

Archaeological Services & Consultancy Ltd

WATCHING BRIEF: REINFORCEMENT OF WATER MAIN: RAVENSDEN (WILDEN) BEDFORDSHIRE

on behalf of BSP Associates Ltd and Anglian Water Services Ltd



Alastair J Hancock BSc PgDip

July 2006

ASC: 729/RWM/2

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Site Data

ASC project code:	RWM		ASC Proj	iect No:	729	
Event No:			Accession	n No:		
County:		Bedfords	hire			
Village/Town:		Wilden				
Civil Parish:		Wilden				
NGR (to 8 figs):		TL 1020	5522 to TI	0888 5727		
Present use:		Farmland	ł			
Planning proposal:		Reinforcement Water Main				
Planning application	tion ref/date: N/A					
Local Planning Aut	Authority: Bedfordshire County Council					
Date of fieldwork:		1 st June 2006- 10 th July 2006				
Client:		BSP Associates Ltd				
		George House				
		George Yard				
		Stony Stratford				
	MK11 1AE					
Contact name:		Terry Sn	nith			
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Internal Quality Check

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Edited/Checked By:		Date:	

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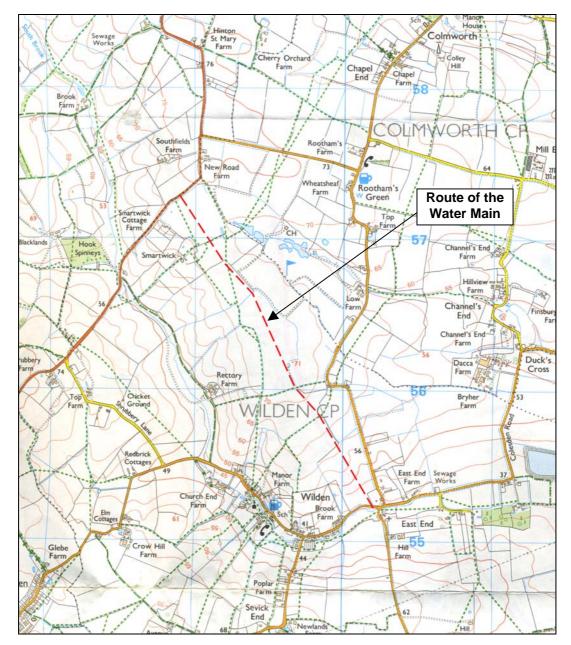


Figure 1: General location (scale 1:25,000)

Summary

In June and July 2006 Archaeological Services and Consultancy Ltd (ASC) carried out a watching brief for Anglian Water Services Ltd along the c.2.1km long by 24m wide easement of a reinforcement water main, which ran across open farmland between Barford Road and Kimbolton Road, east to north-northwest of Wilden, Bedfordshire.

A single large feature was revealed during the groundworks for the reinforcement water main. The Historic Environment Record lists the location of a medieval/post medieval mill or windmill (HER 3139) in the area of the revealed feature. Dateable finds were not recovered from the fill and it could define the position of an infilled field pond although it is possible that it was the borrow pit from which material was excavated to form a windmill mound.

1. Introduction

- 1.1 In June and July 2006 Archaeological Services and Consultancy Ltd (ASC) carried out a watching brief along the route of the Ravensden (Wilden), Barford Road to Kimbolton Road Reinforcement Water Main, Bedfordshire (NGR TL 1020 5522 to TL 0888 5727: Fig. 1). The project was commissioned by *BSP Associates Ltd* on behalf of Anglian Water Services Ltd and was carried out according to a project design prepared by ASC (Rouse 2006) and a brief (Mather 2005) prepared by a planning archaeologist of *Bedfordshire County Archaeology Office*.
- 1.2 *Planning Background*

The watching brief was requested by Anglian Water Services Ltd to fulfil their statutory obligations to the environment.

1.3 *Location and description*

The route of the reinforcement water main ran for c.2.1km across open farmland east to north-northwest of the village of Wilden between Barford Road and Kimbolton Road and the easement was 24m wide (Fig. 1). The pipeline ran parallel with and c.20m to the west of the route of existing gas mains for much of its length (Fig. 2).

