



**Chichester and District Archaeology Society**  
**Graffham Common Topographical Survey**



**Third Phase – November 2013**

Supported by South Downs National Park Authority Sustainable Communities Fund



## Background

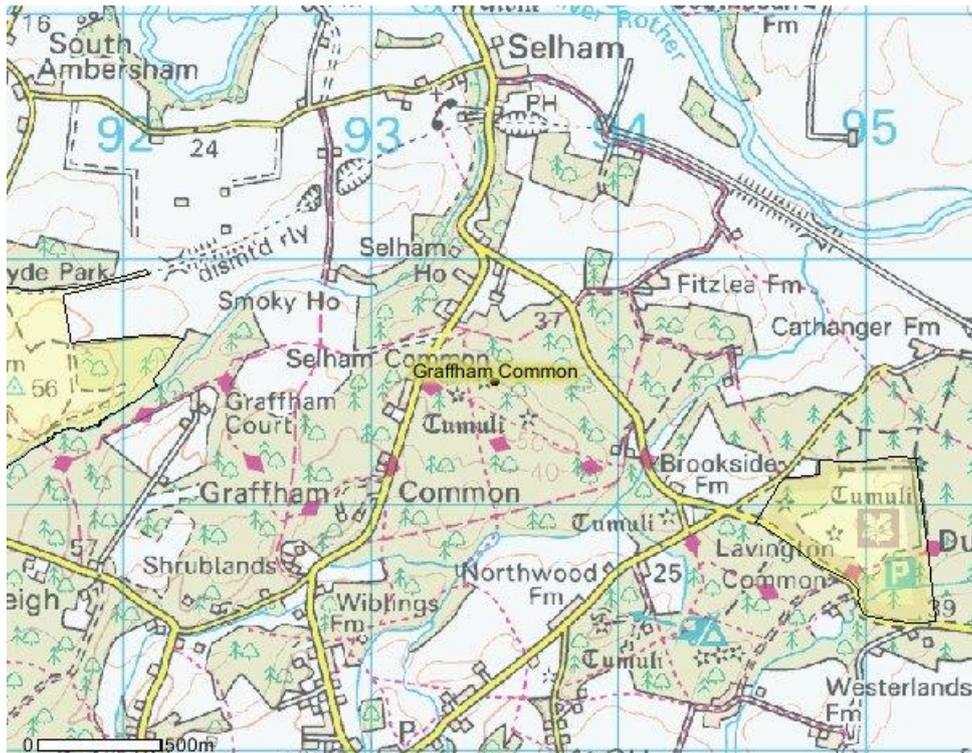
The Sussex Wildlife Trust (SWT) has recently purchased two parcels of land on Graffham Common, an area at the top of a ridge on the Sussex Downs. The land is mostly on the north-facing slope of the downs, and is bounded by an ancient boundary bank and ditch on its southern side. The parcel of land to the south is owned by David Ross and his wife.

The SWT's aim is to return their land to an upland heathland habitat, by encouraging the return of heathers, selective culling of the conifers, and removal of rhododendrons and ferns. This process has started, but is not yet complete. The land is within the area of the South Downs National Park.

A number of tumuli have been identified along the ridge at the southern edge of this scheduled site. In addition there are a number of other pits and mounds which are thought to relate to various periods, including the occupation of this area by the Canadian Army prior to the D Day landings. Some of these features have never been recorded, and others have not been recorded accurately.

SWT asked the Chichester and District Archaeology Society (CDAS) to conduct a topographical survey of the features on their land, so that a permanent record is compiled as the woodland is cleared. David Ross has agreed that the survey should also cover the tumuli on his land.

**Figure1. Ordnance Survey Map of Graffham Common**



## Scope of this Report

This is an interim report that covers the third phase of the survey during week commencing 18<sup>th</sup> November 2013. There are two earlier reports - November 2012 and March 2013 that describe the earlier phase of the work. A further report that is still to be written will link the surveys in all three reports.

## Methodology

The team were briefed on the objectives of the survey and the potential hazards of the site using the risk assessment in Appendix 1.

The first surveying step was to establish reproducible base line. The areas to be surveyed were divided into three sub-projects each of which involved surveying a length of bank and ditch. The three sections were:

- The section of bank and ditch to the west of the barrow, including the barrow itself.
- The section of the bank and ditch to the east of the barrow extending east to the eastern boundary of Graffham Common.
- The section of the bank and ditch running roughly north north west from the point at which the track crosses from the south to the north side of the bank and ditch.

Each of these sections of bank and ditch appeared to be broadly in a straight line, and so a base line was laid out alongside these features. Semi-permanent pegs were used to mark the line at convenient points 30 to 50 metres apart. The bank and ditch were surveyed in relative to this line. The east and west sections of the bank and ditch are the boundary between the SWT land and David Ross' land.

