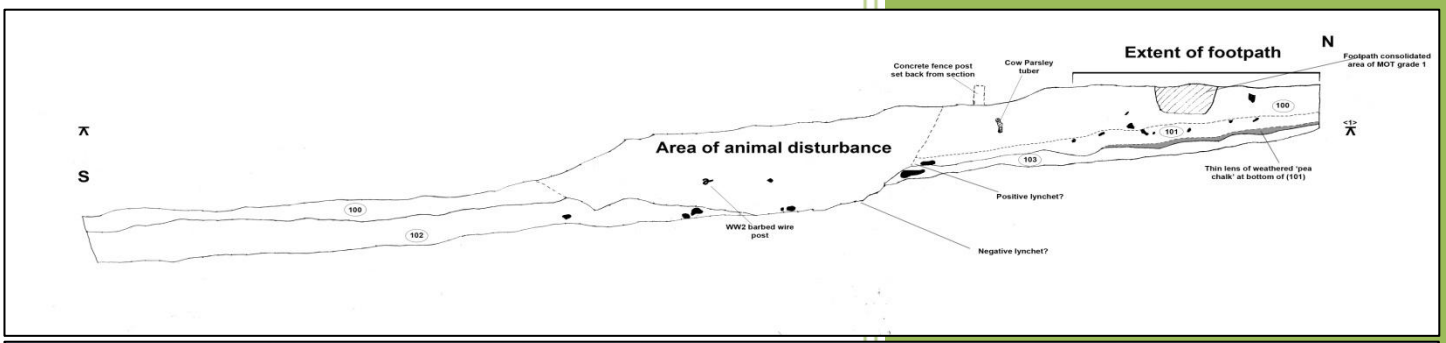
Evaluation report for Balmer Down, Falmer. Archaeology Services, Lewes Project No. ASL13/2013.

2013



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For the South Downs National Park Authority

Summary

Between 5th August and 12th August 2013 two evaluation trenches were excavated across a lynchet which lies at the southern most boundary of Balmer Down in Falmer. Whilst outside the scheduled monument area known as Buckland Bank to the north of the lynchet, the bank is of archaeological interest as it is not known whether it has a relationship to the other filed systems which line the valley. The lynchet has been used as a footpath for some years and rabbit burrowing in this area has damaged the archaeology significantly. The evaluation trenches were put in prior to reconsolidation of the footpath by the South Downs National Park Authority (SDNPA) to establish the nature, depth and age of the lynchet. This proved difficult, mainly due to the damage caused by animal burrowing but depths, profiles and a tentative Bronze Age date could be ascribed to the formation of this now shallow feature. However, the Bronze Age finds recovered from this area could be intrusive from down slope erosion and bio-turbation so any dating is tentative.

1. Introduction

1.1 This evaluation seeks to record the archaeological potential of a section of prehistoric lynchet earthwork that will be damaged by groundworks relating to the repair of a bridleway at Balmer Down, East Sussex (See Figure 1). The development proposal includes the excavation of a number of sections of the earthwork to insert imported material to stabilise rabbit burrows. This evaluation comprises the excavation of 2 trial trenches within the corridor of the bridleway (Fig.2 and 3) in two of the areas targeted for consolidation works. The results of this work will be used to provide an adequate record of the profile, date and character of this earthwork as well as to inform any further archaeological mitigation measures that may be necessary in connection with the development proposals.

1.2 This evaluation report follows the recommendations made by the Archaeology Team at East Sussex County Council to the South Downs National Park. The work does not require Scheduled Monument consent or planning permission.

1.3 This mitigation work was agreed at an onsite meeting between the South Downs National Park Countryside Management Team and the Archaeology Section of East Sussex County Council.

1.3 The project site is located at a height of c.80m OD on the south facing downland spur known as Balmer Down at NGR TQ 3729 1012 to the north-east of Bunkershill Plantation.

1.4 The underlying geology of the site, according to the British Geological Survey 1:50,000 Map Sheet 320/321 is Seaford Chalk.

1. The Archaeological Potential

1.1 The lynchet is part of a well preserved prehistoric field system that covers most of Balmer Down. A large section of this field system is a Scheduled Monument, although the project site is outside this designated area. The field system is associated with a number of prehistoric and Romano-British occupation sites, trackways and burial areas. This lynchet appears to mark the southern boundary of the field system.

1.2 An analysis of the East Sussex Historic Environment Record (summarised above) has concluded that the site lies in an area of high archaeological potential.