1.4 *Geology & Topography*

The soils of the area are of the *Hanslope Association*, which are characterised as "slowly permeable calcareous clayey, some slowly permeable non-calcareous clayey soils, slight risk of water erosion". The underlying geology consists of chalky till (Soil Survey, 1983, 411d). The southern third of the pipeline rose gently northward from c.42m to a plateau at c.70m AOD. The remainder of the route ran along the plateau.

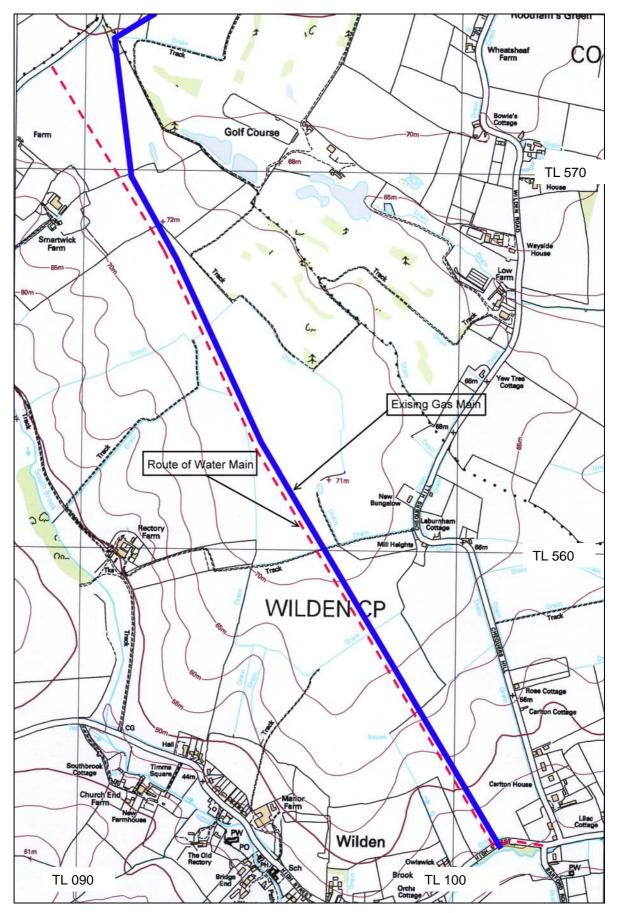


Figure 2: Route of pipeline (scale 1:10,000)

2. Aims & Methods

2.1 Aims

As described in the brief (Section 4), the aims of the watching brief were:

- To establish the date, nature and extent of activity or occupation in the development site;
- To establish the relationship of any remains found to the surrounding contemporary landscape
- To recover artefacts to assist in the development of type series within the region
- To recover paleo-environmental remains to determine local environmental conditions.

2.2 Standards

The work conformed to the project design, to the relevant sections of the Institute of Archaeologists' *Code of Conduct* (IFA 2000) and *Standard & Guidance Notes* (IFA 2001), to the Association of Local Government Archaeological Officers East of England Region *Standards for Field Archaeology in the East of England* (ALGAO 2003), and to the relevant sections of ASC's own *Operations Manual*.

2.3 *Methods*

The work was carried out according to the brief (Section 5) which required:

• Continuous observation of topsoil (and if necessary upper topsoil) stripping followed by the investigation and recording of archaeological features revealed.

3. Archaeological & Historical Background

The local and regional settings of archaeological sites are factors that are taken into consideration when assessing the planning implications of development proposals. The study area lies within an area of archaeological and historical interest and the site has the potential to reveal evidence of a range of periods.

3.1 *Earlier Prehistoric* (before 600BC)

A potential ring ditch (HER16695) noted only as a crop mark, is located c.500m from the northern end of the water main.

3.2 *Iron Age* (600BC-AD43)

Crop marks indicating the presence of a double ditched polygonal enclosure and an appended single ditched sub-rectangular enclosure (HER16697) are identified in fields lying c.300m to the east of the centre of the pipeline.

3.3 *Roman* (AD43-c.450)

A possible Roman track way runs north and northwest of the site (HER485), three sub-rectangular crop marks (HER14059) could be associated with the track way. A further sub-rectangular crop mark (HER16724) is recorded c.500m to the east of the centre of the pipeline.

