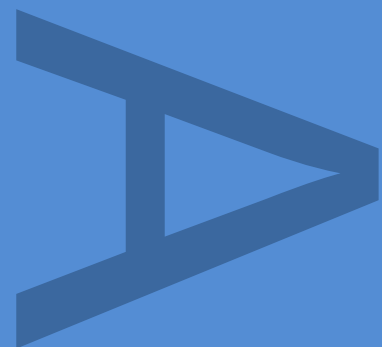


**A11 FIVEWAYS TO THETFORD
IMPROVEMENT – ELVEDEN
ESTATES ACCESS TRACKS AND
SITE COMPOUND**

**ARCHAEOLOGICAL WATCHING
BRIEF**

MARCH 2012



**PRE-CONSTRUCT ARCHAEOLOGY
R11188**

**ARCHAEOLOGICAL WATCHING BRIEF A11 FIVEWAYS TO THETFORD
IMPROVEMENT ENABLING WORKS**

Site Code: ELV 081

Central NGR: TL727741 – TL850818

Report Number: 11188

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1 ABSTRACT

- 1.1 Pre-Construct Archaeology were commissioned Mouchel on behalf of the Highways Agency (HA) to implement a programme of geoarchaeological and archaeological Watching Brief during the construction of Elveden Estates Access Tracks and the site compound as part of a commitment for the A11 Fiveways to Thetford Improvement works.
- 1.2 A shallow pit containing a substantial quantity of burnt flint was found during the monitoring of New Track 3. Such features are not uncommon in the prehistoric period and a number of burnt flint mounds have been found in the Breckland.
- 1.3 A number of pieces of earlier prehistoric (Neolithic/Bronze Age) worked flint were recovered along the route of this New Track. The flints were most concentrated in the area containing the burnt flint feature [62]. Other lithics were recovered from a number of the enabling works, some of those from P3B probably dating from 6000-4000 years ago during the late Mesolithic/Neolithic period.
- 1.4 The generally low-levels of flintwork encountered during the investigations may in part be due to the locations of the sites, on the Little Ouse / Lark interfluvium in the Breckland uplands and located at some distance from sources of water. The material recovered adds some new detail on the sporadic exploitation of the dry uplands by hunting parties and travellers during the earlier prehistoric period.

2 INTRODUCTION

- 2.1 Pre-Construct Archaeology were commissioned Mouchel on behalf of the Highways Agency (HA) to implement a programme of Archaeological Watching Brief during the construction of Elveden Estates Access Tracks and the site compound as part of a commitment for the A11 Fiveways to Thetford Improvement works.
- 2.2 Detailed background information is contained in the Written Scheme of Investigation (WSI) for this Watching Brief produced by Mouchell (Randell 2011b). The WSI contains a detailed description of the archaeological methodology followed during this Watching Brief.
- 2.3 The DMRB Stage 3 Environmental Statement volume 2 report, part 2 – Cultural Heritage (HA 2008) provides detailed information on the archaeological and historical background of the scheme corridor. A summary is also provided in the Written Scheme of Investigation for Archaeological Evaluation (Randell 2011a).
- 2.4 Pre-Construct Archaeology undertook a Geoarchaeological Watching Brief and Archaeological Evaluation in September 2011 (Pullen 2011). No archaeological features were present in any of the trenches, although a sherd of Romano-British pottery and two Neolithic flint artefacts were recovered from the ploughsoil in two of the trenches.
- 2.5 The Watching Brief took place between 17th October 2011 and March 8th 2012 (see Appendix 3). The work involved the widening and construction of enabling tracks for the use of Elveden Estate during the proposed improvement of the A11. The width of finished enabling tracks was approximately 5.5m. The preparation of ground for the Birse Compound was also monitored. For all the works the ground was reduced by 0.25m.

This depth was generally insufficient to expose clean natural ground for archaeological examination and generally did not penetrate below the modern plough zone.

- 2.6 A shallow pit containing a substantial quantity of burnt flint was found during the monitoring of New Track 3. Such features are not uncommon in the prehistoric period and a number of burnt flint mounds have been found in the Breckland. A number of pieces of earlier prehistoric (Neolithic/Bronze Age) worked flint were recovered along the route of this New Track. The flints were most concentrated in the area containing the burnt flint feature [62]. Other lithics were recovered from a number of the enabling works, some of those from P3B probably dating from the Mesolithic/Neolithic (see Appendix 5: Flint Report).

3 BIRSE COMPOUND

- 3.1 The archaeological background to the area occupied by the new Birse Compound is detailed in the Written Scheme of Investigation (Randell 2011b).
- 3.2 PCA Central undertook the watching brief for Birse's main site compound for the A11 enabling works on the 17th, 19th and 25th October 2011. The compound is located next to the potato store at Chamberlain Farm Buildings located off the B1112, IP27 9BJ. The ground reduction was carried out with a JCB. The reduced area is to form a yard, car parking and base.
- 3.3 The compound occupies an area of 75m x 30m. The southern half of this area was reduced on 17th October 2011. The depth of the reduction averaged approximately 0.15m. The northern half of the compound was not reduced. The general reduction did not extend deeper than the base of the subsoil and in places merely comprised the removal of the turf.
- 3.4 On the 19th October 2011 two parallel trenches to provide footings for the site cabins were excavated. These trenches were located towards the southern area of the new compound and ran along the full width of the site (30m). The trenches were 1.6m wide. The maximum depth of these trenches was 0.30m at the western edge of the site. The trenches gradually shallowed eastwards. Approximately 7m of the underlying chalky natural was exposed in the western end of these two trenches.
- 3.5 A 2m x 3m x 0.40m (depth) hole for a septic tank was excavated half way along the southern edge of the new compound area.