2.3 In the 20th century the top of the lynchet was used as the route for a bridleway, which continues in use today.

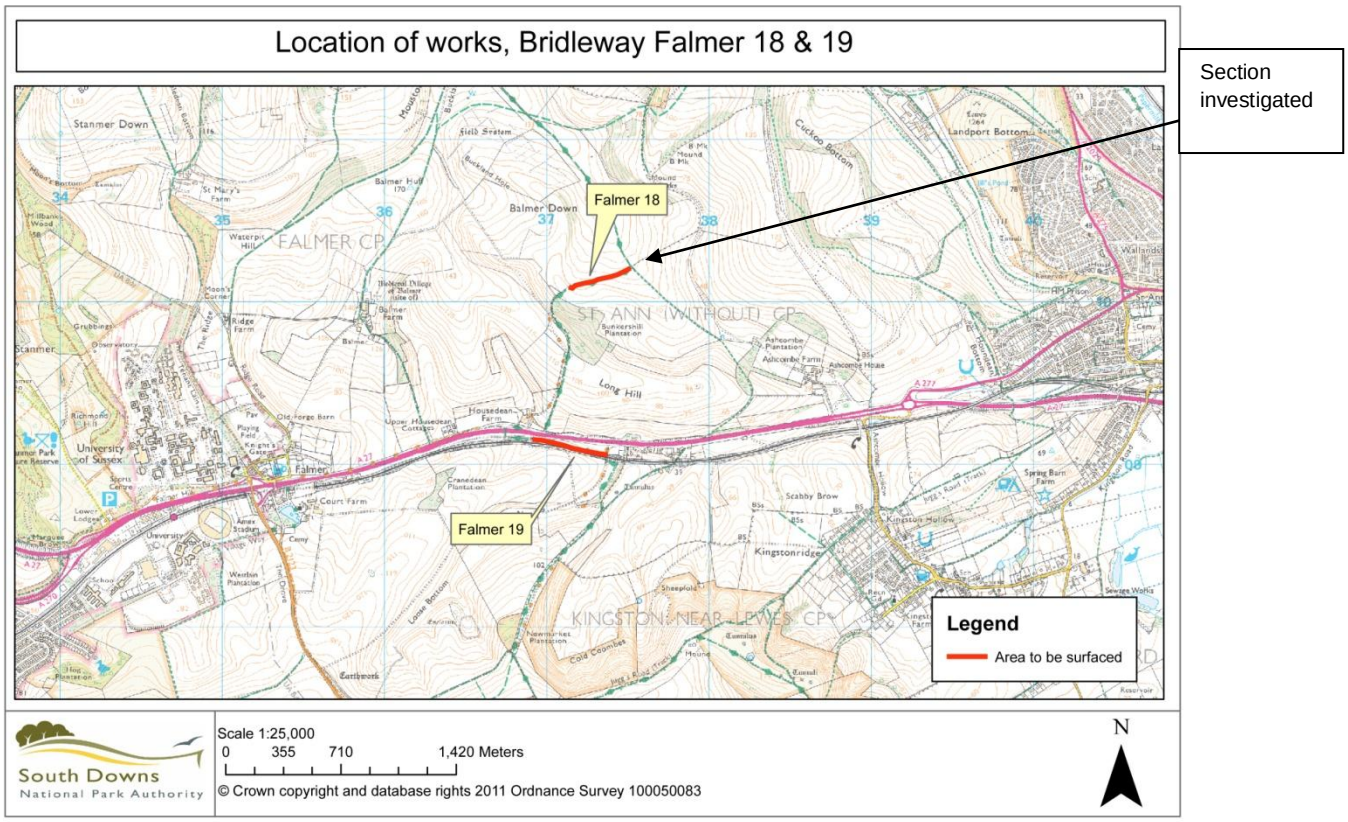

Fig.1.Location map showing section 18 at Balmer Down

2. Objectives

3.1 The objective of the evaluation was to establish whether there are any archaeological deposits at the site that may be affected by the proposed works. The excavation was thus to ascertain the extent, depth below ground surface, depth of deposit, character, significance and condition of any archaeological remains on site.

3.2 The evaluation also established the extent to which previous development on the site has affected archaeological deposits.

3.3 The evaluation provided two full recorded sections through the earthwork in two different places; these were targeted to include one area of high rabbit disturbance and one area where little evidence of burrowing had occurred so that a comparison could be made between the two (Fig.4).

3.4 Particular research issues that were to be addressed by the evaluation included:
Development of the earthwork
Date of phases of development

3. Method

3.1 The site is currently an earthen trackway bordered on the north by a fence line and the south by vegetation and a further fence which has some concrete posts driven into the bank.

4.2 Two trenches (One at 8.5 metres and the other at 10 metres in length by 1.6 metres wide) were excavated using a combination of machine and hand excavation. The machine excavation took place under continuous watch from an archaeologist with a 1.6m wide, toothless bucket and a 7 ton tracked machine. The trench locations were agreed with the East Sussex County Council Archaeology Officer in advance (see 3.3 above).

4.3 The excavation was taken down to the top of 'natural' with detailed recording at significant archaeological levels.

4.4 The work was undertaken in accordance with the specification written in advance of archaeological works by Greg Chuter, Assistant County Archaeologist and the ESCC Standards and Guidance (2008).