3.4 Saxon (c.450-1066)

The village of Wilden appears in the Domesday Survey and is recorded as having had a value of £20 *Tempore Regis Edwardi* (TRE), meaning 'in the time of King Edward' (Williams & Martin 1992, 564). This entry suggests that the village had its origins in the Saxon period.

3.5 *Medieval* (1066-1500)

To the west of the core of the modern village of Wilden are sunken causeways, house platforms and fishponds of a DMV (Deserted Medieval Village) (HER765). In the area of Low Farm, *c*.600m east of the northern part of the pipeline, are probable medieval earthworks (HER4502) comprising an east-west aligned track way and associated fishponds. The HER also records a medieval road known as the 'Holloway' (HER11953), the route of which is still followed by an existing public footpath.

The HER records the location of a windmill or mill (HER3139) very close to the route of the pipeline easement, *c*.600m from its southern end. A mill is first recorded in 1291 when it was taxed and a structure is shown in this area on Jeffreys' map of 1765.

The settlement of Smartwick (HER17064) had a medieval origin and is located c.200m west of the northern end of the pipeline. The northern part of the pipeline crosses an area containing a north-south aligned double linear crop mark (HER 16696) that may be associated with the medieval activity at Smartwick. ASC Ltd (Hawtin 2005) carried out an archaeological evaluation prior to construction of a fishing lake located c.100m east of the northern part of the pipeline and two ditches, two pits, an

undated gully and a large ditch or pond were revealed. Some of these features contained medieval pot sherds and may suggest activity on the periphery of the nearby medieval settlement of Smartwick.

3.6 *Post-Medieval* (1500-1900)

East of the route of the pipeline, a small irregular parcel of land is labelled as 'Smartwick Green' (HER499) on the Pre Enclosure Field System Map c.1817.

3.7 *Modern* (1900-present)

OS mapping shows that some field boundaries were grubbed out but illustrate that little change occurred across the route of the pipeline.

4. **Results**

- 4.1 Machine stripping of top/subsoil on the site compound and the pipeline easement was superficial and remnants of subsoil remained on the surface over much of the underlying natural mid-yellowish brown clayey silt. The machine strip illustrated that soils on the route of the pipeline were shallow and the combined depth of the dark brown organic topsoil (c.0.2m) and the mid-brown organic silt subsoil (c.0.10m) rarely exceeded 0.3m.
- 4.2 The layer of undisturbed subsoil meant that it was difficult to visually determine whether small archaeological features cut into the surface of the natural strata and the monitoring of the topsoil strip was consequently constrained to inspection of the stripped surface for the presence of large features and collection of surface finds.
- 4.3 A limited number of unstratified surface finds were collected. The total assemblage comprised one sherd of medieval shelly ware recovered at NGR TL 0945 5635 plus an unretouched flint flake and a possible mid/late RB rim sherd of a flanged bowl recovered at NGR TL 0926 5070.
- 4.4 A *c*.2m x *c*.1m patch of dark organic material was partially visible underlying a thin layer of subsoil at NGR TL 09822 55651. Subsequent machining under archaeological supervision revealed that the feature extended *c*.5m west from the eastern boundary of the pipeline and ran for *c*.8m northwest-southeast. The feature extended beyond the eastern limit of the pipeline and appeared sub-circular in plan.
- 4.5 A section was machine excavated through the sub-circular feature revealing a *c*.2m deep concave profile [105]. The recorded stratigraphy consisted of a secondary fill of dark organic rich silt (103) containing frequent rounded river cobbles, pieces of sub-rounded limestone and fragments of angular flint which overlay a uniform primary fill of dark brown organic silty clay (104). An episode of deliberate backfilling is suggested by (103) and gradual infilling is indicated by (104). Archaeological finds were not recovered from either fill.
- 4.4 The walls of the *c*.0.4m wide and *c*.1.7m deep pipe trench were examined and other archaeological finds or features were not observed. Occasional natural bands of fine yellow sandy gravel were present in the natural mid brown silty clay.
- 4.5 The section of the pipe trench running along the High Street, Wilden was excavated through c.0.05m of asphalt and c.0.10m of clinker/ash hardcore which overlay a 0.60m deep layer of mid-brown silty clay containing infrequent fragments of relatively modern ceramic building material. The original water pipe was visible in the northern wall of the pipe trench and it is probable that much of the ground was disturbed by insertion of this pipe during the 19th/20th centuries.

