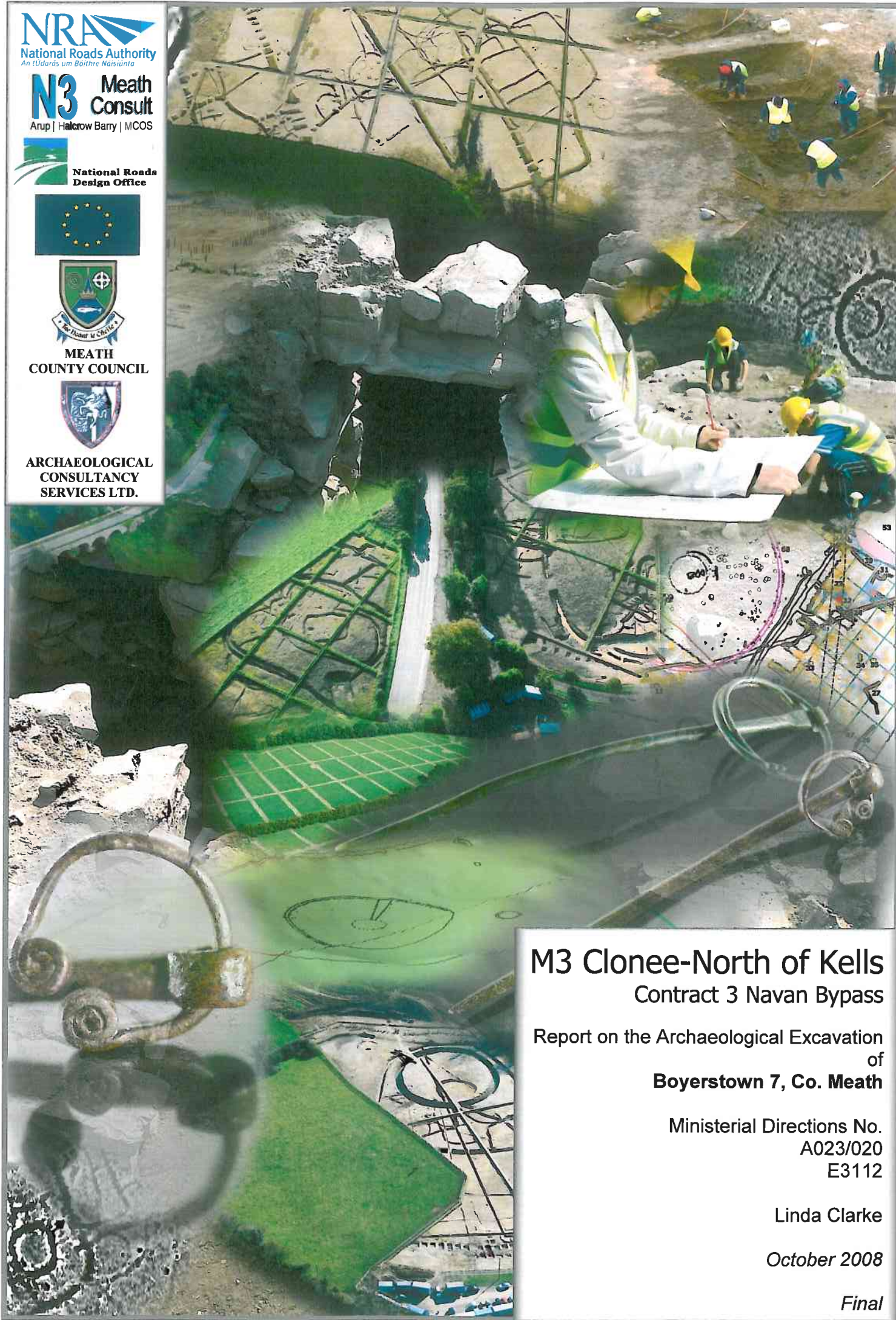




**MEATH
COUNTY COUNCIL**



**ARCHAEOLOGICAL
CONSULTANCY
SERVICES LTD.**



M3 Clonee-North of Kells Contract 3 Navan Bypass

**Report on the Archaeological Excavation
of
Boyerstown 7, Co. Meath**

Ministerial Directions No.
A023/020
E3112

Linda Clarke

October 2008

Final

PROJECT DETAILS

Project	M3 Clonee–Kells Motorway
Site Name	Boyerstown 7
Ministerial Direction Number	A023/020
Registration Number	E3112
Senior Archaeological Consultant	Donald Murphy
Site Director	Linda Clarke
Excavated	09–21 August 2006
Client	Meath County Council, National Roads Design Office, Navan Enterprise Centre, Navan, County Meath
Townland	Boyerstown
Parish	Ardraccan
County	Meath
National Grid Reference	283125 265818
Chainage	700–850m Athboy Road Link
Height	71.05m OD
Report Type	Final
Report Status	Submitted
Date of Report	October 2008
Report by	Linda Clarke

ACKNOWLEDGEMENTS

This report has been prepared by Archaeological Consultancy Services Ltd on behalf of Meath County Council National Roads Design Office (NRDO) and the National Roads Authority (NRA). The excavation was carried out under Ministerial Directions issued by the Department of the Environment, Heritage and Local Government (DOEHLG) in consultation with the National Museum of Ireland (NMI).

Consulting Engineers - N3 Meath Consult

Engineer – Peter Thorne and Thomas Meagher

Engineer's Representative – Mary O'Rourke

Meath County Council, National Roads Design Office

Senior Engineer – John McGrath

Project Archaeologist – Mary Deevy

Project Liaison Officer – Ambrose Clarke

National Monuments, Department of the Environment, Heritage and Local Government

Archaeologist – Martin Reid

Irish Antiquities Division, National Museum of Ireland

Keeper – Nessa O'Connor

NON-TECHNICAL SUMMARY

This site at Boyerstown 7 was excavated by Archaeological Consultancy Services Ltd (ACS) as part of the M3 Clonee–North of Kells Motorway Scheme on behalf of Meath County Council NRDO and the NRA. The excavation was carried out between 09 and 21 August 2006 under Ministerial Direction Number A023/020 issued by DOEHLG in consultation with the NMI. The site at Boyerstown 7 incorporated the remains of a burnt mound complex that included the truncated remains of a burnt stone spread, three pits, two postholes, and a third possible posthole. No artefacts were recovered from this site.

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Plate 7: Work in progress from the south-east

1 INTRODUCTION

The site at Boyerstown 7 (Figures 1–6) was identified during advance testing carried out by Neil Fairburn during April–June 2004 under licence number 04E0581. A burnt stone spread (4.20m x 2.40m x 0.70m) overlying a layer of burnt mound material (3.70m x 3.60m x 0.50m), two postholes, a third possible posthole, and three pits were exposed (Fairburn 2004). Full resolution of the site occurred in 2006 and relocated these features.

1.1 Development

Meath County Council and the National Roads Authority are constructing 49km of two-lane, dual-carriageway motorway between Clonee and Kells and 10km of single carriageway from Kells to Carnross, north of Kells, along with additional road upgrades, realignments and associated ancillary works. For the purposes of the Environmental Impact Assessment and the subsequent archaeological investigations the scheme was subdivided into five separate sections as follows: Clonee to Dunshaughlin (Contract 1), Dunshaughlin–Navan (Contract 2), the Navan Bypass (Contract 3) Navan to Kells (Contract 4) and Kells to North of Kells (Contract 5). This section of the scheme (Contract 3) represents the Navan By-pass (NGR 287968 263697 to NGR 282063 268835).

The archaeological components of the Environmental Impact Statement published in 2002 where carried out by Valerie J. Keeley Ltd (VJK) and Margaret Gowen and Co. Ltd (MGL) in 2000–2001. This included desk-based studies and field surveys of each section (VJK Sections 1 & 3 and MGL Sections 2, 4 & 5). Additionally on behalf of MGL geophysical survey was undertaken on the Dunshaughlin–Navan section and at Nugentstown on the Navan–Kells section by GSB Prospection (2000 & 2001). These studies carried out as part of the Environmental Impact Assessment were augmented by further geophysical survey conducted by Bartlett-Clark Consultancy on the remainder of the scheme (2002). Archaeological testing was completed by ACS and Irish Archaeological Consultancy Ltd (IAC) in 2004 (ACS Sections 1–3 and IAC Sections 4–5). Excavation of the sites identified during testing was conducted by ACS and IAC between 2005 and 2008 (ACS Sections 1–3 & 5 and IAC Section 4).

