Covenham WTW to Boston Transfer Lincolnshire

Archaeological Fieldwalking Report
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Archaeological Fieldwalking Report

Covenham WTW to Boston Transfer

Archaeological Fieldwalking Report

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Report Date: February 2012

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Prepared by:	Louise Bush
Position:	Project Officer
Date:	February 2012
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Date:	February 2012
Signed:	.....

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Summary

Between 13 September and 7 October 2011, Oxford Archaeology East carried out an archaeological fieldwalking survey and a 175 trench archaeological evaluation on a 60km long and 30m wide pipeline corridor between Covenham St Mary (535300 395852) and Boston (535533 345072), Lincolnshire. This was undertaken in advance of the laying of a water pipe and the construction of pumping stations, temporary discharge lagoons and construction compounds.

Along its length, the proposed pipeline passes through areas of flat arable farmland, the rolling hills of the Lincolnshire Wolds and the fen edge and fenland landscapes. The pipeline extends through and close to a number of areas of archaeological interest.

The fieldwalking showed concentrations of struck and reworked flint immediately south of the village of Harrington, indicating the potential for prehistoric activity in this area. Fields on the eastern periphery of Sibsey displayed a high proportion of pottery from the Roman period as did fields to the east of Yarburgh. A large assemblage of medieval pottery came from fieldwalking just south of Old Bolingbroke, implying the possibility for a settlement site on or near this area.

1 INTRODUCTION

1.1 Location and scope of work

1.1.1 An archaeological fieldwalking survey was conducted between Covenham St Mary and Boston, Lincolnshire (Fig. 1).

1.1.2 These archaeological works were undertaken in accordance with a Specification prepared by Mott MacDonald on behalf of Anglian Water Services and supplemented by a Method Statement prepared by Oxford Archaeology East.

1.1.3 The work was designed to assist in defining the character and extent of any archaeological remains within the proposed redevelopment area, in accordance with the guidelines set out in *Planning Policy Statement 5: Planning for the Historic Environment* (Department for Communities and Local Government 2010). The results will enable decisions to be made by Lincolnshire County Council Historic Environment Team (LCC HET), on behalf of the Local Planning Authority, with regard to the treatment of any archaeological remains found.

1.1.4 The site archive is currently held by OA East and will be deposited with the appropriate county stores in due course.

1.2 Geology

1.2.1 The British Geological Survey maps (1:50,000 sheet 103, 1978; sheet 115, 1991 and sheet 128, 1995) indicate that the geology for the pipeline route between Covenham and Swaby consists of boulder clay over Cretaceous chalks. To the south of Swaby the solid geology changes where the pipeline enters the Lincolnshire Wolds. The pipeline crosses areas of Cretaceous clays and marls to the north of Harrington and areas of Spilsby Sandstone deposits between Harrington and Old Bolingbroke. Drift deposits of head, alluvium and river sand and gravels are present, where the River Lymn Valley cuts through the Wolds between Sausthorpe and Hundleby. At Old Bolingbroke the pipeline enters the head of a valley and cuts across an area of head, river terrace and alluvial deposits.

1.2.2 The geology for the pipeline route between Miningsby Reservoir and East Kirkby cuts across river valley deposits comprising head, river terrace and alluvial deposits over solid geology of Spilsby Sandstone. Between East Kirkby and Stickford, the proposed pipeline crosses an area of drift deposits consisting of Glacialfluvial sands and gravel, and Glacial till over a solid deposit of Jurrasic Clays. Between Stickford the pipeline crosses over an area of alluvial fen deposits, which started forming during the Neolithic period. Between Cowbridge Drain and Wainfleet Road, the pipeline crosses through an area of fen alluvial deposits, which are thought to have started forming during the Romano-British period (Hopper 2011).

1.3 Topography

1.3.1 The topography of the pipeline route between Covenham WTW and Alvingham consists of an almost fen-like flat landscape (*c.*10m OD) comprising large arable ditched fields. At Alvingham the land rises to *c*.30m OD before dropping again to *c.*10m OD where it is cut by the Lud Navigation at Manby. The land around Manby and Legbourne is fairly flat, before the pipeline enters the low foothills of the Lincolnshire Wolds at Authorpe, where the topography rises to around 50m OD. From here, the route passes through the rolling hills cut by the Lymn Valley, reaching a peak of over 100m OD to the north of

Hundleby. The pipeline then drops into the valley to the south of Old Bolingbroke before reaching Miningsby Reservoir at a height of *c.*50m OD.

1.3.2 Between Miningsby and East Kirkby the proposed pipeline route runs south along a valley at the southern edge of the Lincolnshire Wolds, dropping from *c.*50m OD to *c.*10m OD. Just to the north of East Kirby the valley meets an area of fen edge (*c.*20m OD). The proposed pipeline then follows the fen edge around the eastern side of East Kirkby (*c.*10m OD), before entering the Lincolnshire North Fen to the south of Stickford. Between Stickford and Wainfleet Road, the landscape consists of large flat, ditched fields (around 0m OD) and is criss-crossed by large dikes. Within this flat landscape the proposed pipeline passes to the east of fen islands at Stickney and Sibsey (Hopper 2011).

1.4 Archaeological background

1.4.1 The archaeological summary below is taken from the Desk Based Assessment (Hopper 2011).

Covenham to Miningsby

1.4.2 A number of potential sites of archaeological interest lie close to or directly in the line of the pipe route, these are mainly evident in the form of cropmarks.

1.4.3 Prehistoric sites have been identified via cropmarks close to Alvingham and the presence of a Neolithic long barrow (HER 43171) and Bronze Age round barrows (HER 44175 and HER 46956) south of Swaby reinforce the potential for Prehistoric activity within the pipeline corridor.