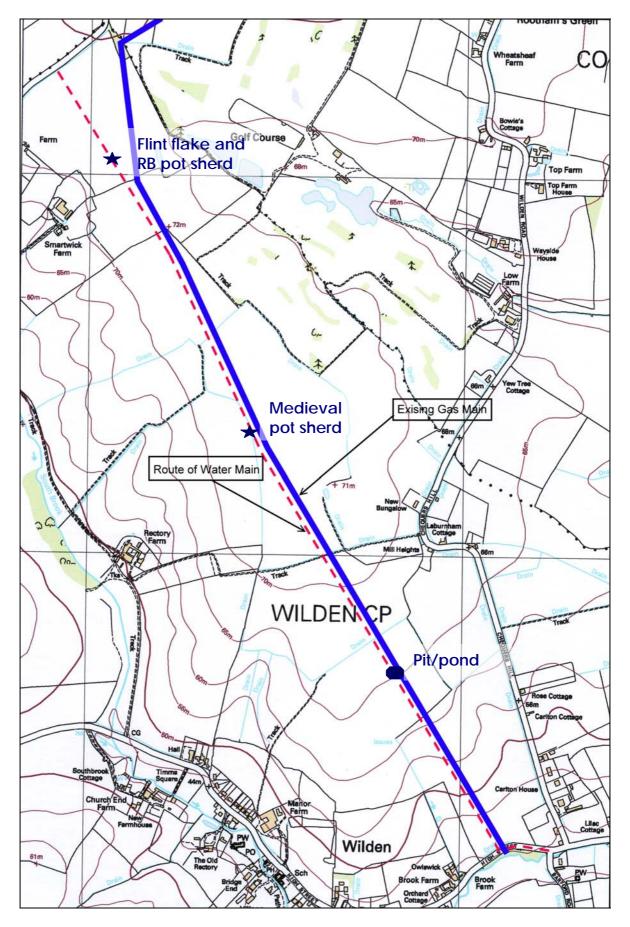


Figure 3: Location of archaeological feature and findspots (*scale 1:10000*)



Plate 1: Pipeline easement stripped of topsoil facing SE toward site compound



Plate 2: Pit/pond [105] facing NW



Plate 3: Pit/pond [105] facing SE



Plate 4: Natural strata and 280mm water main



Plate 5: Pipe trench facing SE toward site compound



Plate 6: Pipe trench on Wilden High Street facing E

5. Conclusions

- 5.1 It was difficult to determine whether small archaeological features were present along the route of the pipeline as the top/subsoil strip was very shallow and a layer of subsoil remained on the surface of the natural clay. The layer of subsoil remaining on the surface of the pipeline easement indicates the any small features cut into the natural clay will have remained undamaged.
- 5.2 The section of the pipe trench on Wilden High Street showed that this part of the pipeline closely followed the route of an earlier water pipe, which indicates that much of the surrounding soil/sediment matrix will have been disturbed. No archaeological finds or features were observed in this part of the pipeline.
- 5.3 The assemblage of unstratified archaeological artefacts recovered from the stripped surface of the pipeline was insignificant. The lack of surface artefacts could suggest ephemeral agricultural activity although any inferences regarding the scale of agricultural exploitation remain extremely tentative.
- 5.4 One large sub-circular feature was centred at TL 09822 55651 and its sub-circular plan form, concave profile and *c*.2m depth suggest that it was a borrow pit or field pond. The HER records a medieval/post medieval mill or windmill (HER3139) very close to the location of the feature and a structure is also shown in this area on Jeffreys' Map of 1765. The feature could be a borrow pit from which material for a windmill mound was excavated although evidence to support this hypothesis was not recovered. No artefacts or dateable material were recovered from the primary or secondary fills of the pit/pond and its antiquity is uncertain.
- 5.5 The primary fill of the pit/pond appeared to indicate gradual infilling while the unsorted nature of the secondary fill suggested an episode of deliberate backfilling. In the 20th century fragments of ceramic building material (CBM) were often used to consolidate the fill of depressions in agricultural land yet this type of material was absent from the fills of the pit. The absence of CBM and the fact that the secondary fill underlay an apparently undisturbed subsoil could suggest that the pit was infilled earlier than the 20th century.
- 5.6 The walls of the pipe trench were examined as it was excavated and did not appear to cut any other archaeological features.
- 5.7 The summarised evidence indicates that the pipeline passed through land that has been in agricultural use for centuries. The proximity of the pipeline to medieval villages suggests that it may have crossed part of the open field systems of these settlements although no evidence of the former presence of ridge and furrow was observed during the watching brief.