2 EXCAVATION

Excavation occurred between 09–21 August 2006 under Ministerial Direction Number A023/020 issued to Meath County Council NRDO. The work was carried out by Linda Clarke on behalf of ACS. The topsoil (F4: 0.30m) was stripped by a machine equipped with a grading bucket. The subsoil (F5) comprised sandy silt and boulder clay.

All archaeological features exposed were recorded and excavated by hand using the single context method. Each feature was assigned a context number. Where appropriate, samples were retrieved in an attempt to obtain evidence for the date and function of these features (Appendix 3). Unless otherwise stated, the features have been measured length-width-depth. All measurements are in metres. All finds were numbered according to the requirements of the National Museum of Ireland from 1 onwards consistent with licence and feature number.

2.1 Results

Twenty-seven contexts of archaeological interest were identified within the excavation area. Only the principal archaeological features of Boyerstown 7 will be discussed within this report; full details of all these, and further, contexts are located in Appendix 1.

Burnt mound

F8 (8.00m x 3.80m x 0.70m; Figures 8 & 9) represented a rectangular cut located in the centre of the site at Boyerstown 7. It was filled with a layer of burnt mound material which consisted of fire cracked sandstone, charcoal-stained clay and charcoal (F6; 4.20m x 2.40m x 0.70m; Figures 7 & 9; Plates 1–2) and was partially sealed/was adjacent to a layer of brown/grey/yellow clay that also contained occasional inclusions of charcoal and moderate inclusions of fire cracked sandstone (F26: 3.70m x 3.60m x 0.50m; Figures 7 & 9; Plates 1–2). Charcoal recovered from F6 was identified as alder, hazel, ash and oak (Appendix 5). A sample of ash charcoal was dated to Cal BC 2287-2035 (BETA 241321 Cal BP 3750 +/- 40BP; Appendix 4). Charred grain (Appendix 5) was also recovered from F6 and consisted of five grains of oat (*Avena* spp), five grains of barley (*Hordueum* spp) and four unidentified grains (*Cerealia* indeterminate). A layer of redeposited natural subsoil (F7: 2m x 1.60m x 0.20m; Figures 7 & 9; Plates 1–2) was also contained within this cut.

Pits

Three pits were located within this site (F10, F12 and F20). The oval-shaped pit F10 (1.70m x 1.30m x 0.12m; Figures 8 & 9; Plate 3) was located south of F8. Two fills were contained within this feature (F9 & F25; Figures 7 & 9; Plate 3). The upper fill (F9) consisted of a soft, black, silty clay flecked with charcoal and burnt stone (1.70m x 1.20m x 0.04m) and the lower fill (F25) consisted of a blue/grey/yellow clay (1.70m x 1.30m x 0.08m). The sub-rectangular pit F12 (1.35m x 0.23m x 0.11m; Figure 8; Plate 4) was situated southwest of F10 and contained one fill (F11), which consisted of a dark-brown, silty clay. The third pit F20 (0.65m x 0.68m x 0.15m; Figures 8 & 9; Plate 5) was sub-oval in shape and contained two fills (F19 and F27). The upper fill (F19: 0.05m depth) consisted of a firm, black, silty clay

that contained frequent inclusions of charcoal flecks and was similar to that in F10 (F9) and the lower fill consisted of a hard, light-grey, sterile clay (F27: 0.10m depth).

Postholes

Two postholes (F16 and F24) and a possible third were identified (F29). The posthole F16 (0.26m x 0.21m x 0.05m; Figure 8) was filled with a blackish-grey silt that contained occasional inclusions of stone (F15; Figure 7) and the posthole F24 (0.23m x 0.18m x 0.11m; Figure 8; Plate 6) was filled with a dark, sandy silt that contained occasional charcoal flecks (F23; Figure 7). The possible posthole, F29 (0.46m x 0.22m x 0.15m; Figure 8) was filled with a dark, silty clay with occasional burnt stone and charcoal flecks (F28; Figure 7).

Channel

A single channel was identified: F31 (4.50m x 0.60m x 0.08m; Figure 8). This feature was linear in shape and was connected to the southeastern extent of the burnt mound F8 and the pit F10 and was cut by posthole F16. It was filled with a soft, light-grey-coloured, sandy silt that contained very occasional flecks of charcoal and burnt stone (F30; Figure 7).

2.2 Finds

No artefacts were recovered from the excavation.

3 DISCUSSION

3.1 Form and function

All of the archaeological features identified within this site represented the remains of a burnt mound complex. Burnt mounds feature predominantly in the Irish landscape and are a feature commonly discovered along road and other infrastructural projects. Burnt mounds used hot-stone technology to heat water (O'Neill 2000, 19) which could then be used for cooking or bathing (Buckley 1990, 9). Troughs, traces of a fire and pits are typically associated with burnt stone spreads.

The burnt mound complex at Boyerstown 7 consisted of the truncated remains of a burnt mound spread, three pits, two postholes, and a possible third posthole. The cut F8 and its associated fills of burnt mound material and redeposited natural subsoil represented the waste products from associated burnt mound activity. The postholes at Boyerstown 7 were not exposed in proximity to each other. Their function is unclear but they may have supported an associated structure. The function of these pits is also not certain although they may have functioned at 'roasting pits', 'pot' boilers' or they may have been constructed simply to contain waste material which was collected as a result of the shattered stones used to heat the water in the trough. No discernable trough was identified.

A convenient source of water was essential to the function of burnt mounds. No direct source of water (e.g. stream) was identified at this site during the course of the excavation but the site was located on the edge of a waterlogged, marshy area from which water would have been readily available. The presence of modern field drains within the site would also reinforce the theory that the site was subject to water retention and flooding. It is likely that the linear cut (F31) identified at Boyerstown 7 may have functioned as a water channel, directing water either to or from the mound and to or from the adjacent associated pit F10.

Analysis of the environmental remains (all from F6) from this site has allowed us an insight into the surrounding landscape at Boyerstown 7 in the early Bronze Age. The charcoal recovered from the site would suggest the presence of alder, hazel, ash and oak in a mixed deciduous woodland nearby (Appendix 5). Ash would have formed the high canopy with hazel growing as an under storey or along the edges of the woodland, oak was a minor component and the presence of alder would suggest wetland nearby (Appendix 5). The species identified are typical of those identified in association with burnt mound activity according to recent studies (O' Donnell 2007). It has been suggested this choice of fuel reflects the location of burnt mounds between wet and dryland sites (ibid). The presence of a soil fungus (*cenococcum geophilum*) would also suggest a woodland in close proximity to Boyerstown 7 (Appendix 5). Charred grain was also recovered and consisted of five grains of oat species, five grains of barley species and four unidentified grains. The charred barley grain was badly degraded and could not be differentiated between hulled or naked and it could not be identified as the 6-row or 2-row variety (ibid). Although barley has been cultivated in Ireland throughout prehistory, it has been accepted that it was more widely used in the middle and late Bronze Age (Johnston 2007, Monk 1986). This site has been dated to the early Bronze Age and would reinforce the suggestion that the barley grains recovered were wild rather than cultivated. Diagnostic chaff was not identified in the sample of oat grains and the slender size of the grains would suggest that they were wild and not domesticated species (Appendix 5). Oats were cultivated in the late Bronze Age and Iron Age in Ireland and did not become common until the Early Medieval period (Monk 1986). The oat grains recovered from Boyerstown 7 are therefore also probably of the wild variety. Wild oat and barley therefore grew in the vicinity of Boyerstown 7.

3.2 Date and sequence

Burnt mound spreads are a common site type found along all major road schemes and within many large scale developments and are one of the most frequently found monument types in the Irish countryside. Traditionally burnt mounds have been assigned to the Bronze Age but the increased excavation and post-excavation analysis of these sites have altered this

perception and it has now been proven that burnt mounds have a long chronological spectrum. Although a vast majority can be assigned to the Bronze Age, it would now seem that some are significantly earlier in date, beginning possibly as early as the late Neolithic (see Clowanstown 1 (A008/013)) and continuing into the medieval period (Walsh 1990). A characteristic absence of artefacts means that dating the site is reliant on either dendrochronology or radiocarbon analysis. No artefacts were recovered from this site but it has been typically dated to the Bronze Age as a result of radiocarbon dating. Ash charcoal from the spread F6 was dated to Cal BC 2287-2035 (BETA 241321-Cal BP 3750 +/-40; Appendix 5) placing this site within the early Bronze Age.