1.4.4 A barrow and associated cropmark enclosures have also been identified close to Harrington (HER 45344 and HER 42886), implying the potential for associated settlement sites. The discovery of a flint scatter (HER 43407) nearby underlines this potential.

1.4.5 An area of potential Roman ceramic building material (CBM) was observed in a field to the south of Hundleby, within close proximity to the proposed pipeline route. Roman activity around the area of Brink Hill is also possible as a Roman Road has been identified as bisecting the pipeline here.

1.4.6 A number of potential medieval archaeological areas have been identified directly within or close to the proposed pipeline route including ridge and furrow earthworks, settlement/backplot earthworks and a scatter of possible medieval CBM. Settlement/backplot earthworks have also been observed close to the pipeline at Old Bolingbroke.

1.4.7 Post-medieval and modern building material is also noted in a number of fields along the route but these are likely to be associated with modern agricultural activity.

Miningsby to Boston

1.4.8 In the fenland area of the pipeline route, a number of fen edge/fen island areas were identified close to or directly in the line of the proposed pipeline route, as well as an area of peat shrinkage. These fen islands and fen edge areas were ideal for prehistoric activity and therefore have the potential for prehistoric archaeology.

1.4.9 A number of flint scatters have been identified within the pipeline route close to Stickford and Stickney. Further Neolithic and Bronze Age flint scatters (HER 40870) have been recorded within the pipeline route at East Keal.

1.4.10 To the west of Stickford itself, the pipeline route passes through an area of intensive prehistoric activity. A Bronze Age settlement (HER 41009) has shown evidence for midden material, buried soils and other well preserved deposits.

1.4.11 The only evidence for Roman activity has been identified via pottery and a coin scatter at Sibsey.

1.4.12 Evidence for Medieval activity is less abundant on the southern half of the pipeline. Nonetheless, it is present close to the village of East Kirkby, where the pipeline crosses an area of earthworks associated with a deserted medieval village (HER 44794).

1.5 Acknowledgements

1.5.1 The author would like to extend thanks to Anglian Water Services who funded the archaeological work and to Maurice Hopper and Josh Williams of Mott MacDonald for commissioning it.

1.5.2 The project was managed by Richard Mortimer. Pottery identification was undertaken by Carole Fletcher and Stephen Wadeson. The flint was assessed by Richard Mortimer.

1.5.3 The fielldwalking was carried out by the author, with the aid of Dave Brown, Nick Cox, Michael Green, Lindsey Kemp, David Maron, Gareth Rees and Pete Schofield.

2 Aims and Methodology

2.1 Aims

2.1.1 The objective of these works was to determine as far as reasonably possible the presence/absence, location, nature, extent, date, quality, condition and significance of any surviving archaeological deposits within the development area.

2.2 Methodology

2.2.1 Due to the great distances covered and the very large number of fields encompassed by this pipeline, the fieldwalking was divided into twenty-six areas, assigned letters A through to Z. Areas of regular fieldwalking (three transects walked at 15m intervals) are covered by letters A to T whilst the intensive fieldwalking (five transects at 7.5m intervals) have the prefix letters U to Z (Fig. 2a and Fig. 2b).

2.2.2 Once the twenty-six areas were determined, each area was subdivided further so that each field within an area received an individual label. For example, area B encompassed nine fields, thus each field (starting from the north and moving south) was labelled B1, B2, B3 etc. through to B9.

2.2.3 A 60m grid was laid out with a Leica GPS 1200, aligned with the route of the pipeline. In accordance with the Specification (Hopper 2011), within the 30m wide construction corridor regular fieldwalking was made up of three transects 15m apart, and the intensive fieldwalking areas of five transects 7.5m apart. Within the transects finds were bagged and labelled within 20m collection areas.

3 Results

3.1 Introduction

3.1.1 Table 1 summarises the fieldwalking areas and how many finds were recovered from those areas.

Area	*Regular / Intensive*	*Size (ha)*	*No. of flints*	*No. of Roman pot sherds*	*No. of med pot sherds*	*No. of transitional pot sherds*	*No. of post-med / modern ceramic*	*No. of post-med / modern CMB*	*Total*
A	R	1.8	3			1	4	8	***16***
B	R	7.63	5	24	2	4	11	54	***100***
C	R	0.44	3	1	6	2	5	17	***34***
D	R	14.48	3	2	8	1	4	23	***41***
EE	R	2.92	1	11			4	1	***17***
F	R	5.08	3		4	2	6	4	***19***
G	R	11.83	4	2		5	2	12	***25***
H	R	1.96	3					2	***5***
I	R	3.62	1					1	***2***
J	R	7.1	4	5		2	9	16	***36***
K	R	3.3	8	1	6	1	2	4	***22***
L	R	2.94					2	4	***6***
M	R	4.29	2	5		5	3	5	***20***
N	R	2.1	31	2	13	15	23	6	***90***
O	R	0.92	3		1	7	4		***15***
P	R	2.87	1			2	3	1	***7***
Q	R	3.51							***0***
R	R	2.59							***0***
S	R and I	3.46	1	124	2	3	12	32	***174***
T	R	0.59				1		1	***2***
U	I	0.46							***0***
V	I	8.69	26	25	12	27	28	42	***160***
W	I	6.68	75		9	4	18	15	***121***
X	I	16.21	52		110	360	94	313	***929***
Y	I	1.86	1			5	5	10	***21***
Z	I	0.22							***0***
Total		***117.55***	***230***	***202***	***173***	***447***	***239***	***571***	***1862***

Table 1: Fieldwalking results by area

3.2 Finds Summaries

3.2.1 A total of 1,862 finds were recovered during the fieldwalking. These varied in date from the Late Neolithic through to post-medieval periods.