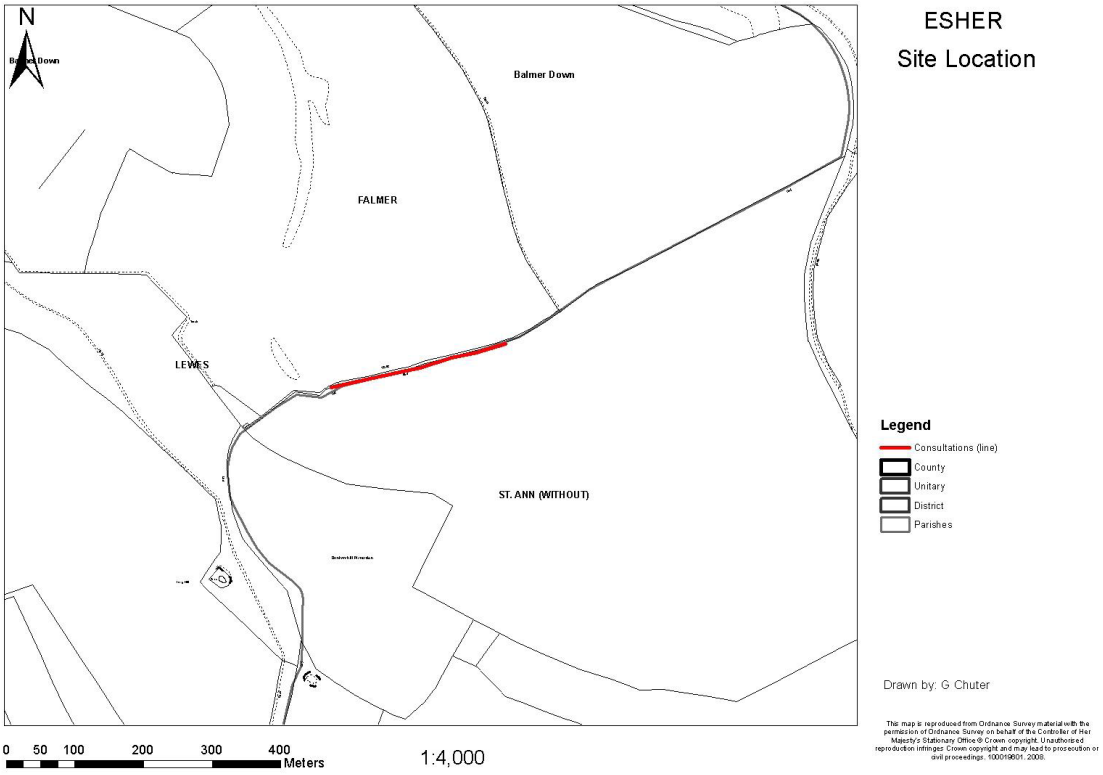

Fig.2.Area targeted for footpath consolidation highlighted in red

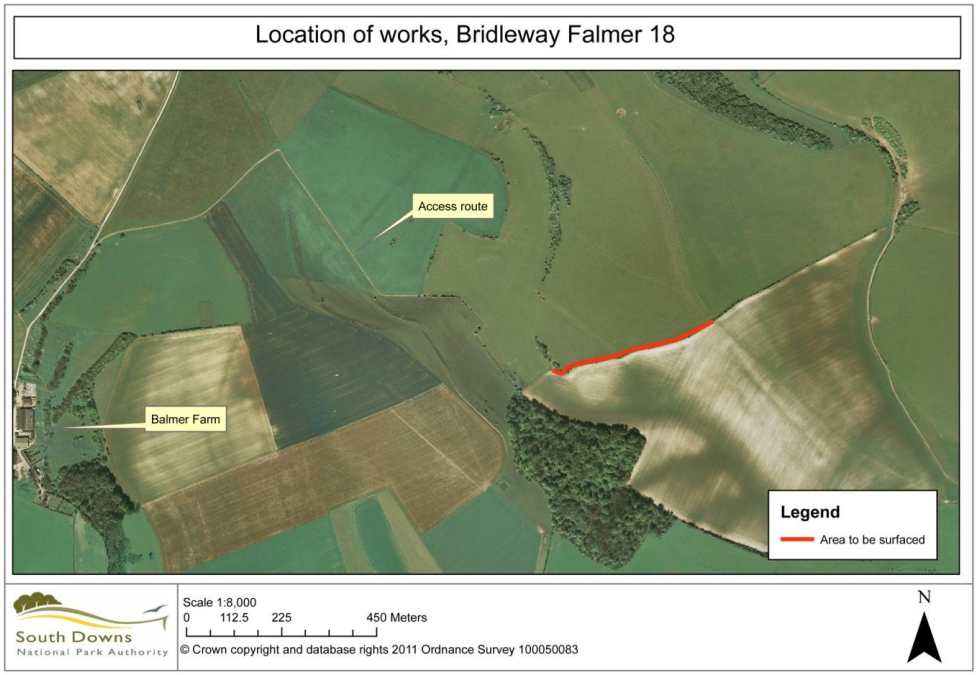

Fig.3 Lynchet highlighted in red showing relationship to other lynchets in the nearby vicinity