The burnt mound at Boyerstown 7 is just one of approximately 61 similar site types exposed along the length of the M3 Motorway Scheme. Three of these have been excavated in proximity to the one identified at Boyerstown 7;- Boyerstown 2 (A023/014), 5 (A023/017) and 8 (A023/018) and an additional two burnt spreads were identified in the neighbouring town land of Ardracran (Ardracran 1 (A023/023) and 2 (A023/024)). These sites span from the late Neolithic to the Late Bronze Age and testify to the continued presence of the burnt mound tradition within this area over an extended period.

4 CONCLUSIONS

Boyerstown 7 (A023/020) was excavated from 09 July to 21 August 2006 by Linda Clarke (ACS) as part of the M3 Clonee–North of Kells Motorway Scheme on behalf of Meath County Council NRDO and the NRA. Boyerstown 7 represents a burnt mound complex situated in waterlogged, marshy land and consisting of a large cut containing three fills comprising fire-shattered stones and charcoal-enriched soil. Several pits and postholes, most likely associated, were also revealed. No discernable trough was identified. A modern field drain truncated the mound.

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Signed:

Linda Clarke

Linda Clarke
October 2008

APPENDIX 1 Context Details

Boyerstown 7: A023/020											
No	Type	Fill of/ Filled with	Strat above	Strat below	Description	Interpretation	Group	Artefacts	Animal bone	Cremated bone	Samples
1-3					used previously during Topsoil Assessment						
4	topsoil	N/A	5	N/A	0.30m depth grey/brown loam	topsoil					
5	subsoil	N/A	N/A	4	Sandy grey silt and boulder clay	subsoil					
6	fill	8	26, 8	7	soft, black, clayey silt with moderate charcoal flecks and burnt stones (0.01-0.06m). 4.20m x 2.40m x 0.70m. Partially sealed 26	fill of burnt mound 8					# 2, 3, 5, 7-14, 18 63g charcoal
7	fill	8	6	4	firm, greyish-yellow clay with occasional stones. 2.00m x 1.60m x 0.20m	redeposited natural cut into burnt mound material 6					
8	cut	6, 7, 26	5	26, 6, 7	rectangular, north-south cut (8.00m x 3.80m x 0.70m) with rounded corners, a gradual-sharp break of slope and concave-steep sides leading to an uneven base. Cut by field drain	cut containing burnt mound					
9	fill	10	25	4	soft, black, clayey silt with occasional burnt stones (0.02-0.04m) and moderate flecks of charcoal. 1.70m x 1.20m x 0.04m	upper fill of pit 10					#1 4g charcoal
10	cut	9, 25	5	25	oval, northwest-southeast cut (1.70m x 1.30m x 0.12m), with rounded corners, an imperceptible break of slope, convex sides and an imperceptible break of slope leading to a flat base	pit-possible fire pit					

11	fill	12	12	4	firm, dark-brownish-grey, silty clay with occasional charcoal flecks. 1.35m x 0.23m x 0.11m	fill of pit 12					
12	cut	11	5	11	sub-rectangular, north-south cut (1.35m x 0.23m x 0.11m) with rounded corners, a sharp break of slope, vertical sides and a gradual break of slope leading to a flat base	pit					
13-14	NON-ARCHAEOLOGICAL										
15	fill	16	16	04	firm, mottled-dark-blackish-grey silt with occasional stones (0.02-0.04m). 0.26m x 0.21m x 0.05m	fill of posthole 16					
16	cut	15	5	15	sub-circular cut (0.26m x 0.21m x 0.05m) with a gradual break of slope, concave sides and a gradual break of slope leading to a flat base	posthole					
17-18	NON-ARCHAEOLOGICAL										
19	fill	20	27	4	firm, black, silty clay with moderate burnt stones (0.02-0.04m) and frequent flecks of charcoal. 0.65m x 0.68m x 0.05m	upper fill of pit 20					#4 Charcoal flecks
20	cut	19, 27	5	27	irregular cut (0.65m x 0.68m x 0.15m) with rounded corners, a gradual break of slope, concave sides and a gradual break of slope leading to an uneven base	pit					
21-22	NON-ARCHAEOLOGICAL										
23	fill	24	24	4	soft, dark-greyish-brown, sandy silt with occasional charcoal flecks. 0.23m x 0.18m x 0.09m	fill of posthole 24					
24	cut	23	5	23	irregular, northeast-southwest cut (0.23m x 0.18m x 0.11m) with rounded corners, a sharp break of slope, concave sides and a gradual break of slope leading to a flat base	posthole					
25	fill	10	10	9	firm, blueish-grey-yellow clay. 1.70m x 1.30m x 0.08m	primary fill of pit 10					

26	fill	8	8	6	firm, brownish-greyish-yellow, sandy clay with occasional charcoal flecks and moderate burnt stones (0.01-0.12m). 3.70m x 3.60m x 0.50m	fill of cut for burnt mound 8					#6, 15, 16 9g charcoal
27	fill	20	20	19	hard compact, light-grey clay. 0.65m x 0.68m x 0.10m	primary fill of pit 20					
28	fill	29	29	4	soft, dark-brownish-grey, silty clay with occasional burnt stones (0.05m) and charcoal flecks. 0.46m x 0.22m x 0.15m	fill of posthole 29					
29	cut	28	5	28	sub-oval, east-west cut (0.46m x 0.22m x 0.15m) with rounded corners, a sharp-gradual break of slope, vertical-irregular sides and a gradual break of slope leading to an uneven base	possible posthole					
30	fill	31	31	16	soft, light-greyish-white, sandy silt with some dark-greyish-brown mottling with occasional charcoal flecks and burnt stones (0.02-0.04m). 4.50m x 0.60m x 0.08m	fill of channel 31					
31	cut	30	6	30	curvilinear cut (4.50mx 0.60m x 0.08m) with a gradual break of slope, steep sides and an imperceptible break of slope leading to an uneven base. Cut by posthole 16	channel					

APPENDIX 2 *Finds List*

No artefacts were recovered from the excavations at Boyerstown 7.

APPENDIX 3 *Sample List*

Sample No	Context No	Results
2, 3, 5, 7-14, 18	6	63g charcoal
1	9	4g charcoal
4	19	charcoal flecks
6, 15, 16	26	9g charcoal

APPENDIX 4 *Radiocarbon dates*

Context	Sample No	Material	Species id/Weight	Lab	Lab Code	Date Type	Conventional Date (BP)	Calibrated Date	13C/12C Ratio ‰
6: fill of sub-oval burnt mound C8	8	Charcoal	Ash (332mg)	Beta	241321	AMS (Std)	3750 +/- 40BP	Cal BC 2287-2035 (2 sigma)	-22.6

APPENDIX 5 *Environmental Analysis*



**Boyerstown 7, M3 Motorway Project, Co
Meath, Ireland**

plant macrofossil and charcoal analysis

on behalf of

Archaeological Consultancy Services Ltd

Report 1939
September 2008

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Boyerstown 7, M3 Motorway Project, Co Meath, Ireland

plant macrofossil and charcoal analysis

Report 1939

September 2008

Archaeological Services Durham University

on behalf of

Archaeological Consultancy Services Ltd

Unit 21 Boyne Business Park, Greenhills, Drogheda, Co. Louth, Ireland

Contents

1. Summary	1
2. Project background	2
3. Methods	2
4. Results	3
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1. Summary

The project

- 1.1 An excavation of a burnt mound was undertaken by Archaeological Consultancy Services Ltd at Boyerstown 7, Co Meath, Ireland. This report presents the results of plant macrofossil and charcoal analysis of burnt mound material (context 6).

Results

- 1.2 Barley was used on the site, but the limited plant macrofossil evidence provided little additional information about the diet. The charcoal analysis suggests that ash, alder, hazel and oak were the main species used for fuel for activities associated with the burnt mound.

2. Project background

Location and background

- 2.1 An excavation of a burnt mound was undertaken by Archaeological Consultancy Services Ltd at Boyerstown 7, Co Meath, Ireland (NGR 283125 265818). A spread of burnt mound material, 2 oval postholes and 3 pits were identified on the site. Radiocarbon dating suggests a Bronze Age date for the features. This report presents the results of plant macrofossil and charcoal analysis of burnt mound material (context 6).

Objective

- 2.2 The objective was to provide information about the activities on the site, and identify material suitable for radiocarbon dating.

Dates

- 2.3 Samples were received by Archaeological Services Durham University in November 2007. Analysis and report preparation was conducted between November 2007 - September 2008.