This third phase of the survey extended from the easterly end of the previous survey at the point at which the track crosses from the south to the north side of the bank and ditch.

The profile of the bank and ditch were recorded at ten metre intervals, although physical difficulties such as trees and rhododendrons sometimes caused a set of readings to be missed. In the sections covered by this report, there were more decaying leaves and other debris in the bottom of the ditches, making it much more difficult to determine how deep the ditches were.

The plan is to locate the individual surveys within the landscape by using the Environmental Agency's LIDAR survey as a reference. However, at this stage, this has not yet been successfully achieved.

The barrow was surveyed by;

- Recording its size in plan.
- Plotting the profile in two dimensions – approximately east west and north south, determined by using a hand bearing compass.
- Each feature was surveyed in relative to the two of the semi-permanent pegs on the base line.

The survey data was recorded on site. The plan drawings were prepared on A3 sheets of Permatrace, partially on site and partially after the survey, initially in pencil from on a scale of 1:200. Each of these drawings were subsequently traced in ink onto sheets of Permatrace, with marks showing where each drawing married up with the one next to it. The individual drawings were scanned in to a computer, and the whole drawing joined together using the Photoshop Elements 11 software.

Some sections of this survey were on a particularly steep incline. To avoid the errors, a drawing was made of the track profile. The distances between nominal 10 metre points were measured along the track surface, which reduced the horizontal distance in the drawing. These reduced horizontal distances were used to plot the bank and ditch.

In this phase, the drawing; inking; scanning and creating the composite drawing was much more time consuming than in the previous phases. There were 23 drawings made in pencil from the data collected during this survey. This was because of

the length of bank and ditch surveyed. At a scale of 1:200, a maximum of 70 metres of track can be drawn on a single sheet of A3 Permatrace. For example, the north bank and ditch ran across 4 sheets.

There are additional features at the base of the ridge to the north – most notably a series of banks and ditches in the North West corner of the site. These will be surveyed as a second priority once the undergrowth has been cleared – probably in autumn 2014.

### **Equipment**

- An Electronic Theodolite was used to layout the base line. This equipment was previously purchased by CDAS as the result of a generous grant from the Chichester Harbour Conservancy.
- Dumpy levels were used to survey the profiles of the bank and ditch, the tumuli and the pits.
  - One was owned by CDAS.
  - A second level was purchased for this project, the cost of which will be met by the South Downs National Park Authority Sustainable Communities Fund.
- Distance measuring was done using tapes. See note above relating to the procedure used when measuring up or down hill.

### **Participation Volunteer & Training**

CDAS spent 2 days surveying at Graffham Common during this phase. 10 members were involved providing 13 man days of resource in the field. This figure does not include the time spent drawing, scanning and assembling the complete picture which is conservatively estimated to be 10 man days. As noted above the desk-based element of this phase was more time consuming than the earlier phases.

The picture at the front of this report shows a volunteer practising taking a reading from a surveying staff held by another volunteer.

CDAS has now spent a total of 51 man days on this field element of this survey and a further 20 mandays on preparing the reports and drawings.