- 3.6 The extent of the compound ground reduction and the position of the two footings and excavation for the septic tank were recorded using a Leica GPS machine.
- 3.7 Following the reduction the ground was covered with Terram sheeting and tarmac crush.
- 3.8 No archaeological features or finds were encountered during the watching brief at the Birse compound. Modern plough marks were observed truncating the subsoil across the machined area. Context numbers were not assigned to the topsoil, subsoil and natural in the compound area.

4 TRACK WIDENING P3B

- 4.1 Track P3B is close to an area of partially indistinct crop marks of a large, sub-circular enclosure, circa 160m diameter. A series of small possible field boundaries is linked to the outer enclosure on the south west side.
- 4.2 The watching brief monitored the excavation of two 1m wide trenches either side of an existing 3m wide farm track. The work took place between the 9th and 14th November 2011.
- 4.3 The machines removed the ground to a minimum of 0.25m below the surface of the existing track before they were backfilled with sand. The tracks were not generally excavated beyond this depth and thus the natural was not encountered during this enabling work.
- 4.4 No archaeological features were observed during this work. Three flint flakes and two retouched implements were collected from the subsoil [51]. The position of these finds was recorded with GPS (see Appendix 5: Flint Report).

5 TRACK WIDENING H18/T68

- 5.1 H18 and T68 were located near Chalk Hall Farm, where evidence of Romano-British settlement has formerly been recorded.
- 5.2 The watching brief was carried out between the 22nd and 24th November 2011 and involved the widening of existing farm tracks in the areas designated as H18 and T68.
- 5.3 Along H18 the existing tarmac track was widened from 3m to 6m by the excavation of a 3m wide shallow trench running along its northern edge. The maximum depth of this trench was not more than 0.25m deep and did not generally penetrate below the level of the agricultural plough soil [53].
- 5.4 The area designated as T68 extending eastwards from H18 was occupied by a deeply rutted tractor track running along the field edge. Here the ground was reduced along a 6m wide strip to an average depth of between 0.25 and 0.35m below ground level.
- 5.5 The T68 reduction reached below the dark brown agricultural soil [53] onto a thin plough scarred (modern) gravelly-sandy subsoil [54]. Areas of 'clean' gravelly-sand natural [55] were sometimes exposed in the deeper areas of the reduction.
- 5.6 Along the entire length of H18 and T68 no archaeological finds or features were encountered.

6 NEW TRACK T79

- 6.1 The watching brief area of the T79 accommodation work is located south of Chalk Hall Farm immediately southwest of the A11. The watching brief area runs approximately 120m along the edge of a ploughed field.
- 6.2 The watching brief was carried out on the 28th November 2011 and 1st December 2011 and involved the creation of a new 6m wide enabling track. Agricultural topsoil [56] was removed to a depth of 0.25m.
- 6.3 The level reached by modern ploughing activity extends below the 0.25m of the topsoil strip. Small areas of gravelly-sand natural were occasionally observed between modern plough scars. The 'clean' natural [58] is located at a depth of approximately 0.35m below the existing ground surface.
- 6.4 No archaeological features were observed during this watching brief. This is not unexpected given the limited depth of topsoil removal (0.25m) in an agricultural field. Two flint flakes (undiagnostic but possibly Bronze Age) were retrieved from the northeastern end of T79. The location of these finds was recorded with a Leica 1200 Rover GPS Unit (see Appendix 5: Flint Report).

7 NEW TRACK 3

- 7.1 New Track 3 comprises several hundred meters of new track running northwest from the B1106 opposite the entrance to Centre Parcs, north of the Elveden traffic lights.
- 7.2 The watching brief was carried out between the 7th and 16th December 2011 and involved the creation of a new enabling track.
- 7.3 Topsoil [59] was removed along the length of this track to a depth of approximately 0.30m. Modern disturbance (ploughing and grubbing out of tree roots) extended below the machined depth for majority of the route of this new track. In some areas however, the ground seemed undisturbed by modern activity and here the topsoil [59] was thin and sandy and no more than 0.20m deep. There was no obvious development of subsoil and the natural [60] comprised loose sand with flint gravel inclusions.
- 7.4 Struck flint artefacts were found along the entire route in various concentrations and included some retouched pieces. The majority of these flints were recovered via examination of spoil heaps adjacent to the new track (see Appendix 5: Flint Report).
- 7.5 In the most concentrated area of struck flint retrieval [203] a substantial quantity of burnt flint was present in the topsoil [59] (again largely recovered from the adjacent spoil). A shallow concentration of burnt flint, though somewhat disturbed during machining represents a probable in situ later prehistoric feature [62]. The feature was entirely filled with burnt flint, though there was no evidence of in situ burning. Feature [62] measured 1m x 0.50m x 0.14m (depth).

7.6 Two scraping tools and a quantity of flake debitage were recovered from an approximate 8m stretch of New Track 3 centered on the burnt flint pit [62]. Although no datable artefacts were retrieved from this feature it seems reasonable to assert some probable association between this pit and the concentration of lithic residue in its immediate locale. The flint concentration at New Track 3 may represent a short term later prehistoric settlement (e.g. an overnight camp during a hunting trip). Prehistoric features containing burnt flints are not uncommon during the earlier prehistoric period and have been found in the Thetford area (Highways Agency 2008; Appendix 5: Flint Report).

8 TRACK P1A

- 8.1 P1A track widening work was monitored on the 27th and 29th of February 2012. This area of track extends south from the A11 opposite Gibsons Lodge for approximately 500m and crosses Eriswell/Icklingham parish boundary.
- 8.2 The 3m wide estate track was widened to 6m. This involved the excavation of two trenches either side of the existing track (2m wide to the West and 1m to the East).
- 8.3 The ground was reduced by approximately 0.25m onto a sandy-subsoil. This depth of ground reduction was insufficient to reach clean natural deposits where archaeological features might be observed. The ground was full of tree roots and the eastern side of the track for much of its length by service runs (water and two BT cables). The creation of the existing track had clearly caused significant disturbance to the ground either side of it.
- 8.4 Several bushes along the western edge of the track were removed by machine. The ground in these areas was very disturbed.
- 8.5 No archaeological features were observed during the monitoring of Track P1A. Given the limited ground reduction and level of modern disturbance this is unsurprising. The parish boundary seems to be marked by the presence of a shallow earth bank adjacent to an existing fence line.
- 8.6 A small amount of prehistoric worked flint [206, 207, 208] was recovered from the subsoil [65] and from plough soil [64] adjacent to the Eriswell/Icklingham Parish boundary (Appendix 5: Flint Report).