6. Acknowledgements

The writer is grateful to BSP Associates Ltd and Anglian Water Services Ltd. for commissioning this project and to Lesley-Anne Mather of Bedfordshire County Council for providing the brief. Thanks are also offered to the staff of Clancy Docwra Ltd who operated the excavating plant.

The fieldwork was carried out by Alastair Hancock BSc PgDip and David Fell MA MIFA. The report was written by A Hancock and Karin Semmelmann, MA AIFA and edited by Bob Zeepvat BA MIFA.

7. Archive

7.1 The project archive will comprise:

- 1. Brief
- 2. Project Design
- 3. Initial Report
- 4. Clients site plans
- 5. Site Monitoring Sheets
- 6. Finds
- 7. List of photographs/slides
- 8. CDROM with copies of all digital files.
- 7.2 The archive will be deposited with Bedford Museum.

8. References

Standards & Specifications

- ALGAO 2003 Standards for Field Archaeology in the East of England. East Anglian Archaeology Occasional Paper 14.
- EH 1991 *The Management of Archaeological Projects, 2nd edition.* English Heritage (London).
- IFA 2000a Institute of Field Archaeologists' Code of Conduct.
- IFA 2000b Institute of Field Archaeologists' Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology.
- IFA 2001 Institute of Field Archaeologists' Standard & Guidance documents (Desk-Based Assessments, Watching Briefs, Evaluations, Excavations, Investigation and Recording of Standing Buildings, Finds).
- Mather, L.A. 2005 Brief for a Programme of Archaeological Observation, Investigation, Recording, Analysis and Publication at the Barford to Kimbolton Road, Ravensden, Mains Reinforcement, Bedfordshire Bedfordshire County Council Heritage and Environment Group
- Rouse, C. 2006. Project Design for a Watching Brief: Reinforcement Water Main. Ravensden (Wilsden), Bedfordshire. ASC Ltd. Ref: 729/RWM/1.

Secondary Sources

- Hawtin T 2005 Archaeological Evaluation: Land at Colmworth Golf Course, Colmworth, Bedfordshire. ASC Ltd. Ref: 697/CGC/2
- Soil Survey 1983 1:250,000 Soil Map of England and Wales, and accompanying legend (Harpenden).
- Williams A and Martin G.H 1992 *The Domesday Book: A Complete Translation*. Penguin Books Ltd (London).

Appendix 1: Monitoring Sheets

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Contact:					Phone:			· · · ·
Duration of ((inc. travel):		Start:	2.00		Finish:	3.	30	
Completed by	y:	ADH						
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Footings	Services	Roads	Levelling	Quarrying	Pipelines Othe	er (spec	cify):	
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		NITORING RECORD
i sudiante la contracta de la	o/Code: 2. 17500M	Sheet:
WATER MAIN Visit	26/1	<u>[</u>
Client/Developer		
Contact	Phone:	
The second se	Elainda.	
Duration of Visit Start: 14.00	Finish:	16.00
Completed by: Ask		
Development Type: Footings Services Roads Levelling Quarrying 1	Pipelines Other	(specify).
	harmon and a second	(
Sits & weather conditions:		
OVERCAST AND LUH	201	
Observations:	A	Scale STRID
C. SODM OF PIPETRENCH EX		J-JUIC SIKIF
C. 500 M OF PIPETRENCH EX	WAVATED	
		A
NO ARCH FINDS OR FEAT	where obse	XVED
LARGE INCEGULAR FERTUR	E MUVEC	TIGATENLIMISS
CONTRO AT TL 09827		
Driewsions c. But x 3m.	CUT	ON LESTERN
SIDE BY PEBBLE FILLED CU		
STRAT C. O.G. (100) TOP		uunnuunnuttu ² i
20.1n (10) SUB		
		- <u>la</u>
. O.S.M (103) DARK ORGANIC		4
INCLUS	ionis - SPONE	VARIES IN SIZE
	*******	Source is reactionsted
AND 1	HEATED ?	+ _ + 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100
c.l.Sm (04) DARK BROWN 0	REANIC SI	- T ,
Comments: NAT (102) MW VELLOWISH B		