Struck flint (by Richard Mortimer)

3.2.2 Approximately 200 pieces of struck flint were collected from the second stage of fieldwalking and represent a mixed assemblage of material dating from the late Mesolithic through to the Bronze Age. The material is in a variety of conditions, much of it abraded and plough-struck. Table 2 below lists the fields with flint assemblages, the number of collection points containing flint and the number of flints collected. Only two fieldwalking areas produced assemblages of struck flint in double figures – W4 and N3 - with W4, producing significant quantities. The two larger assemblages are detailed below in Table 3 and they include early Neolithic elements (small blades and cores) alongside later Neolithic/early Bronze Age pieces (short, fat flakes and thumbnail scrapers).

Collection points	***No. Flints***	***Field Numbers***
35	64	W4
13	17	N3
8	8	V2
7	7	X2
5	5	X13
5	6	V1
4	7	X11
3		A1, D10, N2, O1, X19
2		B7, C4, G11, H1, J1, J3, W3, K4, X3, X10, X12, X18
1		B5, C5, F1, F2, F3, G5, G6, H2, I1, EE1, K3, M2, M4, S10, X1, X7, X9, X17, X20, X22, P3, Y2

Table 2: Struck flint by field

Field	**Retouched**	**Cores**	**Flakes**	**Chunks**	**Chips**	**Burnt**	**Total**
W4	5	4	18	28	8	1	64
N3		3	8	4	2		17

Table 3: Struck flint from fields W4 & N3

The Romano-British pottery (by Stephen Wadeson)

Introduction

3.2.3 A moderately sized assemblage of Romano-British (mid 1st to late 4th century AD) pottery was recovered during fieldwalking. The assemblage is fragmentary with the majority of the sherds abraded with little evidence for surface finishes surviving. The poor condition of the pottery indicates high levels of post-depositional disturbance, possibly the result of middening and/or manuring as part of the waste management

during the Roman period (Lyons 2008) and would suggest that the majority of the sherds were not found within their site of primary deposition.

The Assemblage

3.2.4 The majority of the assemblage is of an utilitarian nature with locally produced domestic sandy coarse wares, predominantly Sandy Grey wares accounting for the majority of the material recovered. The majority of the sherds are unsourced and can be difficult to date unless rims are present, where specific types could be assigned the majority of sherds are from a variety of jars (including lid seated) and bowls. Pottery of this type is common in most domestic assemblages in this region throughout the Roman period.

3.2.5 The only remains of finewares identified within the assemblage was a occasional sherds of Nene Valley colour coated fine wares (Tomber and Dore 1998, 118). Produced in the Lower Nene Valley and centered on the Roman town of Durobrivae (Water Newton) the sherds are most probably fragments from beakers and can initially be dated from the mid/late second century to early third century AD.

Discussion

3.2.6 The majority of the assemblage is not closely datable and spans a wide chronological period from the mid 1st to late 4th century AD providing evidence of activity in the area throughout the Roman period. Fabrics and forms present within are typical of a utilitarian domestic assemblages recovered from low order settlements. Consistent with other Roman sites of this date the assemblage would suggest the presence of an as yet unlocated Romano-British settlement of farmstead in the vicinity.

Medieval to post-medieval pottery (by Carole Fletcher)

3.2.7 The fieldwalking produced a moderate sized assemblage of abraded post-Roman pottery. 173 sherds were characterised as medieval, 447 sherds as late medieval/early post-medieval and 239 as post-medieval wares. Fabrics present include a number of medieval types, including glazed sherds from what has been identified as Toynton ware (TOY) and possibly late medieval Toynton ware (TOYII). Also present area small number of other glazed sherds including Lincolnshire glazed ware. Post-medieval fabrics are common including sherds of post-medieval glazed red earthenwares (GRE) and later fabrics including Staffordshire slip wares, Nottinghamshire and English stonewares and refined white earthen ware transfer printed vessels.

4 Conclusions

4.1.1 During the fieldwalking, around 120 hectares of the pipeline route were walked for finds retrieval in a mixture of regular and intensive transects. As a result, several sites of potential archaeological interest have been highlighted. Table 4 below shows Field numbers against significant (**o**) and extensive (**X**) assemblages of material by period.

4.1.2 A large flint assemblage was collected from Field W4, with smaller assemblages in both areas V, N and X.

4.1.3 Romano-British ceramics were recovered in significant quantities in Areas B (Fig. 3), V (EE) and S; medieval wares again in Areas V, N and X; transitional wares in V, O and X and post-Medieval in Areas V, N and X.

4.1.4 Some of these areas, such as Fields V2, N3 (Fig. 6) and X2 show potential for multi-period remains (Fig. 8).

Field	B5	B7	V1	V2	EE1	W4	N3	01	S10	X2	X3	X4	X13	X17	X18
Prehistoric			o	o		X	o			o			o		
Roman	o	o		X	o				X						
Medieval				o			o			X				o	o
Transitional				o				o		X	X	o		o	o
Post-Medieval				o			o				X				

Table 4: Significant finds assemblages

4.1.5 Area V produced high quantities of both struck flint and Roman pottery (Fig. 4). The course of a Roman Road is known to bisect the pipeline in Area V, thus offering partial explanation for the density of finds here.

4.1.6 An extremely dense scatter of struck flint was seen across Field W4 in Area W (see Fig. 5). The assemblage includes a reasonably high number of cores. The field immediately south of this (Field W5) was not walked due to it being partially covered in beet crop, but this field may also contain a high number of flint finds.

4.1.7 The most eastern part of Area X, in Fields X2 and X3 was seen to contain a very large number of medieval and late medieval/transitional wares alongside and a fairly concentrated cluster of stuck flint (Fig. 7). The location, adjacent to a road, is a good one for the potential remains of a medieval settlement.