Personnel

- 2.4 Sample processing was undertaken by Archaeological Consultancy Services Ltd. The environmental analysis and report preparation was carried out by Dr Charlotte O'Brien and Mr Lorne Elliott. The residue was sorted by Mr Lorne Elliott.

Archive

- 2.5 The licence number is A023/020. The seeds, flot and charcoal are currently at the Environmental Laboratory at Archaeological Services Durham University awaiting collection or return.

3. Methods

- 3.1 The residue was examined for plant remains, shells, bones, pottery sherds and metalworking debris. The plant remains were scanned at up to x60 magnification using a Leica MZ7.5 stereomicroscope and seeds were identified by comparison with modern reference material held in the Environmental Laboratory at Archaeological Services Durham University. Plant taxonomic nomenclature follows Stace (1997).
- 3.2 Charcoal was collected from the flot and residue. Following Boardman (1995), identifications were made on fragments >4mm. A large amount of charcoal was retrieved from the residue, and therefore the sample was sub-divided using a riffle box. Analysis was undertaken on >100 fragments. The transverse, radial and tangential sections were examined at up to x600 magnification using a Leica DMLM microscope. Identifications were assisted by the descriptions of Hather (2000), and modern reference material held in the Environmental Laboratory at Archaeological Services Durham University. A single entity of ash charcoal, weighing 332mg, was provided for radiocarbon dating.

4. Results

- 4.1 Charcoal and possible fire-cracked stones were present in the residue. The flot contained a few insects, uncharred seeds and roots, but the non-waterlogged nature of the sample suggests these are later intrusive material. Charred remains included low numbers of oats, barley and indeterminate cereal grains, and sclerotia (resting bodies) of the soil fungus, *Cenococcum geophilum*. The results of the environmental analysis are presented in Table 4.1.

Table 4.1: Plant macrofossils and charcoal from Boyerstown 7

Context	6
Sample	2-18
Feature	Burnt Mound
Material available for radiocarbon dating	✓
Volume of flot (ml)	74
Residue matrix (relative abundance)	
Charcoal	3
Cracked/angular stones	4
Flot matrix (relative abundance)	
Charcoal	2
Insect	1
Roots (modern)	2
Charcoal (g/number of fragments)	
Total charcoal (g)	132.589
Percentage of sample analysed	11
Total charcoal analysed >4mm (g)	14.410
Number of analysed fragments >4mm	111
<i>Alnus glutinosa</i> (Alder)	2.773 (14F)
<i>Corylus avellana</i> (Hazel)	1.002 (7F)
<i>Corylus/Alnus</i> sp (Hazel/Alder)	3.525 (36F)
<i>Fraxinus excelsior</i> (Ash)	3.376 (22F)
<i>Quercus</i> sp (Oak)	0.350 (3F)
Diffuse porous	1.277 (12F)
Ring porous	0.789 (6F)
Indeterminate fragments >4mm fraction	1.318 (11F)
Indeterminate fragments <4mm fraction	12.419
Charred remains (total counts)	
(c) <i>Avena</i> spp (Oat species) small grain	5
(c) <i>Hordeum</i> spp (Barley species) grain	5
(c) <i>Cerealia</i> indeterminate grain	4
Charred remains (relative abundance)	
(x) <i>Cenococcum geophilum</i> (soil fungus) sclerotia	4
Uncharred remains (relative abundance)	
(r) <i>Persicaria maculosa</i> (Redshank) nutlet	1
(t) <i>Rubus fruticosus</i> agg. (Bramble) fruitstone	1
(w) <i>Carex</i> spp (Sedges) trigonous nutlet	2
(x) <i>Ranunculus</i> subgenus <i>Ranunculus</i> (Buttercup) achene	2

[c-cultivated plant; r-ruderal; t-tree/shrub; w-wetland; x-wide niche]. F = number of charcoal fragments
Relative abundance is based on a scale from 1 (lowest) to 5 (highest).

- 4.2 Most of the charcoal was in a poor condition which prevented identification of some of the fragments. The identifiable fragments were dominated by alder, hazel and ash, with lower frequencies of oak recorded. The proportions of charcoal are presented in Figure 4.1.

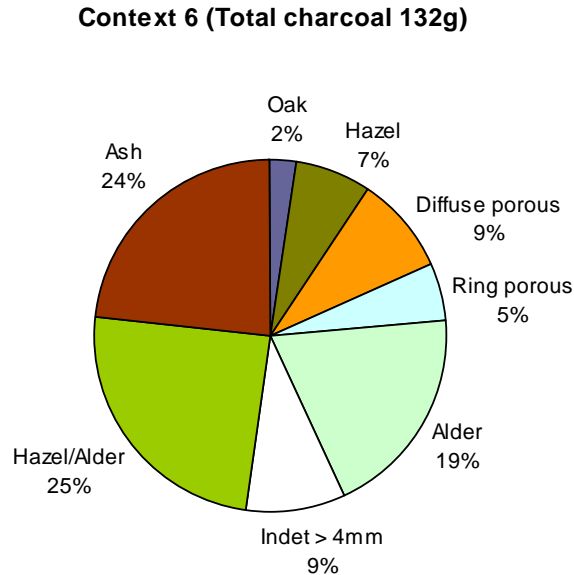


Figure 4.1: Proportions of identified charcoal from Boyerstown 7

5. Discussion

- 5.1 A few charred barley grains were present in context (6), but unfortunately they were badly degraded and could not be differentiated between the hulled and naked varieties. In addition, they lacked the characteristic features necessary to distinguish whether they were from 6-row or 2-row barley. Barley has been cultivated in Ireland throughout prehistory, but studies indicate that it was particularly widely used in the middle and late Bronze Age (Johnston 2007, Monk 1986). A few barley grains were also identified at the nearby burnt mound site at Boyerstown 8 (Archaeological Services 2008a).
- 5.2 Oat grains were also occasionally recorded in the sample. Diagnostic chaff was absent, but the small, slender shape of the grains may indicate that they were from the wild rather than cultivated species. Although oats were cultivated in the late Bronze Age and Iron Age in Ireland, they did not become common until the early medieval period (Monk 1986).
- 5.3 The charcoal was in a poor condition, with numerous fragments exhibiting degradation of the cell structures and orange mineral staining. This is likely to be the result of adverse preservational conditions. The identifiable fragments suggest the presence of mixed deciduous woodland near the site, with ash forming the high canopy and hazel growing in the understorey or by the woodland margins. Oak was also a minor woodland component, and alder would have grown on areas

of wetland, either forming a carr or as individual stands. Many of the fragments could not be differentiated between hazel and alder, and therefore the relative proportions of these species are uncertain.

- 5.4 The presence of the soil fungus, *Cenococcum geophilum*, also points to the proximity of woodland. It is an ectomycorrhizal species which has mutualistic associations with some tree roots, particularly members of the Fagaceae (which includes oak) and Betulaceae (which includes hazel and alder) (Hudson 1986).
- 5.5 The charcoal is likely to represent fuel used for activities associated with the burnt mound. The presence of ash, hazel, alder and oak is in line with a recent study of charcoal from Bronze Age sites in central and western Ireland, which has provided evidence that these were the main trees selected for fuel on burnt mound sites (O'Donnell 2007). It has been suggested that this choice of fuel reflects the marginal situation of most burnt mounds, between wet and dryland areas (Ibid.). This general trend is also reflected at other sites along the M3 corridor including Boyerstown 8 (Archaeological Services 2008a) and Drumree 1 (Archaeological Services 2008b).