9 TRACK P5B

- 9.1 A 0.8km long section of track P5B was monitored between the 5th and 7th March 2012.
- 9.2 The existing 3.5m wide track comprised a well built asphalt surfaced road. The track was widened by 1m to the south and 1.5m to the north.
- 9.3 Ground was reduced either side of the existing road to a maximum depth of 0.25m. The ground reduction was not deep enough to reach clean natural deposits and was full of tree roots. The ground had clearly being much disturbed by the construction of the existing road/farm track. A BT service ran for some distance along the northern edge of the road.
- 9.4 A 100m long section of the track immediately west of the Eriswell/Elveden Parish boundary was reduced by less than 0.05m as the ground had previously been consolidated by brick and concrete crush rubble.
- 9.5 Several pieces of worked flint [209] were recovered. These were located from western part of the track monitored during this WB (see Appendix 5: Flint Report). No archaeological features were observed along Track P5B.

10 DISCUSSION AND CONCLUSIONS

- 10.1 Only one archaeological feature [62] was encountered during the Watching Brief. Ground reduction of 0.25m was generally insufficient to penetrate deeper than the subsoil to the clean natural. Only at the level of clean natural deposits would archaeological features be readily observable (if they were present). Much of the route of the new enabling track had clearly been heavily ploughed. Other areas were disturbed by tree rooting and root grubbing activity. Some of the existing farm tracks are well laid asphalt roads, the construction of which clearly involved some disturbance of surrounding ground. The absence of observed archaeological features may therefore be a product of the nature of the ground works.
- 10.2 The investigations along this phase of the project resulted in the recovery of a total of 76 struck flints and just over 8.5kg of unworked burnt flint fragments from seven separate sites. The largest quantities of flintwork came from New Track 3 which produced over 90% of the total assemblage from the investigations. Virtually all of the unworked burnt flint came from a single feature [62].
- 10.3 The lithic assemblage at New Track 3 is most typical of the Later Neolithic and Early Bronze Age technological traditions of the Breckland. The quantity of burnt flint along with the intensity and uniformity of its heating is very suggestive of it being deliberately and systematically produced. High density accumulations of burnt flint are well documented in the area, with over 300 'burnt mounds' recorded along the adjacent Fen edge. These have also been identified throughout the Breckland, particularly along its river margins (see Appendix 5: Flint Report).

11 ACKNOWLEDGEMENTS

11.1 Pre-Construct Archaeology would like to thank Sally Randell, Mouchel for commissioning this work and Birse Civils and Lancaster for their helpful co-operation. Josephine Brown and Mark Roughley, PCA CAD department prepared the figures. Barry Bishop prepared the flint report.

12 REFERENCES

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APPENDIX 1: DIGITAL PHOTOGRAPHS

BIRSE COMPOUND



Plate 1: View south



Plate 2: View southwest



Plate 3: View northeast



Plate 4: Western end of southern trench for cabin base



Plate 5: View southwest. Western end of northern trench for cabin base

TRACK P3B



Plate 6: View east along existing track



Plate 7: Topsoil removed onto silty-sand subsoil



Plate 8: View east along widening trench

TRACKS H18 & T68



Plate 9: Removal of plough soil. H18 view East



Plate 10: H18 View North – ground reduction very minimal in places. Here it is less than 0.10m



Plate 11: Middle section of T68 looking West



Plate 12: Deeply rutted farm track. End of T68 view East



Plate 13: Reduction of eastern end of T68. Excavation did not penetrate below subsoil

TRACK T79



Plate 14: Track T79 to the right



Plate 15: View North-East – plough scars visible



Plate 16: Plough soil



Plate 17: View North-East

NEW TRACK 3



Plate 18: New Track 3 looking South-West. Topsoil is full of plough-struck flint



Plate 19: View North-East from start of New Track 3



Plate 20: Looking North. This stretch of New Track 3 revealed feature [62] and the majority of worked flint



Plate 21: Looking North



Plate 22: Burnt flint feature [62] in section



Plate 23: Feature [62]



Plate 24: Looking North-East



Plate 25: View North-West



Plate 26: View South-East



Plate 27: View South



Plate 28: View South through woodland to final bend of New Track 3



Plate 29: View South through woodland after machining



Plate 30: Final bend of New Track 3

TRACK P1A



Plate 31: View North from Erismwell/Icklingham Parish boundary



Plate 32: View South



Plate 33: View North. Eriswell/Icklingham Parish boundary runs across the road near the scots pine tree on the right



Plate 34: View East. Parish boundary to left of picture



Plate 35: Depth of modern ploughing P1A to the right



Plate 36: Plough soil. View South



Plate 37: Line of Eriswell/Icklingham Parish boundary



Plate 38: Work in progress: View West



Plate 39: Section of existing track



Plate 40: Root filled sandy topsoil removed onto sandy subsoil



Plate 41: Widening eastern side of track



Plate 42: Widening eastern side of track. Note root activity



Plate 43: Widening western side of track. View south

Track P5B



Plate 44: View South along existing track



Plate 45: View North showing track widening



Plate 46: Western end of P5B



Plate 47: Chalk rubble forms part of existing track. BT service run visible to left of picture