4.1.8 Across the southern half of Area S, a very dense scatter of Roman pottery was seen (Fig. 9). This is likely to be associated with the Roman remains uncovered in Trenches 76-78 to the immediate south.

APPENDIX A. BIBLIOGRAPHY

Hopper, M. 2011 *Covenham WTW to Boston Transfer: Archaeological Desk-Based Assessment and Walkover Survey.* Mott MacDonald. Unpublished.

APPENDIX B. OASIS REPORT FORM

All fields are required unless they are not applicable.

Project Details

OASIS Number	oxfordar3-119116		
Project Name	Covenham WTW to Boston Transfer, Lincolnshire: Archaeological Fieldwalking Report		
Project Dates (fieldwork) Start	13-09-2011	Finish	07-10-2011
Previous Work (by OA East)	Yes	Future Work	Yes

Project Reference Codes

Site Code	CWTW11	Planning App. No.	
HER No.		Related HER/OASIS No.	oxfordar3-101660

Type of Project/Techniques Used

Prompt	Planning agreement (Section 106 or 52)
Development Type	Pipelines/Cables

Please select all techniques used:

☐ Aerial Photography - interpretation	☐ Grab-Sampling	☐ Remote Operated Vehicle Survey
☐ Aerial Photography - new	☐ Gravity-Core	☐ Sample Trenches
☐ Annotated Sketch	☐ Laser Scanning	☐ Survey/Recording Of Fabric/Structure
☐ Augering	☐ Measured Survey	☐ Targeted Trenches
☐ Dendrochronological Survey	☐ Metal Detectors	☐ Test Pits
☐ Documentary Search	☐ Phosphate Survey	☐ Topographic Survey
☐ Environmental Sampling	☐ Photogrammetric Survey	☐ Vibro-core
☒ Fieldwalking	☐ Photographic Survey	☐ Visual Inspection (Initial Site Visit)
☐ Geophysical Survey	☐ Rectified Photography	

Monument Types/Significant Finds & Their Periods

List feature types using the NMR Monument Type Thesaurus and significant finds using the MDA Object type Thesaurus together with their respective periods. If no features/finds were found, please state "none".

Monument	Period	Object	Period
	Select period...	Pottery	Iron Age -800 to 43
	Select period...	Pottery	Roman 43 to 410
	Select period...	Flint	Mesolithic -10k to -4k

Project Location

County	Lincolnshire	Site Address (including postcode if possible)	
District	East Lindsey and Boston	Covenham St Mary (535300 395852) to Boston (535533 345072)	
Parish			
HER	Lincolnshire County Council		
Study Area	60km	National Grid Reference	TF

Project Originators

Organisation	OA EAST
Project Brief Originator	N/A
Project Design Originator	N/A
Project Manager	Richard Mortimer
Supervisor	Louise Bush

Project Archives

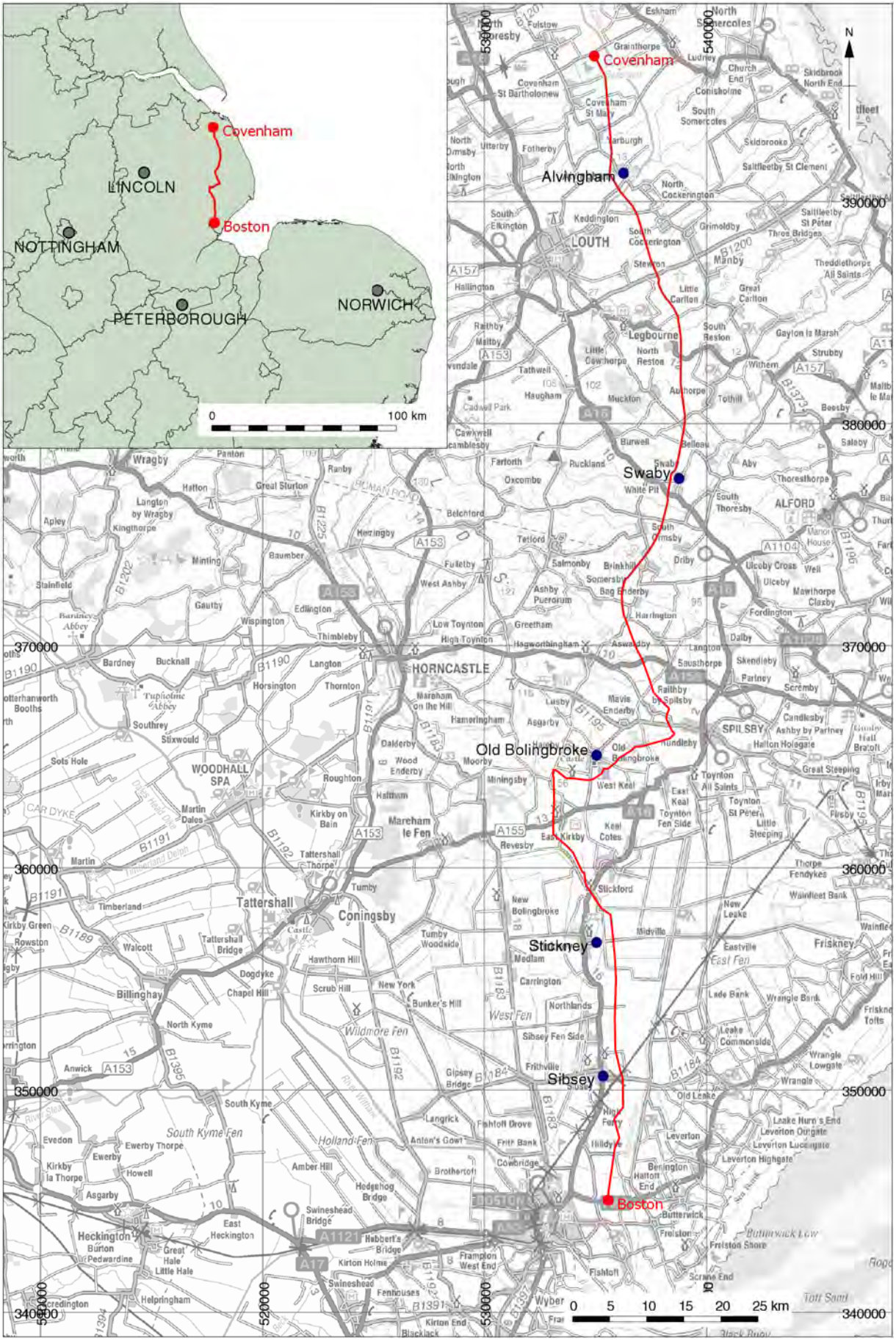
Physical Archive	Digital Archive	Paper Archive
Lincolnshire County Store	OA East	Lincolnshire County Store
CWTW11	XLICBP11	CWTW11