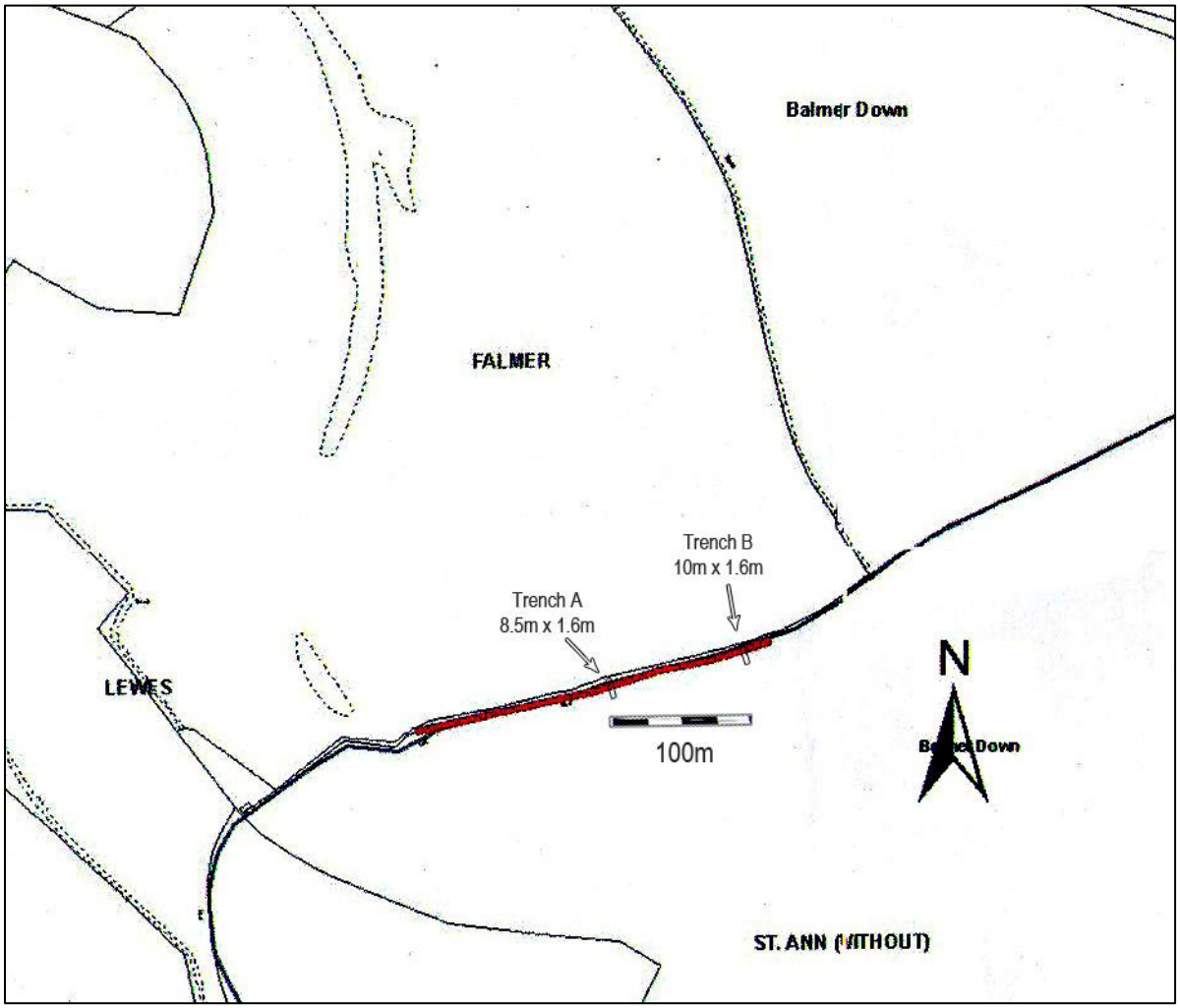

Fig4. Site plan showing actual positions of trenches

4.5 All trenches were levelled and measured from a TBM located on a fencepost mid-way between the two trenches at a height of 74m above sea-level, located by means of contours in the OS map for the area in relation to the site topography and centred on TQ 3729 1012.

4.6 Topsoil depth and thickness lay between just 10cm - 72cm deep below current ground levels but was only at its deepest in disturbed areas where it came down directly onto the natural. The topsoil was deeper in trench A to the east of the site due to a large amount of animal disturbance in the middle of the trench. However, it could be argued that the animal disturbance in this area was as a result of the rabbits utilizing the lea of the bank (or the negative lynchet) where the soil would be looser and more easily burrowed into. The topsoil in trench B contains larger flint and chalk inclusions (12cm and 25cm respectively) maybe indicating a lack of disturbance in this area in comparison to trench A where the inclusions were smaller (3cm and 19cm).

