPB	1	MOD;L18-19;DEC (NAYLOR/BOSTON?) ABRA
2A	CTPS	5	PMED-MOD;17-18;DIS
2A	FIRE	1	13GM
2A	OMIS	1	PMED-MOD;18-19;CAST META BUTT
3A	CTPS	4	PMED-MOD;17-19;DIS
3C	FIRE	1	40GM
4A	CTPB	1	PMED-MOD;18-19;PROB 19C?
4B	CTPB	1	PMED;M17;
4B	CTPS	3	PMED-MOD;17-19;DIS

2A - The latest material is of 18th- or 19th-century date, and includes a cast metal button together with a fragment from a decorated clay pipe bowl. Although little of the design remains, it appears to represent the tail of a mermaid, and is very similar to the design on pipes bearing the maker's name and mark: Naylor/Boston. John Naylor worked in Boston between 1776 and 1818, and this is possibly one of his products, as the known radius of his bowls is approximately eight miles from the town.

3A - The latest pipe stem fragment if of 18th- or 19th-century date, as is the latest piece from 4B.

4A - a single fragment from the lower part of a clay pipe bowl; although this can only be broadly dated to the 18th or 19th century, I suspect the latter date is more likely because of its thin walls.

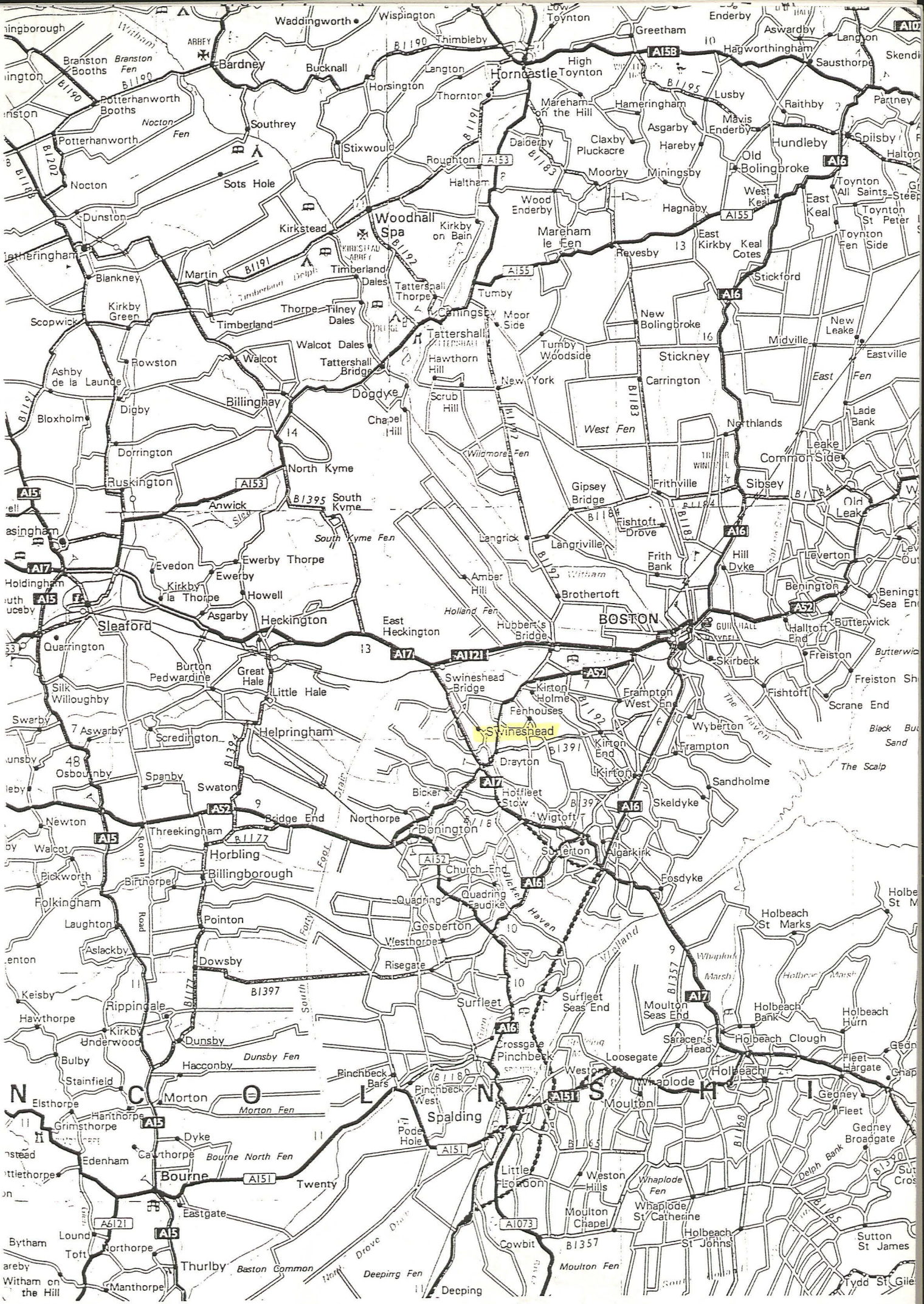


Fig. 1 Location of Swineshead

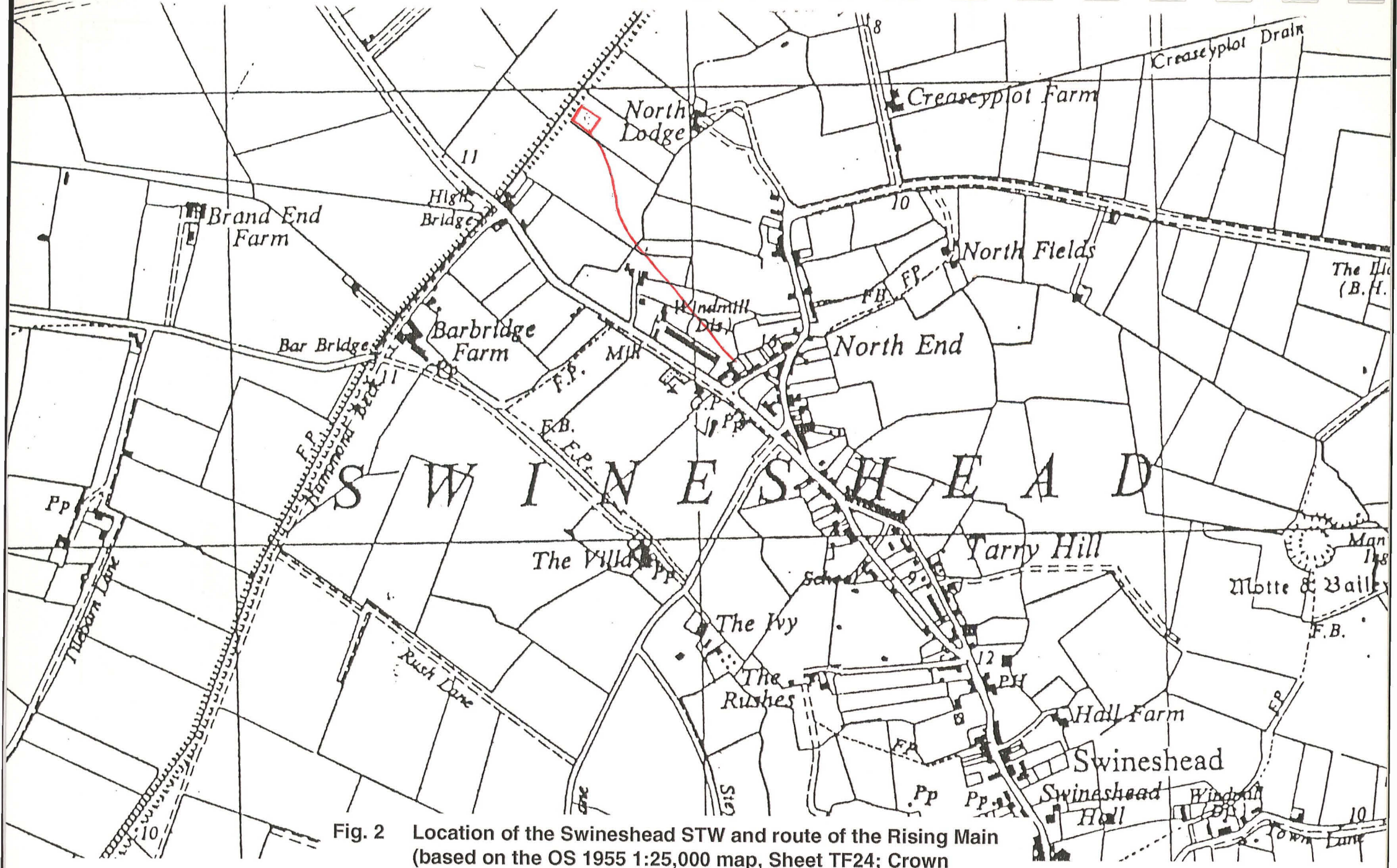


Fig. 2 Location of the Swineshead STW and route of the Rising Main (based on the OS 1955 1:25,000 map, Sheet TF24; Crown Copyright, reproduced at enlarged scale with the permission of the Controller of Her Majesty's Stationery Office. LAS Licence No. AL 50424A).