Archive Contents/Media

	Physical Contents	Digital Contents	Paper Contents
Animal Bones	☐	☐	☐
Ceramics	☒	☐	☐
Environmental	☐	☐	☐
Glass	☒	☐	☐
Human Bones	☐	☐	☐
Industrial	☐	☐	☐
Leather	☐	☐	☐
Metal	☒	☐	☐
Stratigraphic		☐	☐
Survey		☒	☐
Textiles	☐	☐	☐
Wood	☐	☐	☐
Worked Bone	☐	☐	☐
Worked Stone/Lithic	☒	☐	☐
None	☐	☐	☒
Other	☐	☐	☐

Digital Media	**Paper Media**
☐ Database	☐ Aerial Photos
☐ GIS	☐ Context Sheet
☐ Geophysics	☐ Correspondence
☐ Images	☐ Diary
☒ Illustrations	☐ Drawing
☐ Moving Image	☐ Manuscript
☐ Spreadsheets	☐ Map
☒ Survey	☐ Matrices
☒ Text	☐ Microfilm
☐ Virtual Reality	☐ Misc.
	☐ Research/Notes
	☐ Photos
	☐ Plans
	☒ Report
	☐ Sections
	☐ Survey

Notes:



Contains Ordnance Survey data © Crown copyright and database right 2011