6. Sources

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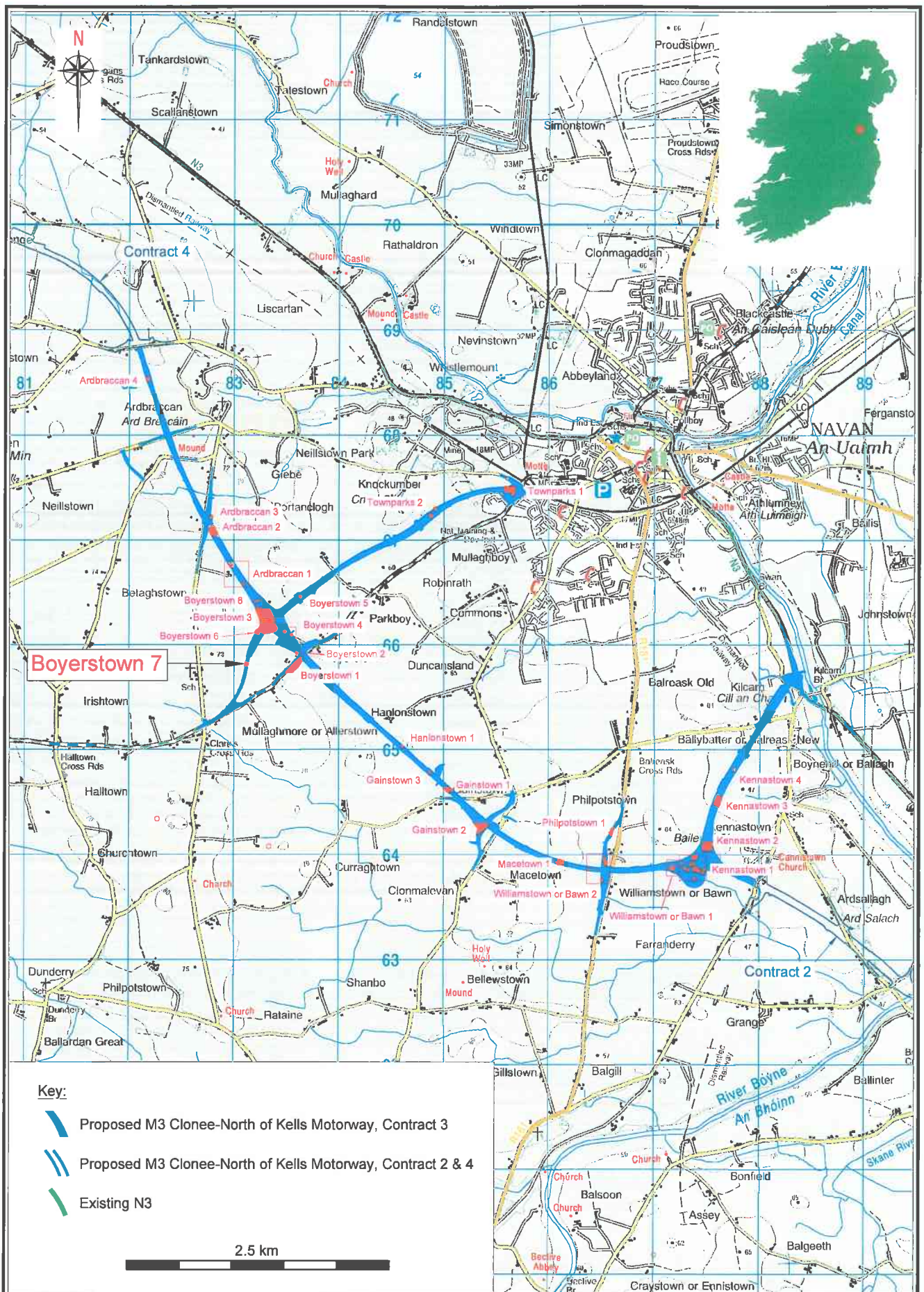
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Contract 3, Boyerstown 7
Issued for: Excavation Report
Client: Meath County Council

Scale: 1:50,000 A4
Date: Jul '08
Origin: OSI Discovery Series
Drawing no.: 04_01_C7201i

Figure 1: Location of Boyerstown 7

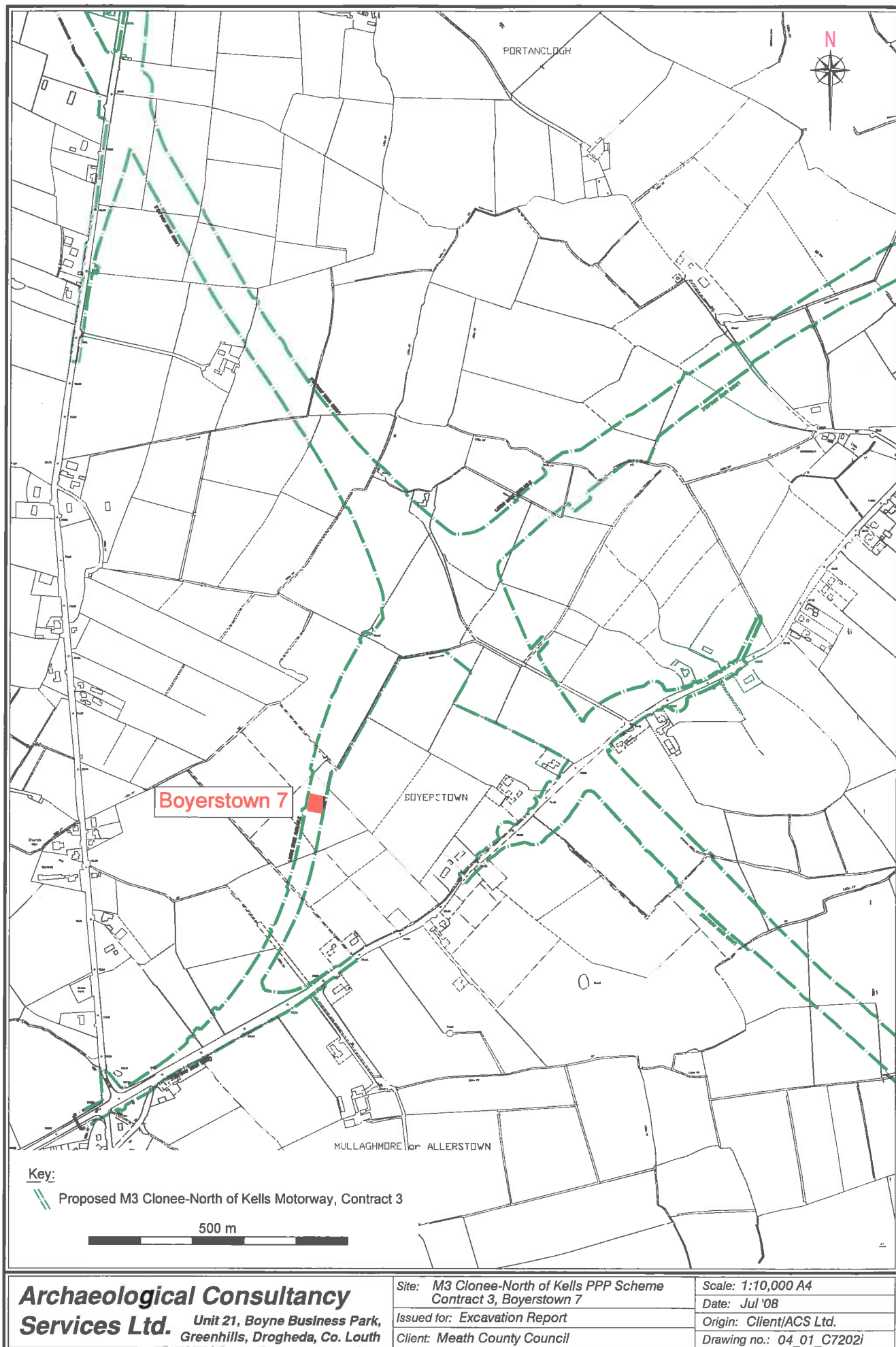
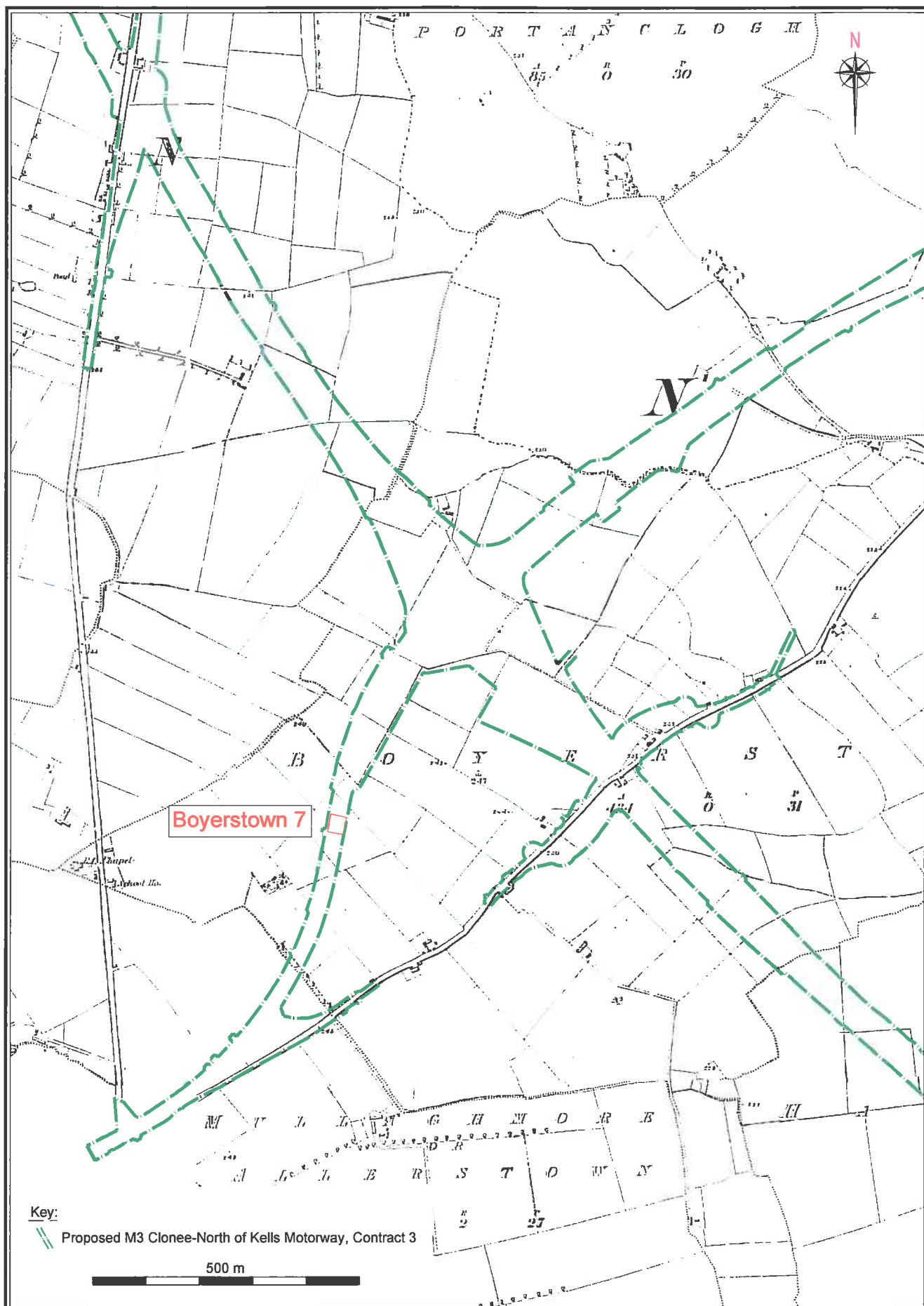