Plate 48: 100m of modern rubble each side of existing track



Plate 49: Eriswell/Elvedon Parish Boundary marked by a line of birch trees



Plate 50: View East



Plate 51: Ground disturbance by existing track. View West

APPENDIX 2 CONTEXT REGISTER

Context	Type	Enabling Work	Date	Phase/Comments
50	Layer	P3B	10/11/11	Topsoil
51	Layer	P3B	10/11/11	Subsoil
52	Layer	P3B	10/11/11	Natural
53	Layer	H18/T68	22/11/11	Topsoil
54	Layer	H18/T68	22/11/11	Subsoil
55	Layer	H18/T68	22/11/11	Natural
56	Layer	T79	28/11/11	Topsoil
57	Layer	T79	28/11/11	Subsoil
58	Layer	T79	28/11/11	Natural
59	Layer	New Track 3	7/12/11	Topsoil
60	Layer	New Track 3	7/12/11	Natural
61	Fill	New Track 3	15/12/11	Fill of pit [62]. Burnt stone. Grey brown stained sand.
62	Cut	New Track 3	15/12/11	Cut of shallow pit. Filled by [61].
63	Layer	New Track 3	15/12/11	Re-deposited natural/subsoil
64	Layer	P1A	27/02/12	Topsoil/Ploughsoil

65	Layer	P1A	27/02/12	Subsoil
66	Layer	P1A	27/02/12	Natural
200	Lithics	Eval T11		From Evaluation (Trench 11).
201	Lithics	New Track 3	15/12/11	(Area A) – E522335.39/N03938.65 to E522344.45/N03952.78 (line)
202	Lithics	New Track 3	15/12/11	(Area B) – E522340.72/N03952.78 to E522344.45/N03958.38 (line)
203	Lithics	New Track 3	15/12/11	(Area C) – E522347.330/N03959.79 (centre point)
204	Lithics	New Track 3	15/12/11	(Area D) – E522345.36/N04014.12 (centre point)
205	Lithics	New Track 3	15/12/11	(Area E) – E522352.40/N04003.24 (centre point)
206	Lithics	P1A	27/02/12	E03632.56/N522124.65/N522124.65 From subsoil [65]
207	Lithics	P1A	27/02/12	E03643.73/N522141.74 From edge of ploughed field.
208	Lithics	P1A	27/02/12	E03642.64/N522142.99 to E03632.73/N522143.47 (line)
209	Lithics	P5B	7/8/2012	GPS 578969.8/278886.7
210	Lithics	P3B	10/11/2011	GPS 576982.98/279064.89
211	Lithics	P3B	10/11/2011	GPS 577047.84/279055.27
212	Lithics	T79	30/11/2011	GPS 580664.8/278779.4

APPENDIX 3: ATTENDANCE AND REPORTING

DAY TOTAL	DATE	WORKS	OPERATIVE	COMMENTS
1	17/10/2011	COMPOUND	AGP	GENERAL GROUND REDUCTION
2	19/10/2011	COMPOUND	AGP	TRENCHES FOR CABIN PADS
3	25/10/2011	COMPOUND	JMJ	REDUCTION FOR SEPTIC TANK
4	9/11/2011	P3B	AGP	TRACK WIDENING
5	10/11/2011	P3B	AGP	TRACK WIDENING
6	11/11/2011	P3B	AGP	TRACK WIDENING
7	14/11/2011	P3B	AGP	TRACK WIDENING
8	15/11/2011	OFFICE	AGP	SUMMARY OF COMPOUND & PREPARATION OF A11 REPORT TEMPLATE
9	22/11/2011	H18-T68	AGP	TRACK WIDENING
10	23/11/2011	H18-T68	AGP	TRACK WIDENING
11	24/11/2011	H18-T68	AGP	TRACK WIDENING – REPORT UPDATE
12	28/11/2011	T79	AGP	EXCAVATION NEW TRACK
13	30/11/2011	T79	AGP	EXCAVATION NEW TRACK
14	01/12/2011	T79	AGP	EXCAVATION NEW TRACK/GPS/REPORT UPDATE
15	07/12/2011	NEWTRACK 3	AGP	EXCAVATION NEW TRACK

16	08/12/2011	NEW TRACK 3	AGP	EXCAVATION NEW TRACK
17	09/12/2011	NEW TRACK 3	AGP	MACHINE BROKEN
18	13/12/2011	NEW TRACK 3	AGP	EXCAVATION NEW TRACK
19	14/12/2011	NEW TRACK 3	AGP	EXCAVATION NEW TRACK
20	15/12/2011	NEW TRACK 3	AGP	EXCAVATION NEW TRACK
21	16/12/2011	NEW TRACK 3	AGP	EXCAVATION NEW TRACK
22	23/02/2012	P1A	AGP	TRACK WIDENING
23	27/02/2012	P1A	AGP	TRACK WIDENING
24	05/03/2012	P5B	AGP	TRACK WIDENING
25	06/03/2012	P5B	AGP	TRACK WIDENING
26	07/03/2012	P5B	AGP	TRACK WIDENING/SURVEY
27	08/03/2012	OFFICE	AGP	BEGIN REPORT WRITING

APPENDIX 4: OASIS FORM

OASIS DATA COLLECTION FORM: England

OASIS ID: preconst1-121452

Project name	Archaeological watching brief A11 Fiveways to Thetford improvement enabling works
Short description of the project	Pre-Construct Archaeology were commissioned Mouchel on behalf of the Highways Agency (HA) to implement a programme of geoarchaeological and archaeological Watching Brief during the construction of Elveden Estates Access Tracks and the site compound as part of a commitment for the A11 Fiveways to Thetford Improvement works. The only archaeological feature comprised a shallow pit containing a substantial quantity of burnt flint was found during the monitoring of New Track 3. A number of pieces of earlier prehistoric (Neolithic/Bronze Age) worked flint were recovered along the route of this New Track. The flints were most concentrated in the area containing the burnt flint feature [62]. Other lithics were recovered from a number of the enabling works, some of those from P3B probably dating from the Mesolithic/Neolithic.
Project dates	Start: 17-10-2011 End: 07-03-2012
Previous/future work	No / Not known
Type of project	Recording project
Site status	None
Monument type	PIT Early Prehistoric
Significant Finds	LITHIC IMPLEMENTS Early Prehistoric
Investigation type	'Watching Brief'
Prompt	Planning condition
Project location	
Country	England
Site location	SUFFOLK FOREST HEATH ELVEDEN A11 Fiveways to Thetford
Postcode	IP24 3TP