4.7 Natural Substrate depth varied across site and was exposed at between 20-65 cm below current ground levels and varied due to the amount of animal disturbance in some areas. All trenches were dug to a maximum of 72cm below current ground levels as convincing natural geology was encountered and development is not likely to extend to this depth (fig.5 and 6).

4.8 All archaeological deposits, features and finds were recorded according to accepted professional standards, using context record sheets numbers 100-104 for trench A and 200-203 for trench B. Deposit colours were recorded by visual inspection and not by reference to a Munsell Colour chart. Soil contexts are as follows:

Context	Colour	Compaction	Characteristics	Inclusions	Size of inclusions	Depths of layer	Trench number
100	Dark-mid brown	Soft	Humic silty loam, with well formed, fine crumbly prismatic peds typical of grassland rendzina soils	15%, sub-rounded, fairly well sorted chalk and occasional 10% sub-angular, poorly sorted downland flint	Chalk up to <3cm but in the main approx.1cm Flint up to 19cm (rare) but in the main approx. 8-10cm	10cm-72cm	Trench A
101	Dark brown	Loose	Humic silty loam with large amount of downland flints	Very common 30%, moderately sorted, sub-angular downland flint and common 15%, fairly well sorted, sub-rounded chalk	Flint <15cm and chalk <2cm	10cm	Trench A only
102	Light brown - grey	Soft	Calcareous silt in the lea of the bank probably as a result of ploughing and erosion of the chalk bank	Very common 40% fairly well sorted, rounded chalk and occasional 5%, poorly sorted, sub-angular downland flint	Chalk <2cm but mostly 0.5cm Flint <5cm	12-30cm	Trench A
103	Beige-white	Firm	Chalk and silt representing a natural frost-fractured calcareous layer over-lying the natural	Very common 70%, fairly well sorted, sub-angular chalk and occasional 5%, poorly sorted, sub-angular downland flint	Chalk <5cm Flint <15cm	12 cm	Trench A
200	Dark brown	Soft	Humic silty loam, with well formed, fine crumbly prismatic peds typical of grassland rendzina soils	Common 25%, sub-rounded, fairly well sorted chalk and occasional 10% sub-angular, poorly sorted downland flint	Chalk <3cm Flint <12cm	20cm-50cm	Trench B
201	White with brownish lens	Firm	Chalk and silt representing a natural frost-fractured calcareous layer over-lying the natural	Very common 70%, fairly well sorted, sub-rounded chalk and occasional 5%, poorly sorted, sub-angular downland flint	Chalk<12cm Flint<25cm	15cm	
202	Light grey	Loose	Calcareous silt in the lea of the bank probably as a result of ploughing and erosion of the chalk bank	Very common 50% fairly well sorted, rounded chalk	<6cm	35cm	Trench B

4.9 Other contexts included (104/5) the lynchet bank and negative cut in trench A and the same in trench B (203/4).

4.10 It should be noted that previous consolidation of burrowing has occurred within trench A at some point in recent history. Large patches of MOT type 1 are apparent within the section (see Fig.11 below) and was also strewn across the footpath in places, very thinly and more likely to have been used to fill existing rabbit holes rather than deposited as a layer cross the footpath. This consolidation material was not apparent in trench B.

Fig.5.Trench A showing the extent of burrowing at the top of the natural (scales 2m, 1m and 50cm)

Fig.6.Trench B (scales 1m and 2m)

5.0 Features

Fig.7 The remains of the positive lynchet bank and negative lynchet in trench A (scales 50cm)

Fig.8 The remains of the shallow positive lynchet in trench B is only 15cm deep.

Fig.9. The extent of burrowing came down onto the natural. Left shows burrow in trench A before sectioning and right after sectioning. The feature was only 5cm deep (scales 50cm)

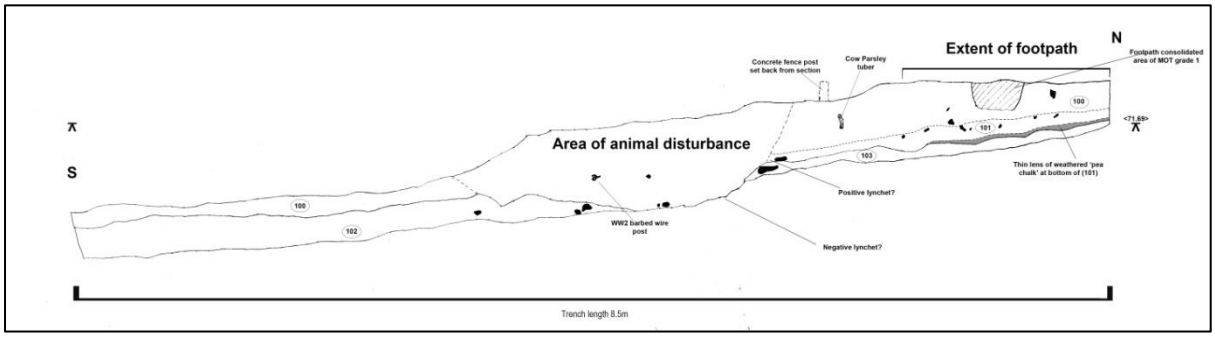

Fig.10. Drawing of east facing section of trench A. Note thin layer of flints in (101) which is dotted in and not very apparent in section as machining had pulled most of the flints out of the section.