Figure 2: Location of Boyerstown 7 on current OS background



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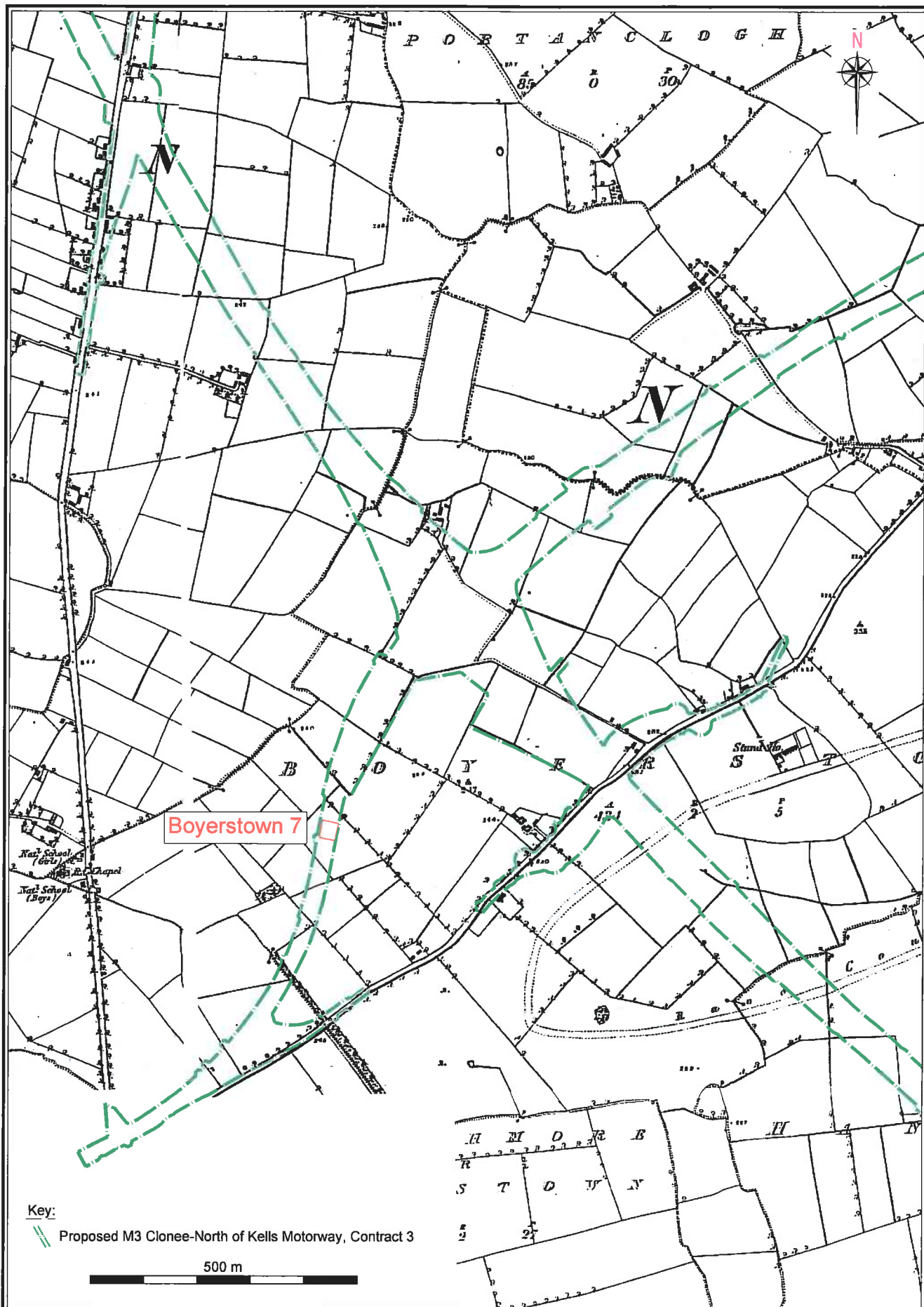
Scale: 1:10,000 A4

Date: Jul '08

Origin: OSi (1836)

Drawing no.: 04_01_C7203i

Figure 3: Boyerstown 7, extract from 1st edition OS map, Meath sheets 24, 25 & 31