FEATURE APPEARS DELIBERATELY		
NO DATEABLE MATERIAL RECOVERED		
LARGE BORROW PTT OR FIL	erd ford	5
ONE FLINT FLAME AND ONE \$	DOF RB?	POT RECOVERD
AT TI 0926 5070		

A.S.C. LTD ARC	CHAEOLOGICAL FIELD MONITORING RECOR
Project: RAVENSDEN	Project No/Code: Sheet: 722 / RWM 13 of
REINFORCEMENT WATER MAIN	Date of ↓ visit:
Client/Developer	•
Contact:	Phone:
Duration of Visit Start: 14 °50	Finish:
Completed by:	
De	evelopment Type:
Footings Services Roads Levelling	Quarrying Pipelines Other (specify):
Site & weather conditions:	
OVERCAST -	+ WARM
Observations:	
LITTLE PLOCALESS	ON TOPSOIL STRIP -
C. 100m AS INSERT	TING PIPE AND CONSTRUCTION
CROSSING AT FIELD	D BOUNDARY DITCH.
	2
	PIPE TRENCH EXCLATED
SINCE LAST UISIT.	· · · · · · · · · · · · · · · · · · ·
NO ARCH FINDS	OR FEATURES OBSERVED
Commonto	
Comments: PIPE TRENCHING	RE COMMENCING ON FRIDAY
30/6/06 - FURT	RECOMMENCING ON FRIDAY HER VISIT REQUIRED PM.

A.S.C. LTD ARCHAE	OLOGICAL FIELD MONITORING RECORD
Project: RAVENSDEN	Project No/Code: Sheet: 722 / RWM /4 of
REINFORGHENS WATER MAIN	Date of 3 07 06
Client/Developer	• • •
Contact:	Phone:
Duration of Visit Start: (inc. travel):	Finish: 15.00
Completed by:	
Developm	
Footings Services Roads Levelling Qua	arrying Pipelines Other (specify):
Site & weather conditions:	
SUNNY +	V.V. HOI
Observations:	
MAJORITY OF TOPS	OIL NOW STRIPPED
	ENSEMENT LEFT TO STRIP.
NO ARCH FINDS OF	l Emeriles ascent
	C FEATURES OBSERVED.
t and 200	
PWETHER LOUM OX	2 PIPE TRENCH EXCAVATES
NO ARCH FEATURES	VISIBLE IN SECTION.
Comments:	
TRENCHING MACHINE	- BROKEN DOWN.
TRENCHING MACHINE RECOMMENCE PIRE TRENCH	H ON FRIDAY 7/07
AFTER MACHINE REPLACED	· •
VISIT NECESSARY	

A.S.C. LTD	ARCHAE	OLOGIC	AL FIELD	MONI	TORING	RECORD
Drojact'	O - WILDEN		/Code: . 1 RL	эМ	Sheet:	of 15
KEINFORCE MENT	WATER MAIN	Date of visit:	10	07	06	
Client/Developer					•	
Contact:			Phone:			
Duration of Visit Start: (inc. travel):	12-00		Finish: 2	- 07)	
Completed by:	м					
	Developm					
Footings Services Roa	ads Levelling Qua	arrying P	ipelines C	other (spe	cify):	
Site & weather conditions:	1222 105 14					
	UERCAST - M	ng				
Observations:						
	CTION OF					
NO ARC	HAEOLOGICAL	- 71	NDS OR	2 FE	ATTURE	S
BESERVED.						
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				2 · · ·		
Comments:						
NO F	ONNDWORK	JIST	s ne	CES	SARY	
AS GR	ONNDWORK	Com	PLETE			