Study area	14.80 Kilometres
Site coordinates	TL 812 804 52.3911480814 0.663229971605 52 23 28 N 000 39 47 E Point
Project creators	
Name of Organisation	Pre-Construct Archaeology Limited
Project brief originator	Mouchel
Project design originator	Mouchel
Project director/manager	Mark Hinman
Project supervisor	Alexander Pullen
Project archives	
Physical Archive recipient	Suffolk County Council
Physical Contents	'Worked stone/lithics'
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APPENDIX 5: LITHIC REPORT

Barry Bishop

Introduction

During the latter part of 2011 struck flints and unworked burnt flints were recovered during archaeological investigations from a number of areas examined as part of the enabling works for the A11 up-grade at Elveden in Suffolk.

This report assesses the lithic material and follows the methodology and objectives encapsulated in both MAP2 and MoRPHE (English Heritage 1991; 2006). Its aims are to quantify and describe the material, assess its significance and to recommend any further work required for the material to achieve its full research potential. All metrical information follows the methodology established by Saville (1980). A full catalogue detailing the material's attributes and distribution within individual contexts is presented in Catalogue/Appendix ******.

Quantification

Site	Decorflint Flake	Flake	Prismatic Blade	Non-prismatic Blade	Flake Fragment	Core	Conchoidal Chunk	Retouched	Burnt Stone (no.)	Burnt Stone (wt:g)
A	4	14		2	1				3	112
B-C		4		1			1	4		
C	6	8		1		3	1	2	137	8394
D	2	11		2	1	1				
P3B (1)		2						1		
T79		2								
P3B (2)		1						1		
Total	12	42	0	6	2	4	2	8	140	8506

Table 01: Quantification of Lithic material by Site

The investigations along this phase of the project resulted in the recovery of a total of 76 struck flints and just over 8.5kg of unworked burnt flint fragments from seven separate sites (Table 01). The largest quantities of flintwork came from the adjacent sites (A) - (D) which produced over 90% of the total assemblage from the investigations. Virtually all of the unworked burnt flint came from a single feature at site (C). The specific characteristics of the lithic assemblages from each of the sites are presented below.

The Assemblages

The struck assemblage was manufactured from a dense black flint that varied somewhat in translucency and in degree of grey mottling. It retains rough and sometimes very thick cortex that has also experienced a degree of weathering, and many thermal surfaces, some ancient and heavily recorticated, are also evident. It is typical of Breckland flint but its weathering and thermal flaking suggest that it was obtained from derived sources, most probably the glacial Lowestoft Formation deposits overlying the parent chalk, as are present in the vicinity. No mined flint extracted directly from the chalk was identified.

The struck flint assemblage is dominated by large and sturdy flakes that vary considerably in shape, from thin and narrow to short and squat. This indicates some chronological mixing but, overall, the assemblage is most typical of the Later Neolithic and Early Bronze Age technological traditions of the Breckland (eg Healy 1998). Additionally, the simplicity and low level of technological application apparent on some pieces also that some later prehistoric (later second / first millennium BC) flintwork could be present (eg Herne 1991). The admixture of Later Neolithic and later prehistoric flintwork is a common feature of upland Breckland flint scatters (Healy 1981; 1998; C. Pendleton, pers comm.).

Reference Site (A) (Lat. 522335.39 Long. 03938.65 – Lat. 522340.72 Long. 203952.78)

This site produced 21 struck pieces from topsoil deposits, all of which are in a chipped condition typical of assemblages from active soil horizons. The assemblage comprises flakes and non-prismatic blades with no cores or definitely retouched implements present. Several flakes do have edge damage consistent with light retouching or from having been used, but their generally poor post-depositional condition precludes any such positive identification. The flakes are very variable in shape and size although many are relatively large with the largest examples attaining nearly 70mm in length. The flakes are also technologically variable. They include narrow flakes and flakes with blade-like dorsal scars and both faceted and edge-trimmed striking platforms are present. A few, however, show little technological sophistication and have wide and unmodified striking platforms. The variability is likely to reflect the dating of this material; most pieces are broadly comparable to Later Neolithic or Early Bronze Age industries, whilst some of the more crudely produced pieces are more typical of later second or first millennium BC assemblages. The likelihood of further chronological admixing is supported by the presence of recortication on one of the blades, a feature that is entirely absent on the remainder of the assemblage. Also recovered from here were three large but heavily burnt flint fragments, weighing 112g.

Reference Site (B) – (C) (Lat. 522340.72 Long. 03952.78 to Lat. 522344.45 Long. 03958.38)

This site produced ten struck pieces, including flakes, knapping waste and four retouched implements. The flakes are similar in condition and technology to those from Site (A) and likewise are mostly characteristic of Later Neolithic or Early Bronze Age industries. The retouched implements comprise two 'elaborate' (ie heavily retouched) piercers, a notched flake and a retouched flake fragment, which is probably either another notched flake or a further 'elaborate' piercer. All of these implements were made on competently produced but sturdy flakes and

can be dated to the Later Neolithic or Early Bronze Age, and are most reminiscent of the Breckland heavy flake industries of the Later Neolithic (Healy 1991; 1998). Although this assemblage is small, at only ten pieces, it is possibly significant that a very high proportion consists of retouched implements and that they are restricted in their typological range. It certainly raises the possibility that this represents a specific tool-using locale, perhaps part of a much wider scatter of flintworking as represented by the similarly dated material from Sites (A), (C) and (D).