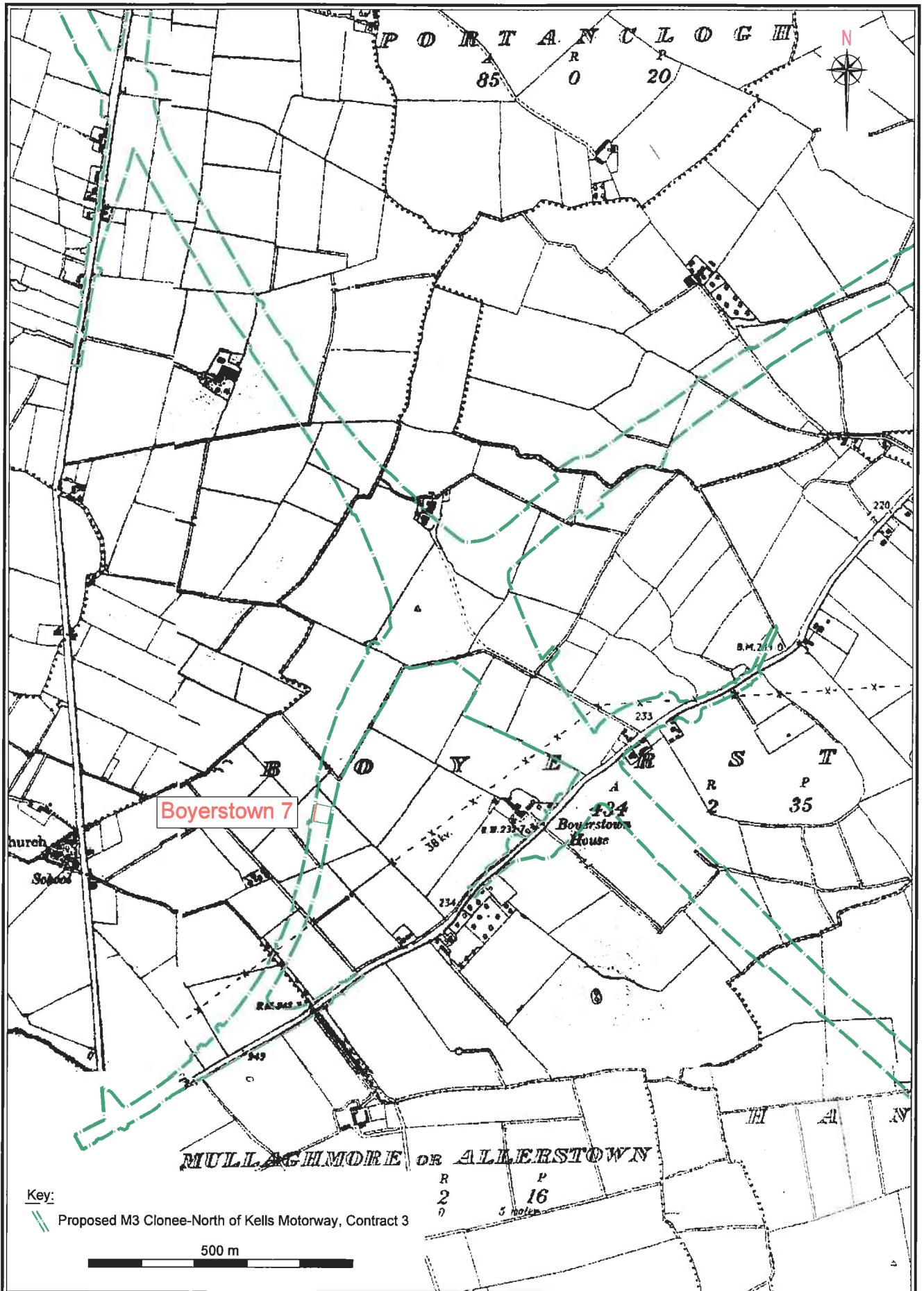


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Scale: 1:10,000 A4
Date: Jul '08
Origin: OSI (1882)
Drawing no.: 04_01_C7204i

Figure 4: Boyerstown 7, extract from 2nd edition OS map, Meath sheets 24, 25 & 31



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Scale: 1:10,000 A4
 Date: Jul '08
 Origin: OSi 24(1910), 25(1955), 31(1909)
 Drawing no.: 04_01_C7205i

Figure 5: Boyerstown 7, extract from 3rd edition OS map, Meath sheets 24, 25 & 31

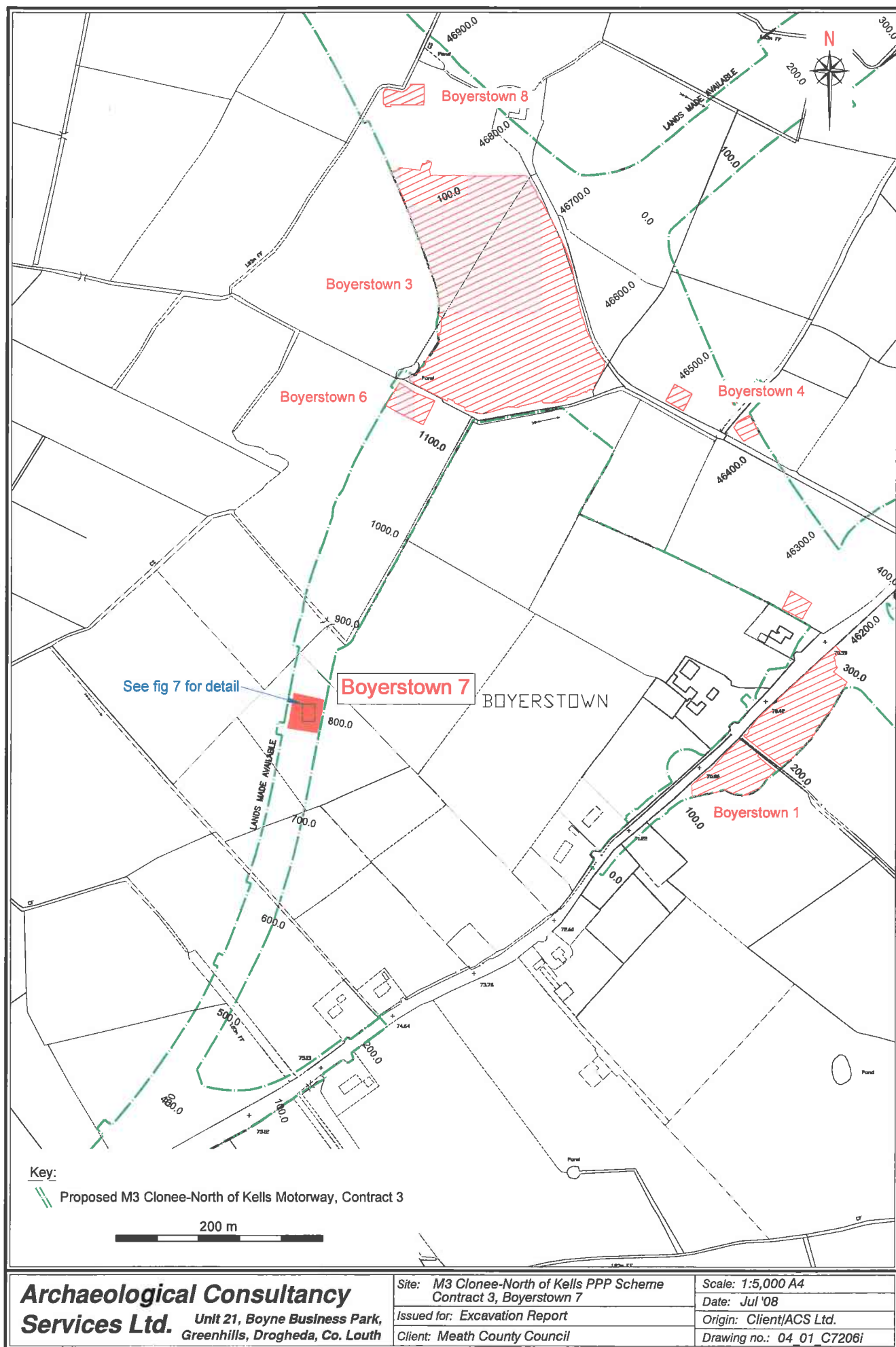
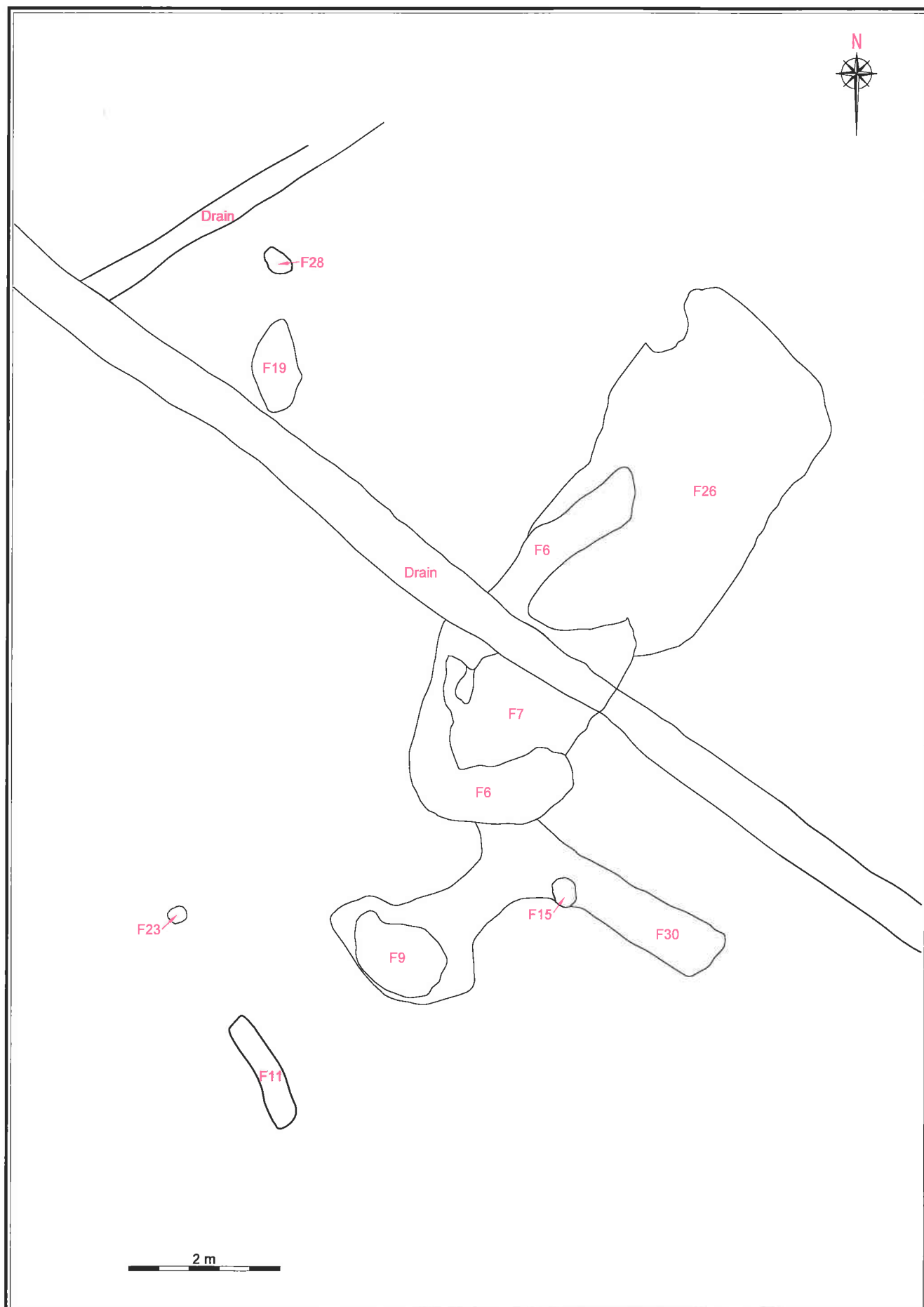