Appendix 2 List of Photographs

SITE NA	ME:Raven	isden (W	ilden) Rei	nforcement Water Main SITE NO/CODE: 729/RWM			
Shot	B&W	Slide	Digital	Subject			
1			✓	Topsoil strip site compound			
2			~	Site compound after brick rubble laid			
3			✓	General topsoil strip			
4			✓	General topsoil strip			
5			✓	General topsoil strip			
6			✓	General topsoil strip			
7			✓	General pipe trench			
8			✓	General pipe trench			
9			✓	General pipe trench			
10			✓	General pipe trench			
11			\checkmark	Pipe trench Wilden High Street			
12			\checkmark	Pipe trench Wilden High Street			
13			✓	Plan shot of pit [105] facing southeast			
14			✓	Plan shot of pit [105] facing northwest			
15			✓	Plan shot of pit [105] showing section through fill facing east			
16			✓	Plan shot of pit [105] showing section through fill facing east			
17			✓	Section through natural in pipe trench.			
18			✓	Section through natural in pipe trench.			
19			✓	Section through natural in pipe trench.			
20			✓	Section through natural in pipe trench.			

Appendix 3: ASC OASIS Form

		PROJE	CT DETAILS						
Project Name:	Reinforcemen	Reinforcement Water Main: Ravensden (Wilsden) Bedfordshire							
Short Description:	out a watchi wide route o Barford Ro Bedfordshire A single larg water main. medieval min finds were n field pond al	ng brief for Ai f a reinforcem oad and Kin c. ge feature was The Historic Il or windmill (ot recovered f	nglian Water Se ent water main ubolton Road, revealed durin Environment R (HER 3139) in a rom the fill and ssible that it wa	ervices Ltd al which ran ac east to r ng the ground ecord lists th the area of th l it could defi	onsultancy Ltd (ong the c.2.1km cross open farm oorth-northwest dworks for the f e location of a e revealed featu- ine the position p pit from which	long by 20m land between of Wilden, reinforcement medieval/post tre. Dateable of an infilled			
Project Type: (indicate all that apply)	DBA	FW	Geophys	Survey	Bldg Rec	Post-Exc			
	WB	Strip&Rec	Trenching	Test pits	Exc	Other			
Site status: (eg. none, SAM, Listed)	None	. ·	Previous work: (eg. SMR refs)	· · · · ·	None				
Current land use:	Farmland		Future work: (yes / no / unknow		No				
Monument type:	Unidentified		Monument period	:	Unknown				
Significant finds: (artefact type & period)	Medieval pottery								
		PROJEC	T LOCATION						
County:	Bedfordshire		OS reference: (to at least 8 figures)		TL 1020 5522 to TL 0888 5727				
District:			Parish:	Parish:		Wilden			
Site address: (with postcode if known) Study area: (sq. m. or ha)	2.1km x 20m		Height OD: (metres)		42-70m AOD				
		PRO IECT	CREATORS						
Organisation:	Archaeological Se	ervices & Consultan							
Project brief originator:	L-A. Mather		Project design ori	ginator:	Calli Rouse				
Project Manager:	Bob Zeepvat		Director/Supervis	or:	Alastair Hancock				
Sponsor / funding body:	BSP Associates L	.td.	·		·				
			ECT DATE						
Start date:	1 st June 1000	6	End date: 10 th July 2006						
			TARCHIVES						
		ccession no.)		. pottery, anim	al bone, files/shee	ets)			
Physical:	N/A		N/A						
Paper:	Bedford Museum		1 Box						
Digital:	Bedford Museum		1 CD						
	IOGRAPHY (Journal								
Title: Serial title & volume:	Watching Brief: R	eintorcement Eater	Main: Ravensden (Wi	iden) Bedfordshire	1				
Author(s):	Karin Semmelma	nn							
Page nos			Date:						