Reference Site (C) (Lat. 522347.330 Long. 03959.79)

This site produced 21 struck flints and a very large quantity of burnt flint. The struck flints include flakes, three cores and two retouched implements. The flakes are similar to those from sites (A) and (B)-(C), being mostly quite large but morphologically variable. Again, overall they are most typical of Later Neolithic or Early Bronze Age industries but the possibility that a few pieces are of later prehistoric date cannot be excluded. They nearly all show some evidence of post-deposition edge damage and this may mask any traces of light retouch or use wear. The cores include a bifacially and centripetally worked chunk that, although crude, is most reminiscent of Later Neolithic examples. There is also a large flake or 'quartered' nodule that has had broad squat flakes removed from an acute angle at its distal end and many incipient Hertzian cones from further, failed, attempts at flake detachment. This is not specifically chronologically diagnostic but it probably has more in common with later prehistoric (later second or first millennium BC) industries than earlier ones. The remaining core comprises an extensively reduced multi-platformed core that appears to have been (re-) used as a notch. Again, it is difficult to suggest a date with confidence but such cores are most likely to date to the Later Neolithic or Early Bronze Age. The two retouched pieces both consist of scrapers although they are very different in form. One is relatively small and has been retouched around nearly all of its margins. It is comparable to 'thumbnail' types, which are most usually dated to

the Early Bronze Age. The other was made on a much larger flake and has slightly invasive retouch around its distal edge, forming a horseshoe-shaped end-scraper. It is generally not possible to closely date scrapers, although this example, with its symmetrically arced working edge, is perhaps most characteristic of Later Neolithic implements.

Site (C) also produced by the largest quantities of burnt flint from the investigations. Feature [61] produced 137 fragments weighing a total of 8,394g. They comprise intensively burnt thermally fractured nodular cobbles. Despite the intense heating and resultant disintegration, many of the fragments were of large size, averaging at 61g each and with the largest single piece weighing 361g. Remnant cortex indicates that large but thermally fractured nodules were selected for heating. This feature also produced an unburnt conchoidally fractured chunk, probably a fragment from a shattered core. The quantity of burnt flint along with the intensity and uniformity of its heating is very suggestive of it being deliberately and systematically produced. High density accumulations of burnt flint are well documented in the area, with over 300 'burnt mounds' recorded along the adjacent Fen edge, and they have also been identified throughout the Breckland, particularly along its river margins (eg Layard 1922; Apling 1931; Silvester 1991; Bates and Wiltshire 2000; Crowson 2004). Far fewer are known from upland sites, however, although this in part may be due to the area's uneven archaeological coverage. The purposes that lie behind both the creation of the burnt flint and its deposition remain enigmatic, although the deliberate heating of often large quantities of stone is frequently documented at prehistoric sites. Many ideas have been forwarded to account for the presence of such large accumulations of burnt stone. The heating of stone has sometimes been associated with parching corn, a means of aiding its preservation (eg Cunliffe 1974, 168), although grain and burnt stone are not always found in association and other explanations for its production have been forwarded. Perhaps the most favoured see it as being connected with cooking activities, its scale suggesting communal efforts, perhaps associated with feasting or

ceremonial practices. Other explanations regard it as the residues from saunas (Barfield and Hodder 1987), and a variety of industrial processes, such as leather making or wool processing have been put forward to account for its generation (eg Hedges 1975; Barfield and Hodder 1987; Barfield 1991; Jeffery 1991).

Reference Site (D) (Lat. 522352.40 Long. 04003.24)

This site produced 17 struck flints, comprising flakes, blades and a core. The flakes are comparable in condition and technology to those recovered from sites (A), (B)-(C) and (C) and, although somewhat variable in shape and size, can be broadly dated to the Later Neolithic or Early Bronze Age, with a few later pieces possibly also present. The core is blocky in shape with multiple striking platforms and has produced broad flakes. It is not closely dateable and is most typical of Later Neolithic and Early Bronze Age examples.

Reference Site P3B (1) (NGR 576982 / 279064)

This site produced two flakes and a retouched implement. One of the flakes comprised a core-tablet rejuvenation flake, the other a core-face rejuvenation flake, both being dateable to the Mesolithic or Neolithic. The retouched implement comprises a knife made from a blade-proportioned primary flake and has shallow invasive retouch along its left lateral margin. The other lateral margin is formed by cortex and this may have facilitated it being held. It is most likely to be of Neolithic date.

Reference Site P3B (2) (577047 / 279055)

This site produced two struck pieces, a flake and a scraper and/or knife. The later comprises a narrow flake with slightly invasive retouch along its left dorsal margin and steeper convex retouch around its distal dorsal. This can be broadly dated to the Mesolithic or Neolithic periods.

Reference Site T79 (580664 / 278779)

This produced a small recorticated flake and a distal fragment from a larger flake. Neither is closely dateable.

Significance

The investigations recovered struck flint from a number of locations. It is chronologically mixed, with pieces possibly dating from the Mesolithic through to the later prehistoric period. The majority of pieces, however, are most characteristic of Later Neolithic or Early Bronze Age industries and are typical of the extensive flintwork spread noted across the Breckland. The assemblages from the sites are small, however, and not indicative of intensive activity, with the greatest concentrations coming from sites (A), (B)-(C), (C) and (D) where they might be associated with a 'burnt flint feature'. If they are associated, it would indicate that the feature is most likely of Later Neolithic or Early Bronze Age date, commensurate with dates from other burnt flint accumulations in the area (eg Apling 1931; Bates and Wiltshire 2000; Crowson 2004). The generally low-levels of flintwork encountered during the investigations may in part be due to the locations of the sites, on the Little Ouse / Lark interfluvium in the Breckland uplands and located at some distance from sources of water.