Figure 6: Detailed location of Boyerstown 7

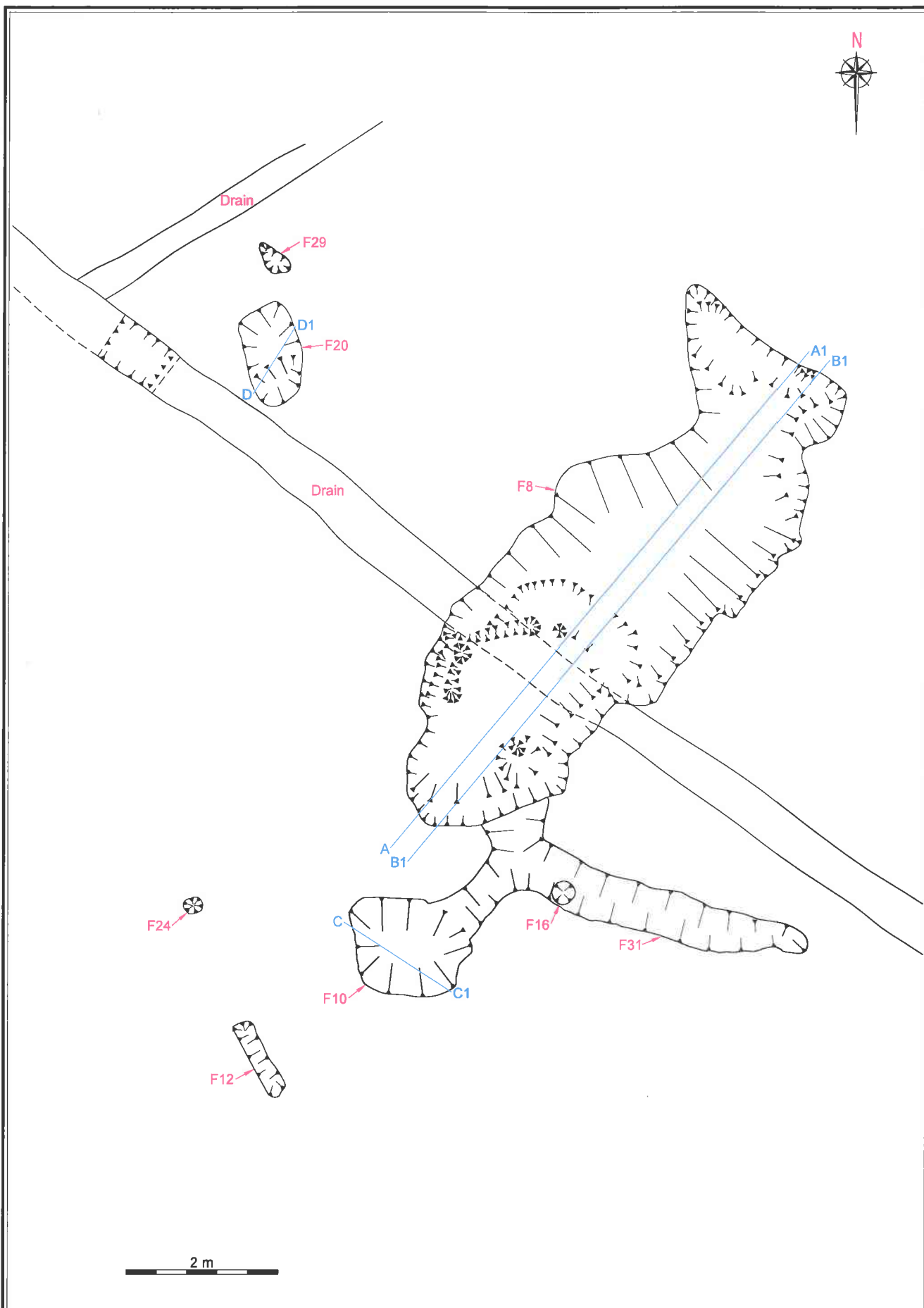


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Scale: 1:70 A4
Date: Jul '08
Origin: Client/ACS Ltd.
Drawing no.: 04_01_C7207i

Figure 7: Pre-excitation plan of features at Boyerstown 7

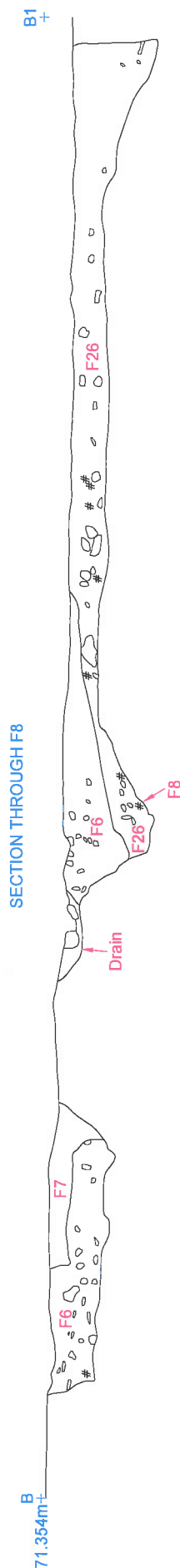
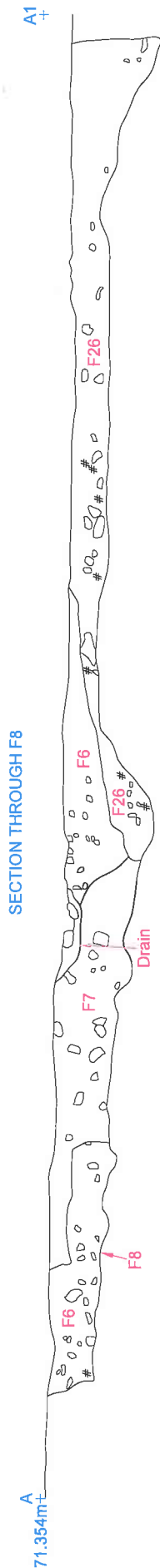


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Drawing no.: 04_01_C7208i

Figure 8: Post-excavation plan of features at Boyerstown 7



Key:

Stone

Charcoal

1 m

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Figure 9: Sections of features at Boyerstown 7



Plate 1: Burnt mound F6, F7 & F26 from the south-east (04_01_Boyerstown 7_CP1053_9)



Plate 2: Section through F6, F7 & F26 from the south-east (04_01_Boyerstown 7_CP1055_10)



Plate 3: Half section through pit F10 showing fills F9 & F25 from the south-west (04_01_ Boyerstown 7_CP1053_2)



Plate 4: Post-excavation photograph of pit F12 from the east (04_01_ Boyerstown 7_CP1054_15)



Plate 5: Post-excavation photograph of pit F20 from the west (04_01_ Boyerstown 7_CP1054_16)



Plate 6: Post-excavation photograph of posthole F24 from the north (04_01_ Boyerstown 7_CP1054_17)



Plate 7: Work in progress from the south-east (04_01_ Boyerstown 7_CP1054_12)