Figure 1: Site location map

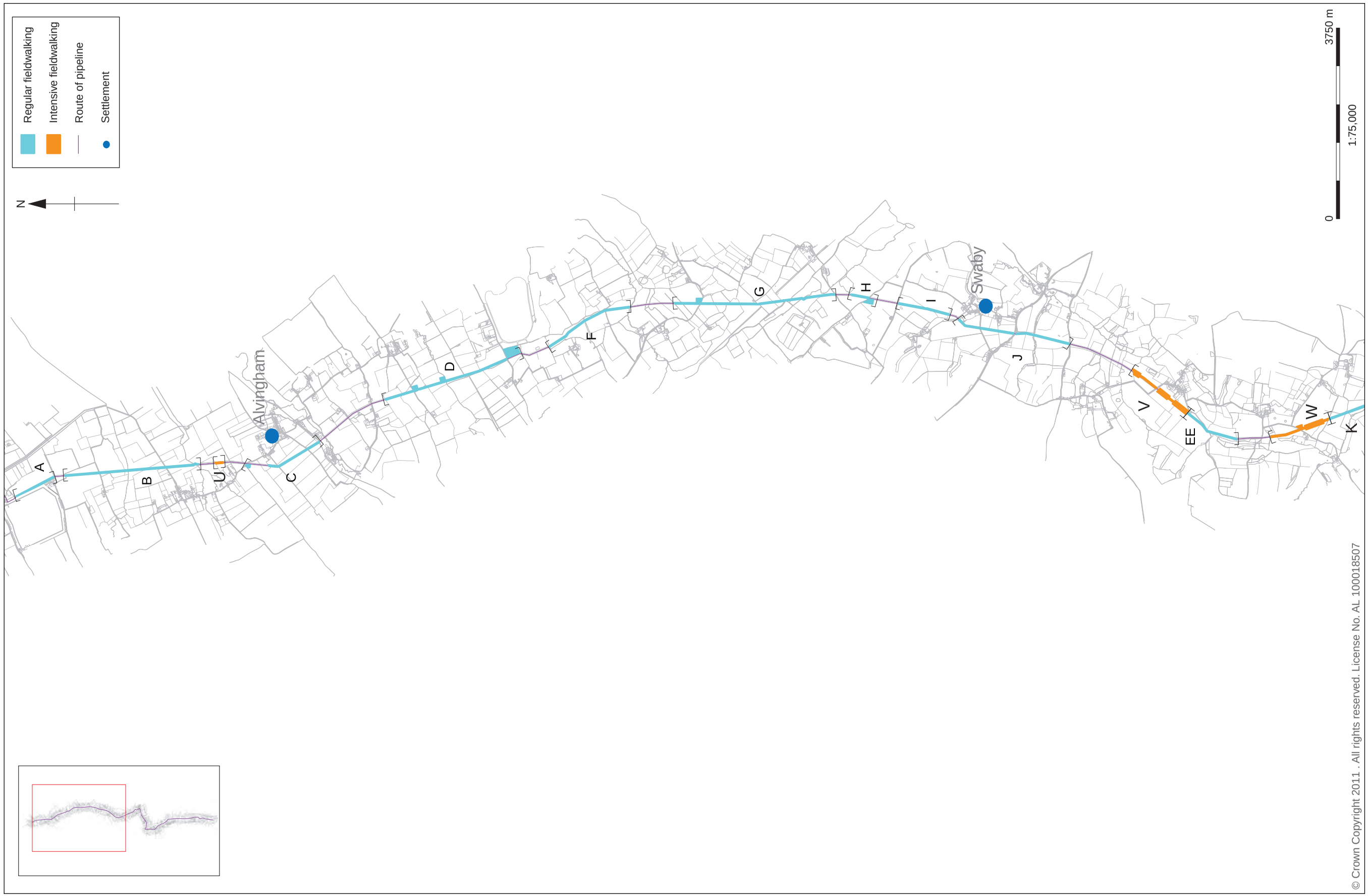


Figure 2a: Northern route of pipeline showing fieldwalking areas

Figure 2b: Southern route of pipeline showing fieldwalking areas

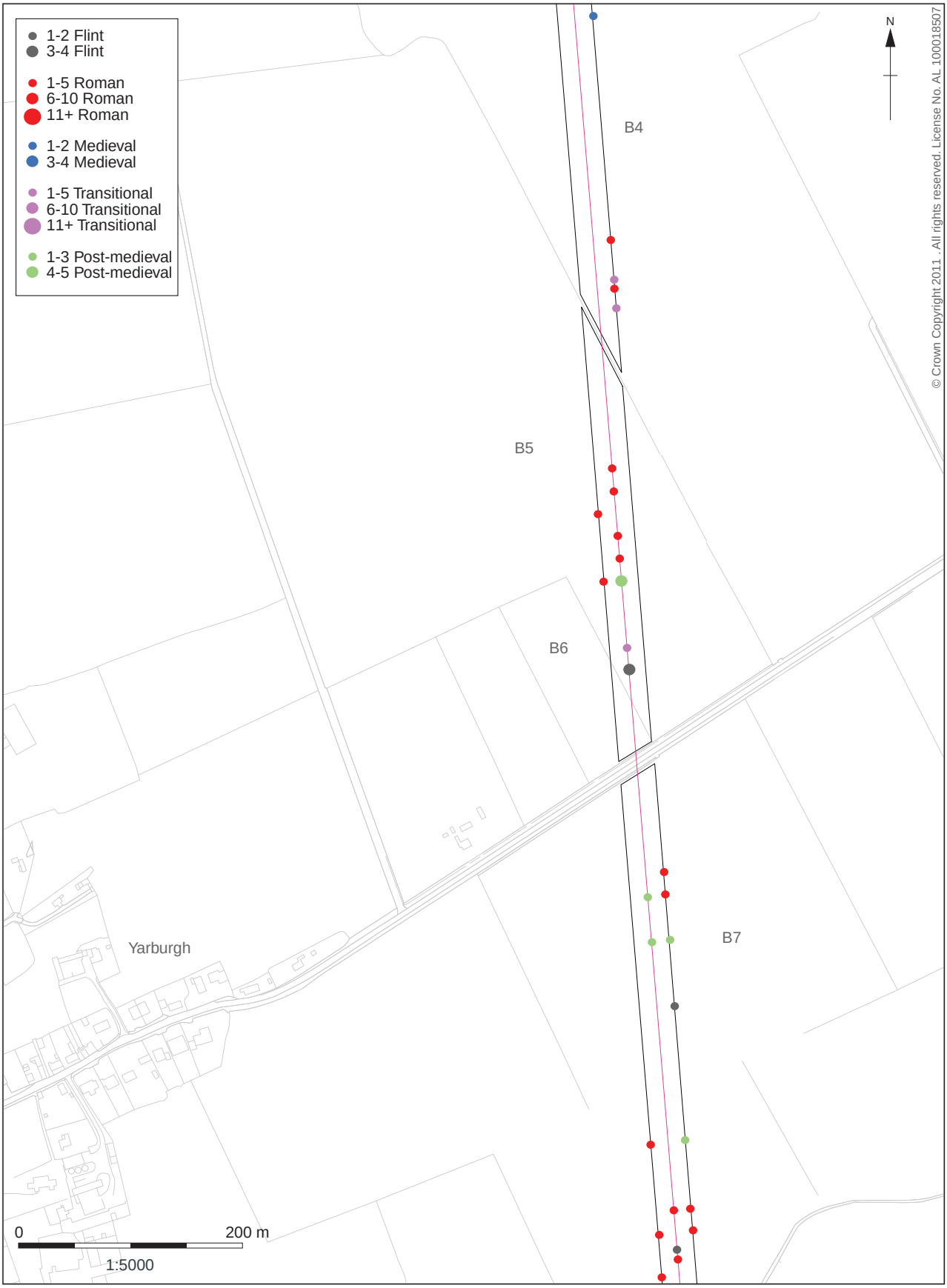


Figure 3: Fieldwalking plot - B4 to B7

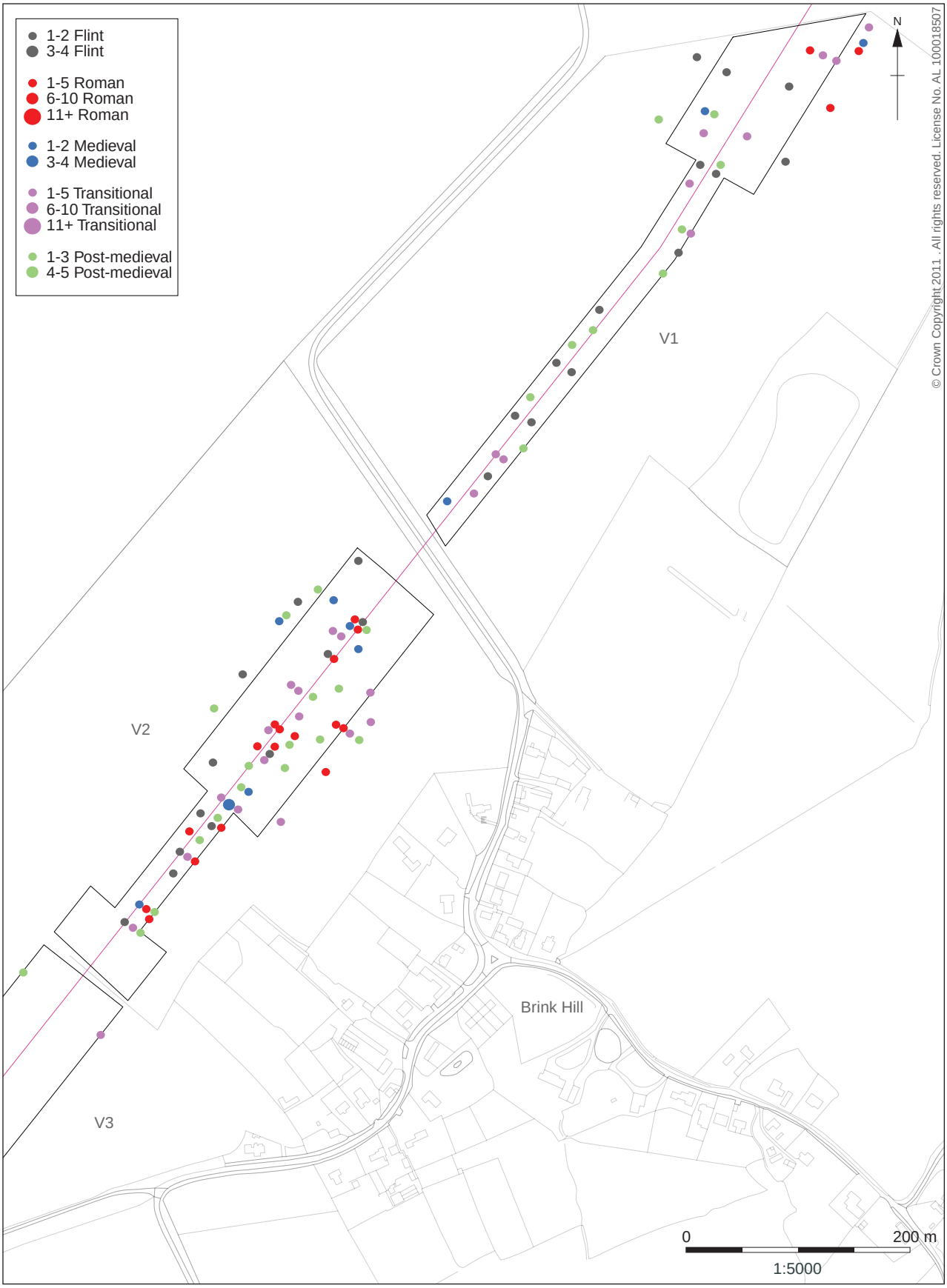