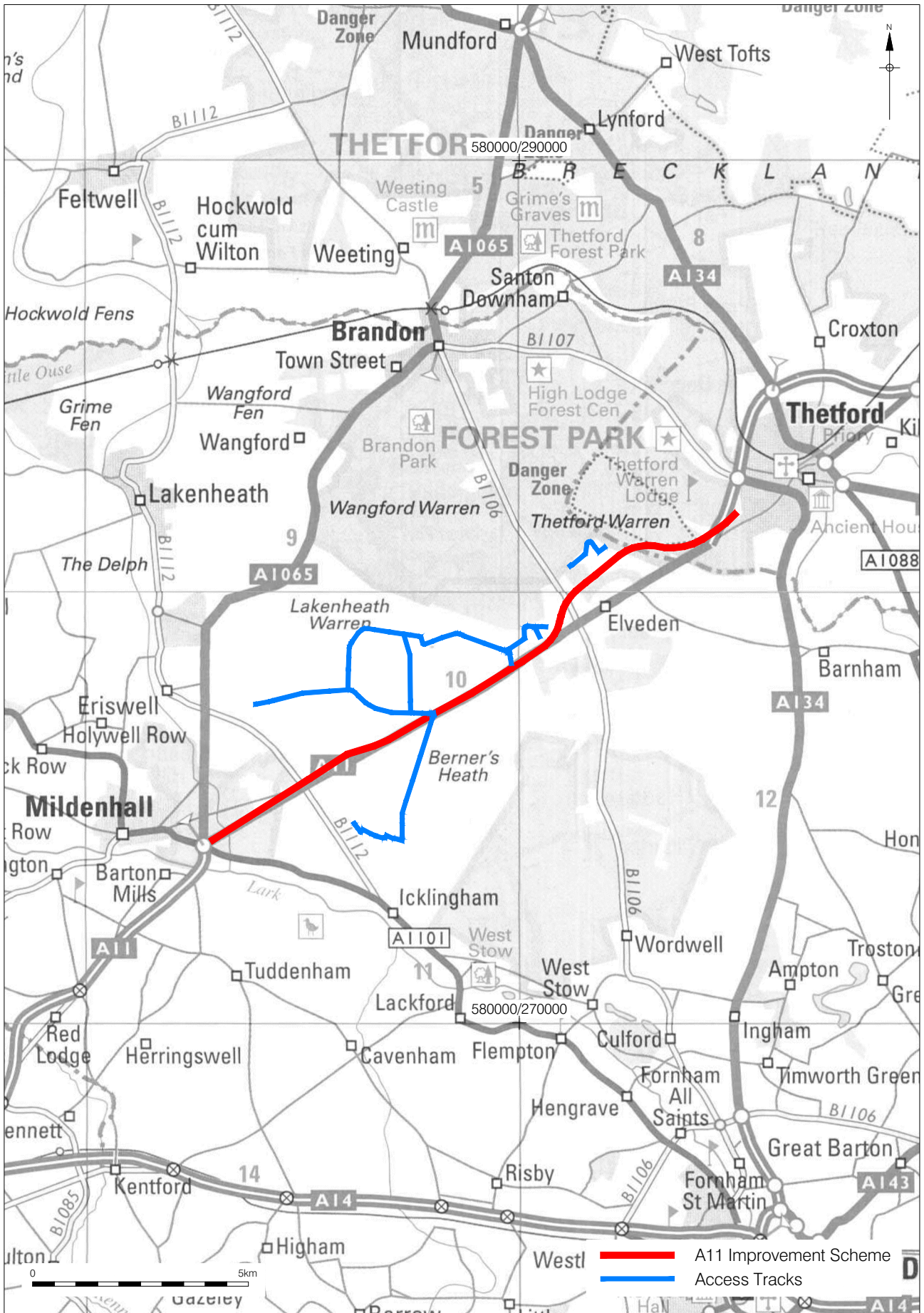
Recommendations

This report and the accompanying database is all that is required for the purposes of the archive / Historic Monument Record, and no further analytical work is proposed. An account of the worked flint and unworked burnt flint should be included in any published accounts of the investigations, preferably alongside illustrations of the most relevant worked pieces.

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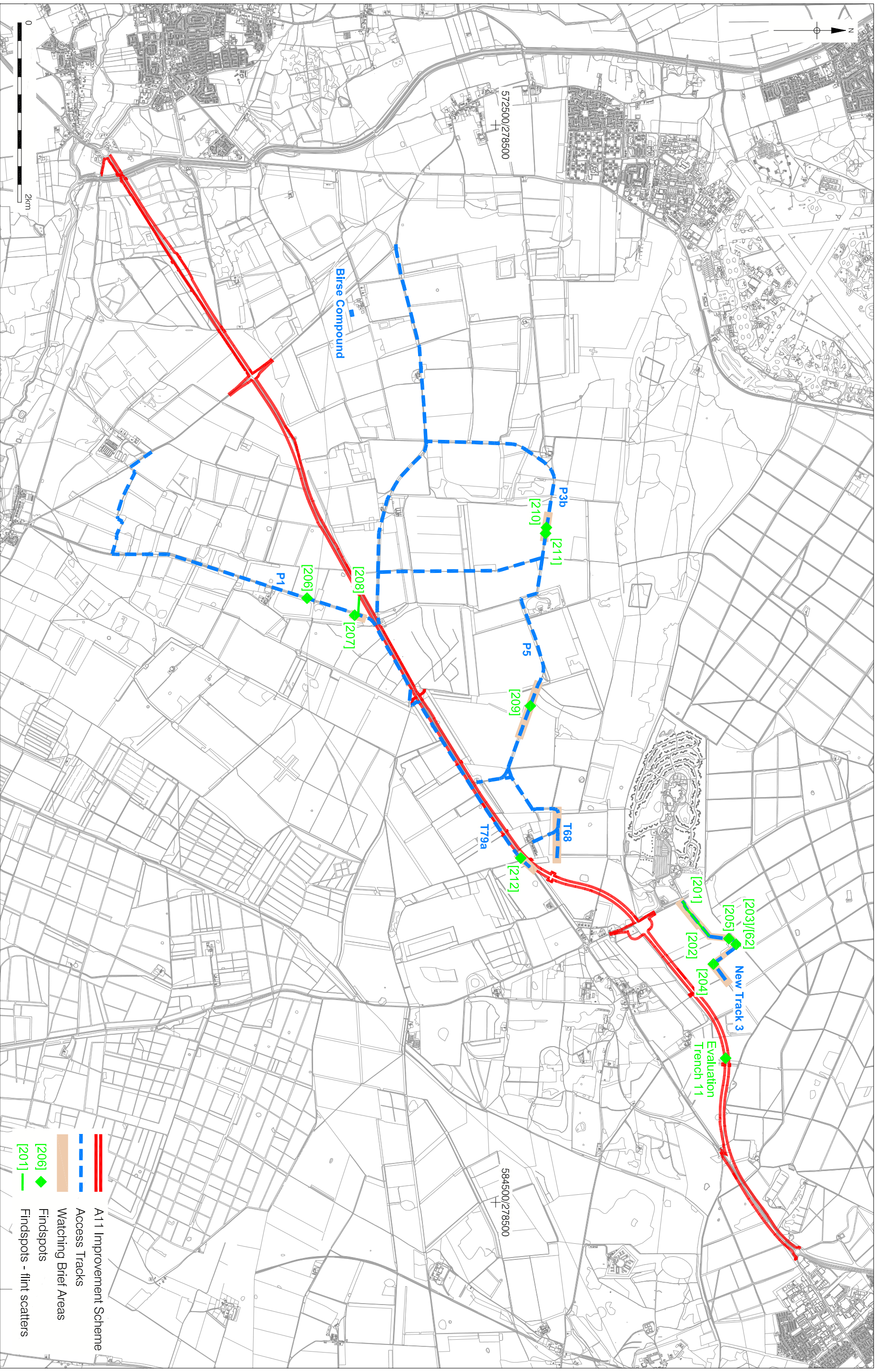