Fig.11. Photographic pastiche of the east facing section in trench A (scales 50cm)

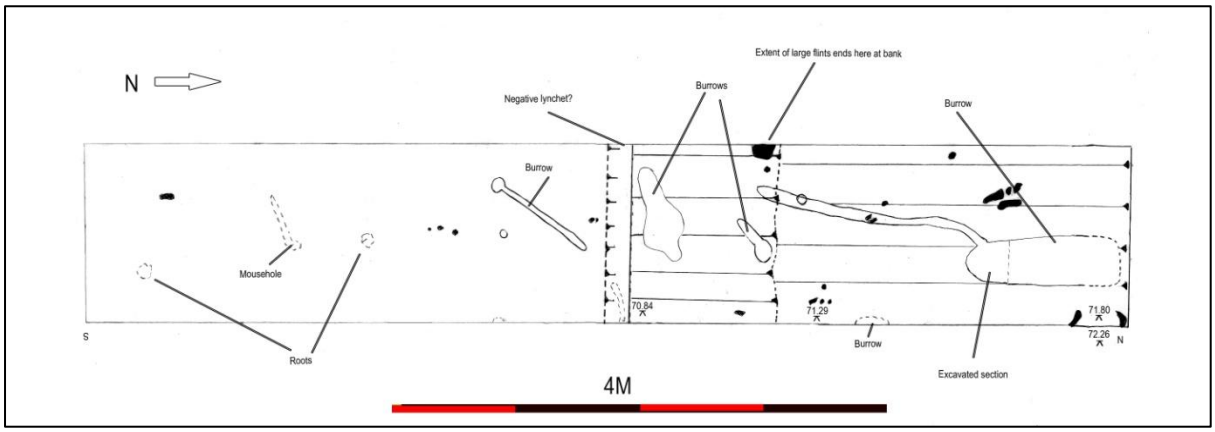

Fig.12. Scale plan of trench A

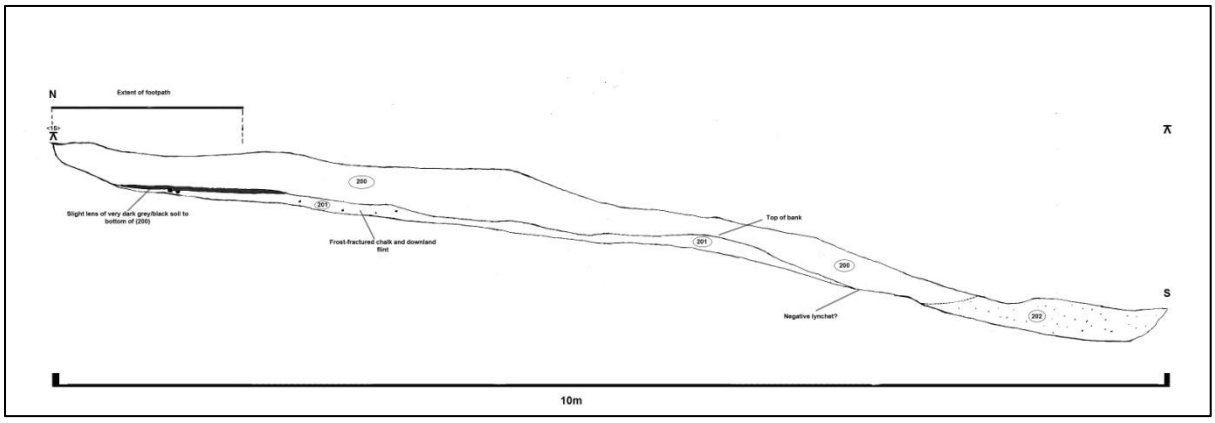

Fig.13. Section drawing of west facing section of trench B.

Fig.14. Photographic pastiche of west facing section trench B (scales 2m and 1m)