### **Survey Results**

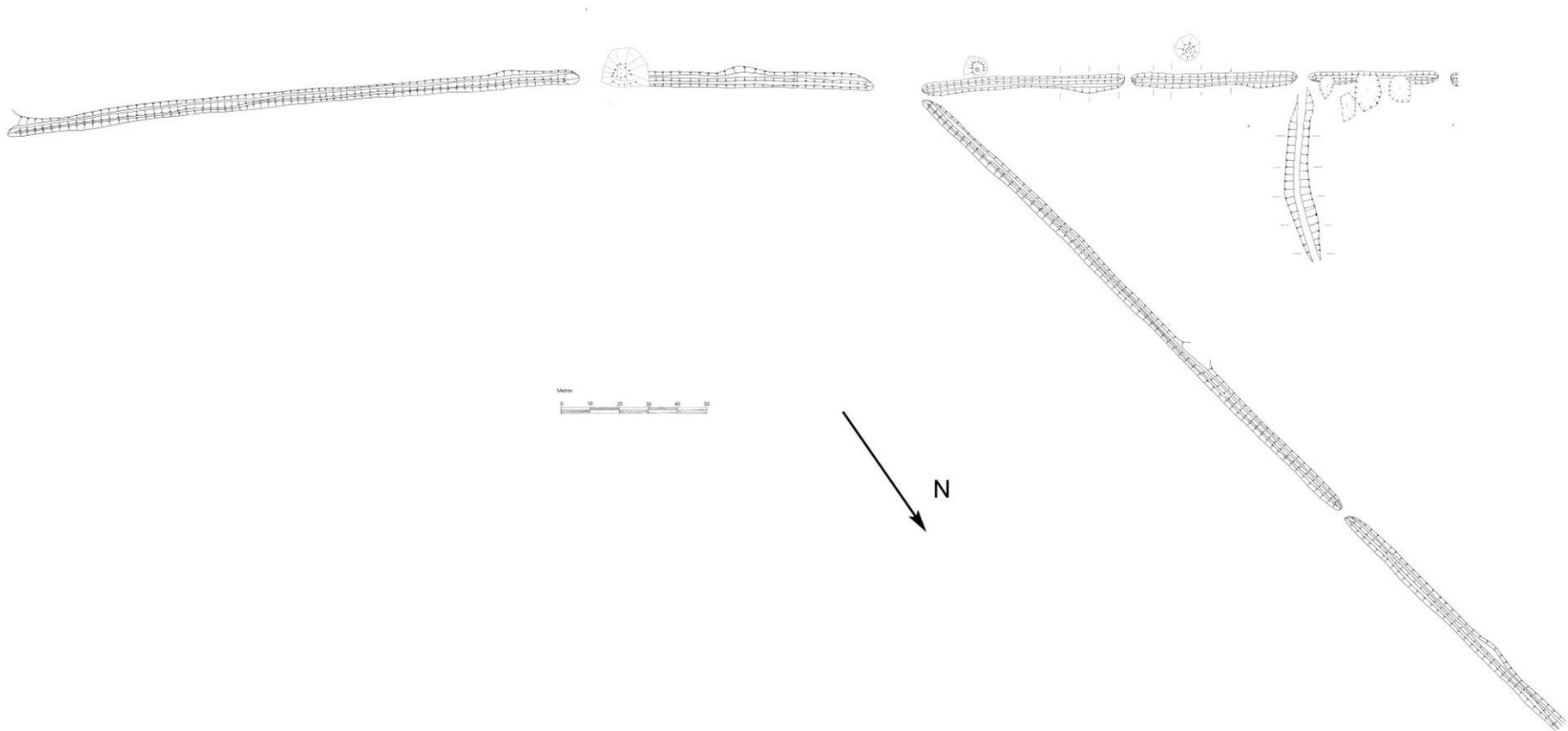
Track.

This survey starts at the point where the track crosses through a gap in the bank and ditch. To the west of this point, the track runs south of the bank and ditch, and the ditch is to the north of the bank. To the east of this point, the track runs to the north of the bank and ditch, and the ditch is now to the south of the bank.

Bank and Ditch.

The ditches continued to be carefully constructed. They run absolutely straight for considerable sections. For the most part the profile of the bank and ditch are clearly discernible. There are sections where the ditch has disappeared, but the bank remains. There reasons for this are unclear. The east – west banks and ditches form the boundary between two landholdings today, and there is every reason to believe that it was originally constructed for this purpose. The north bank and ditch is also absolutely straight, but there is no evidence that it was a boundary.

Figure 2. Composite drawing of the area surveyed in phase 3 combined with the area surveyed in phase 2 (completed in March 2013).



Appendix 3 shows the drawings relating to the west section of track, bank and ditch. The bank and ditch truncates the only barrow in this section. This indicates that the bank and ditch postdate the barrow. The barrow has the characteristic depression in the middle that is indicative of an excavation in an earlier age.

Appendix 4 shows the drawings relating to the eastern section of track, bank and ditch. This section does not line up with the western section in a straight line. It turns by about 5 degrees at the top of the hill, near the barrow. While other sections of bank and ditch have run straight between noticeable turns, this section shows a gentle curve to the north.

Appendix 5 shows the drawings relating to the northern section of the track, bank and ditch. This is very straight, and continuous except for a gap created for a track that leads up to the top of the ridge. We believe that this track was created during WW11, during a military training exercise. Therefore the northern track pre-dates WW11.

### **Next Steps**

The survey team will return to the site and continue the survey of the complex system of banks and ditches in the North West corner of Graffham Common. This will be the fourth phase of this survey and will be carried out during November 2014, after the contractors have cleared the area. Because the survey is dependent on the clearance work being complete, this date may change.

Arrangements need to be made to take accurate GPS location readings for key markers so that the drawings can be accurately and reproducibly positioned in maps of the area.

There is a possibility that a LIDAR survey carried out by the Environment Agency will include sufficiently accurate data for the GPS work not to be necessary. Although the data has been located and downloaded, it has not yet been possible to manipulate it to provide useful results.

### **Acknowledgements**

We wish to thank the following for their active support and encouragement during this project:

David Ross – Landowner

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Trevor Davies

CDAS Survey Team Leader

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