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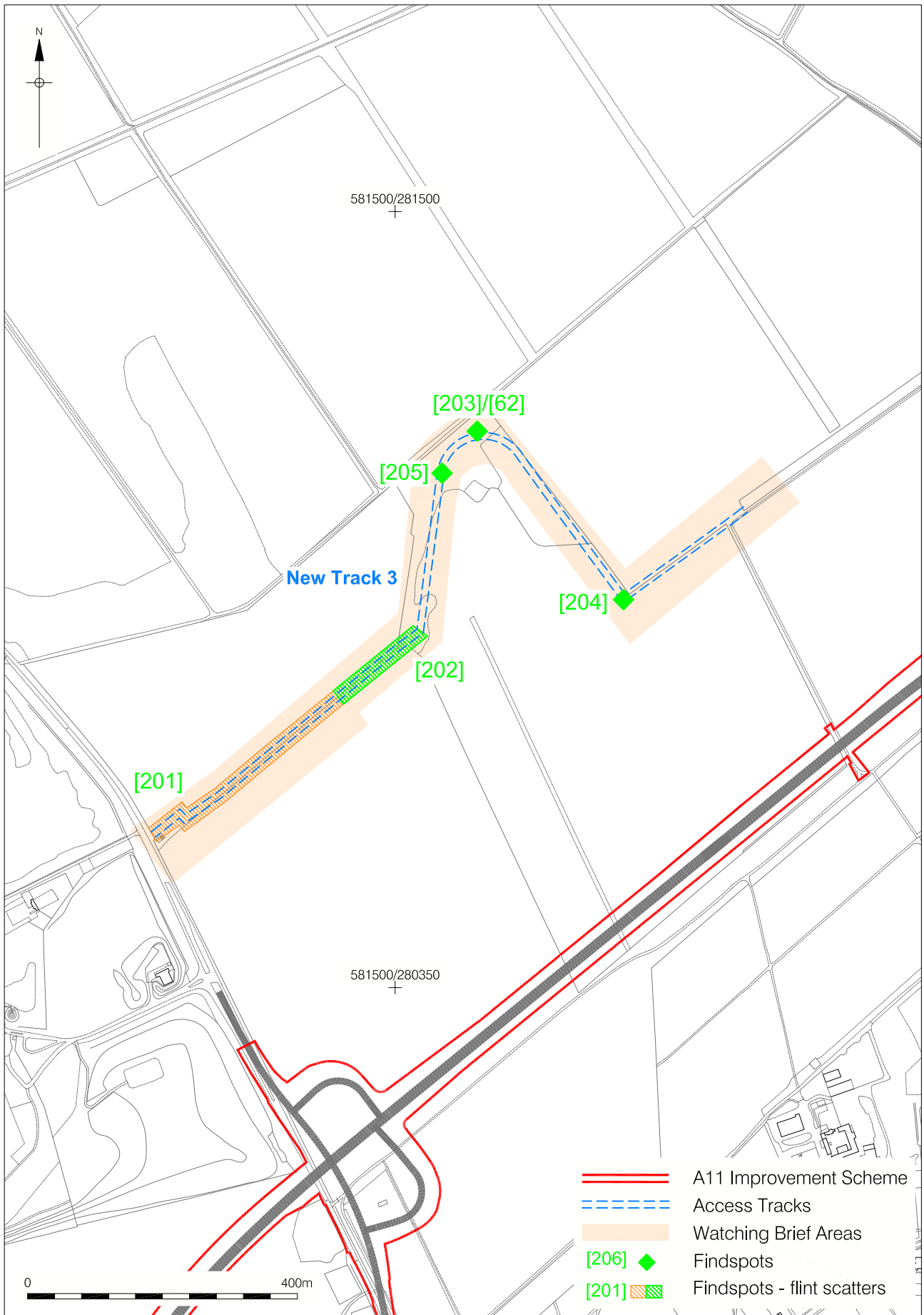
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Figure 1
Site Location
1:125,000 at A4



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Figure 2
 Detailed Site Location showing Areas Monitored during Watching Brief and Findspots
 1:40,000 at A3



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Figure 3
 Detail of New Track 3
 1:8,000 at A3

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