Fig. 3 **Swineshead in the context of the Roman Fenland (reproduced from Phillips 1970, Sheet K)**

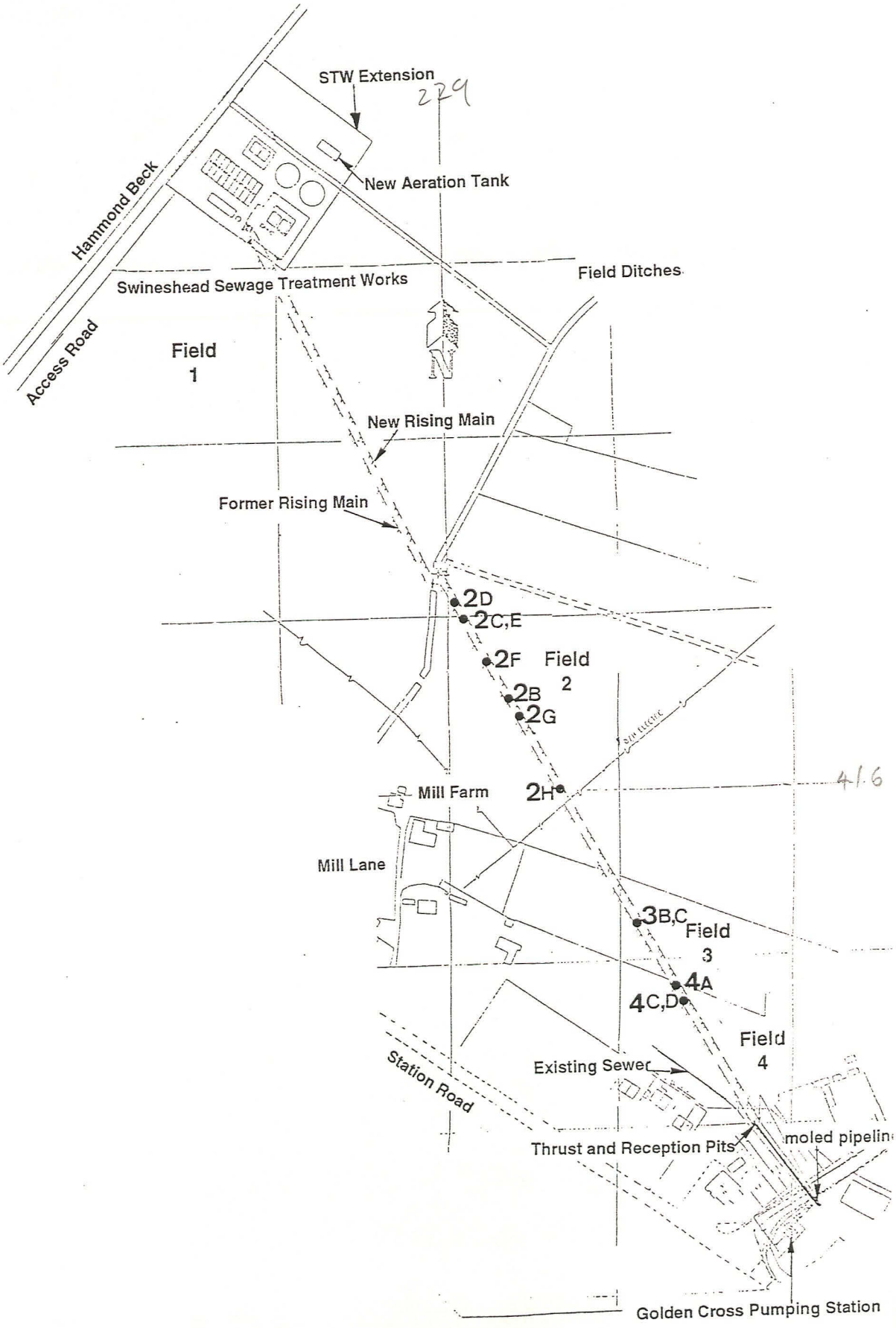


Fig. 4 **The Treatment Works extension and findspots along the pipeline route**

Pl. 1 Excavations for the Aeration Tank; the existing STW is beyond the trees. (Looking NW across the extension area to Swineshead Bridge hamlet. Hammond Beck lies beyond the compound fence).

Pl. 2 Stratigraphy in the Aeration Tank trench. The 2.7m deep trench did not cut below the flood silt deposit.

Pl. 3 Looking NW along the centre of the pipeline easement (marked by fencing pins) towards the Swineshead STW (beyond the poplars) before topsoil stripping. The cauliflowers were at the eastern edge of Field 2, with seedlings to the west. Field 1 is beyond the low hedge.

Pl. 4 Looking SE from the STW extension to the line of the backfilled pipeline approaching Golden Cross public house. The plastic fencing marks the Field 1/ Field 2 ditch-line; the excavator is in Field 3.

Pl. 5 Trench stratigraphy in Field 1 (ch. 580) showing layers of different coloured silts. Scale divisions 0.2m.

Pl. 6 Shallow ditch showing in the trench side at 2G; the darker fill contrasts with the light coloured flood silt layer. Scale divisions 0.2m.

Pl. 7 Darker fill in the eastern side of a ditch at 2H (foreground), contrasting with the flood silt beyond. This is thought to be one of two post-medieval ditches flanking the position of a former farm track.

Pl. 8 Black primary fill of a deep ditch at 3C (at trench base) containing charcoal, fired clay fragments and other signs of a nearby fire.

Pl. 9 Grey silt with shell inclusions seen near the top of the trench at 4E, thought to be a fill of a post-medieval ditch.

Pl. 10 View to north from STW extension area. Romano-British pottery has been reported from this area, probably disturbed from deep deposits during cleaning of Hammond Beck (centre left).