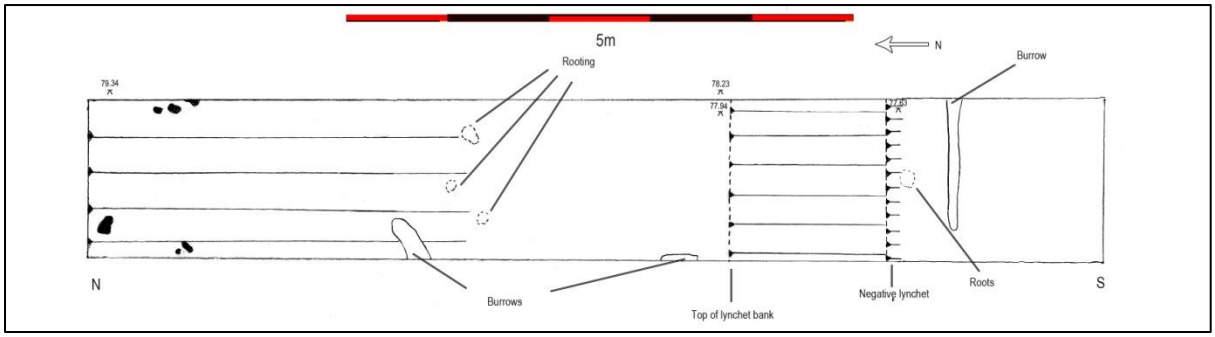

Fig.15. Scale plan of trench B

6.0 Finds

6.1 Table showing all finds from all contexts

Contexts;	100	101	102	103	200	201	202	Unstratified	Total
Fire-cracked flint	5 pieces 400g	-	1 piece – 25g	-	1 piece – 30g	-	-		7
Struck flint	5 pieces of debitage 300g	-	4 pieces of debitage 30g	-	3 pieces of debitage–160g	-	-	9 pieces of debitage – 330g	21
CBM	1 piece of tile	-	-	-	-	-	-		1
WW2 mortar fragments	1 fin off	-	-	-	1 tail off mortar bomb	-	-		2
Other	-	-	-	-	1 piece of corroded shrapnel?	-	-		1
Total finds	12	-	5	-	6	-	-	9	32

6.2 Given the paucity of finds it is difficult to further analyse them except for a few key points. The WW2 artefacts were isolated fragments and with no other fragments associated with them in either trenches or spoil, it is likely that these are residual and not in-situ. One of them found within context 100 was marked (conveniently) CWS 1942 and also AD07/42 Z. The largest number of struck flint came from unstratified deposits, either from within the surface of the

footpath itself or from a quick cursory look at the ploughed field surface below the lynchet. This could prove that the flint came from within the lynchet as both down slope erosion from ploughing and movement upslope from animal burrowing. It could equally represent general erosion from a site further uphill from the lynchet but given the fact that all of the flints were firmly patinated white, it is likely that these were once resting in the calcareous deposits on the lynchet, rather than from the brown rendzina topsoils. These flints were all indicative of Bronze Age technology; hard hammer struck with few removals from the dorsal sides. There is very little that can be added to the analysis of these flints as they are all debitage with no secondary working and the majority of them contain a high level of cortex which would all fit with a typical Bronze Age typology.

7.0 General discussion

7.1 Trench A; given the amount of disturbance in trench A it is surprising that part of the positive lynchet and negative lynchet remain visible in the ground. However, these features could also have been created artificially by the action of extensive burrowing that exists in this area. With this in mind though it is fairly clear that the extent of the burrowing extends only into the top of the natural and is contained mainly within the topsoil (100). It should also be noted that part of a two inch WW2 mortar shell was found in the spoil from the trench (6.2 above); it is possible that the large area of disturbance in the middle of trench A was the result of shelling practice within the Downs which was evident in the Second World War when the Downs were used as practice firing grounds. However, it is likely to have been far larger than this and the fragment was isolated; there are few remnants of bomb craters in the immediate vicinity and this single find is likely to be intrusive. No other fragments of ordnance were found within this trench but this is not to say they didn't exist; they could have been missed in the machining stage but certainly no other finds from this period were observed during machining so it is unlikely, therefore, that the large area of disturbance is as a result of direct impact. The paucity of finds from all layers and the likely residual nature of them make it very difficult to date the lynchet bank, which clearly exists but is only a maximum of 12cm deep. The accumulation of flints in context (101) is not very substantial, up to only 10cm in depth and although this would suggest the initial deposition stage of the bank, very little stratigraphy remains above which is sealed and dateable. Despite this it is possible to tentatively suggest that a likely Bronze Age date could be ascribed to the lynchet based on the few struck flint pieces found within context (102) which was located down slope from the lynchet bank. This context was relatively undisturbed and contained two layers, the top one a typical rendzina soil (although possibly existing as down slope erosion in the lea of the rabbit warren) and the bottom layer a more calcareous B horizon. It is just possible that ploughing in this area dragged down the flints from the lynchet itself but is a somewhat tenuous suggestion.

7.2 Trench B; there was some evidence of burrowing in trench B but this was not as extensive as in trench A. The extent of the burrows also stopped at the natural. One other piece of WW2 mortar bomb was also found within the topsoil in this trench but with no apparent evidence of any kind of crater this should be written off as intrusive. The profile of the lynchet in this trench was not as obvious as in trench A and the stratigraphy revealed a lack of the flint layer (101) which was not apparent during machining. However, a more stable stratigraphy was visible in section upslope of the lynchet as a thin darker lens to the bottom of the topsoil (200). This is indicative of a more structured and undisturbed layer commonly associated with grassland stasis but still likely to be of a fairly modern age given that it lies only 30cm below the current ground levels. Also to be noted was the lack of topsoil (200) down profile; only one context was evident below the lynchet which was a more calcareous topsoil (201). This differed in profile from trench A which had a general spread of dark brown rendzina soil over the whole profile, including down slope of the lynchet but this is probably due to animal

translocation of the soils in this area. The lack of a rendzina soil profile here in trench B shows it has been significantly eroded down slope, probably due to recent ploughing.