Figure 4: Fieldwalking plot - V1 to V3

Figure 5: Fieldwalking plot - W3 to W4

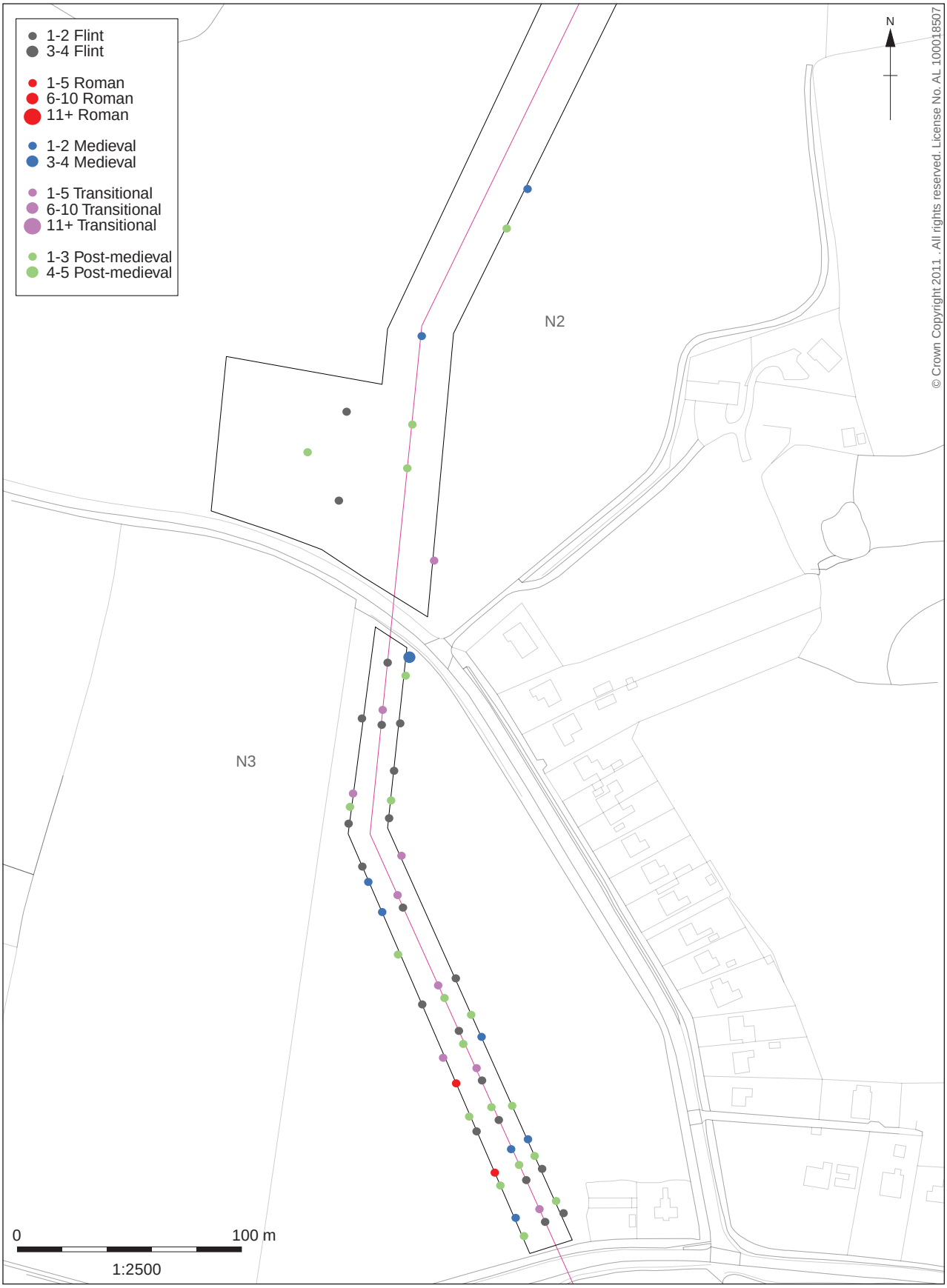


Figure 6: Fieldwalking plot - N2 to N3

Figure 7: Fieldwalking plot - X1 to X3

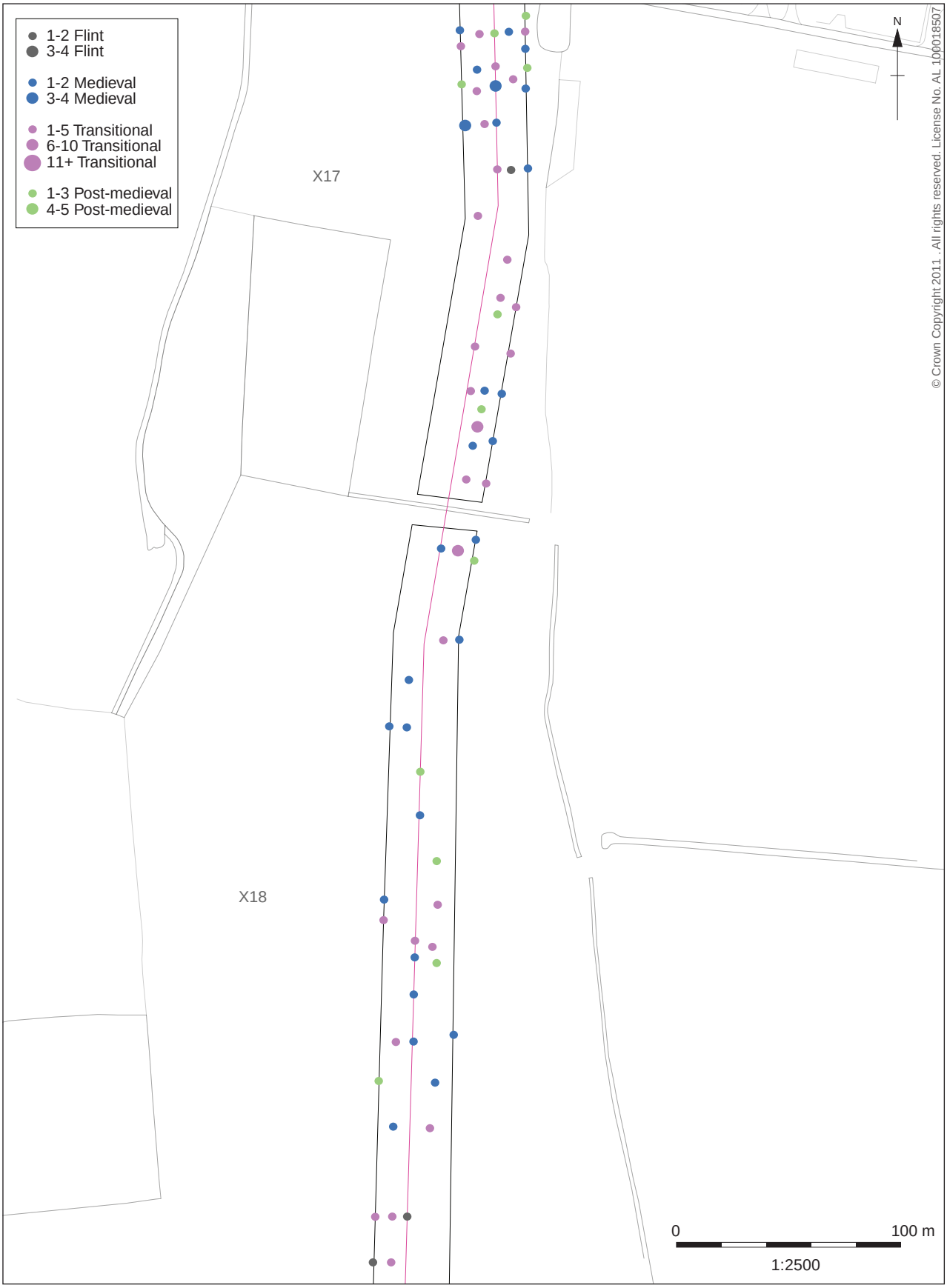


Figure 8: Fieldwalking plot - X17 to X18

Figure 9: Fieldwalking plot - S8 to S10

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