7.3 In general, the lack of stratigraphy in both trenches is not surprising; down slope erosion, animal disturbance and some previous consolidation of the footpath have removed significant layers of deposition in both areas. A cursory glance at the wider landscape in this valley would suggest much older and more deeply stratified lynchets in the vicinity. However, the presence of more calcareous deposits in the lea of the bank in both trenches (102 and 202) would suggest that ploughing has eroded the edge of the bank over time, creating erosion and traces of a shallow negative lynchet in both profiles but these layers were not significantly deep and contained no remnant buried soils within them. With no finds coming from these layers it is impossible to date this erosion process. Further down slope into the next field to the south of the lynchet, it is still under the plough, which reveals a large spread of very calcareous soils suggesting that the natural is not far below the bottom of the soil. All of this evidence would suggest two likely scenarios;

a. The lynchet has no great age to it and could have been created within a short time span and could be fairly modern, even created within the last 50 years or more.

b. The lynchet is the same age as some of the other typical Bronze Age lynchets on Balmer Down and Buckland Bank and has been the victim of erosion and ploughing in recent times.

7.2 Considering the above discussion, a confidence rating of the likelihood of ***intact*** archaeological features existing on this particular site would not be very high and a confidence rating of 30% could be applied in this instance. The likelihood of the development impacting further upon the archaeological features would be around 10%. In my opinion, the proposed development works are not likely to have a high impact on any surviving archaeology on the site. The potential for environmental analysis is poor due to the high level of disturbance and for this reason no samples were taken as the lynchet contained no securely sealed buried soils and was so disturbed that no in-situ environmental artefacts such as burnt seeds and snails are likely to remain from antiquity.

7.3 Suggested next action required would be for this report to be approved by the County Archaeologist, Greg Chuter at County Hall, Lewes and development works to be approved and development work to be commenced. No other archaeological works are necessary.

8.0 The archive

8.1 No finds have been retained and the paper archive will be stored at Archaeology Services, Lewes, with a digital and hard copy of the report retained at County Hall and a hard copy to the South Downs National Park Authority. A copy will also be sent to the two farmers who own the land bordering the site.

9.0 Acknowledgements.

The author wishes to thank the footpaths manager Andy Gatticker from SDNPA, for his co-operation and approachability. Thanks also go to the two land owners, Mr Jeremy West and Mr. Chris Ray, without their understanding and support we could not have completed this investigation. Thanks finally to Greg Chuter, Assistant County Archaeologist for his help prior to the excavations and advising on the report and to Jono Baczkowski for assisting with the recording of the lynchet.

Lisa Jayne Fisher, Archaeology Services Lewes, August 2013

10.0 HER summary report

Site Name & Location: *Balmer Down, Falmer, East Sussex* ***Planning Ref.*** N/A	***Grid Ref.*** NGR TQ 3729 1012
ESCC Monitoring Officer; Mr Greg Chuter	***District ;*** *Lewes* ***Parish ;*** *Falmer*
Archaeologist Details Lisa Jayne Fisher Archaeology Services Lewes 2 St.Johns Close Mill Lane South Chailey Lewes East Sussex BN8 4AX	***Date of visit*** *5/8/13, 6/8/13, 8/8/13 backfilling and setting levels on 13/8/13* ***Author of Report*** Lisa Fisher
Developer – N/A	***Nature of development;*** *Two evaluation trenches prior to re-consolidation of footpath*
Land Owner/Tenant South Downs National Park Authority	***Site contact;*** Andy Gatticker
Geology *(solid & drift)* Seaford Chalk	***Soil*** Silty Loam – Rendzina soils associated with Downland grass habitats
Archaeological Potential ***Relevant ESHER Refs.*** *(see above)* The lynchet is part of a well preserved prehistoric field system that covers most of Balmer Down. A large section of this field system is a Scheduled Monument, although the project site is outside this designated area. The field system is associated with a number of prehistoric and Romano-British occupation sites, trackways and burial areas. This lynchet appears to mark the southern boundary of the field system	***Nature of groundworks;*** excavation of footpath and consolidating with wire and aggregates ***Site topography – Land use*** See notes opposite
Topsoil levels 71.80m	***OS Benchmark 74m***
Recording Checklist ***Site code:*** ***HTC13*** *Only an overall site plan at 1:1000 was maintained*	***Context*** ☑ ***Register*** ☑ ***Written Record*** ☑ ***Drawn Record:*** ☐ ***plans*** ☑ ***sections*** ☑ ***Photographic Record*** ☑