



Chichester and District Archaeology Society

Geophysical and Topographical Survey, Stoughton Down – March 2018



Figure 1: CDAS volunteers surveying across Barrow 2

1. Summary

A resistivity survey of a ploughed-out oval barrow, identified via aerial photography nearby at Racton Park Farm (Escott & Cleverly, 2017 - *Chichester HER Reference MWS4061*), has already been undertaken as part of Dom Escott's Masters by Research (MRes) Degree with the University of Winchester. The results show that the characteristic oval ditches of the feature have been preserved in the chalk down lands. It was hoped that by undertaking similar geophysical surveys of the Stoughton Down barrows, it could be determined whether they are also oval barrows, or traditional earthen long barrows.

The results of the CDAS surveys confirmed that the barrows are oval in form.

2. Background

Dom Escott's dissertation studies Neolithic oval barrows, with a specific case study of oval barrows in West Sussex. During his studies, Dom has identified two barrows on Stoughton Down (Figure 2), as having significant potential for his research as they are still extant above ground. Only one oval barrow has been dug in West Sussex at North Marden, with the other oval barrows in the area only surviving as crop marks identified predominantly via aerial photography.

In this survey, Dom was supported by members of the Chichester and District Archaeology Society. Winchester University lecturer, Nick Thorpe, also suggested a topographical survey of the barrows be undertaken, which is recorded in this report.

3. The Barrows

Both Barrows are scheduled ancient monuments, therefore a Historic England (HE) Section 42 Licence was required prior to the survey. The licence to survey the two sites was contained in a letter from Historic England dated 16th March 2018.

Barrow 1:

List Entry Number: 1010917

Scheduled Monument Number/UID: 12851 (County Site Number 0933)

Name: Oval Barrow, the north-western of two on Stoughton Down

Parish: Stoughton
District: Chichester
County: West Sussex
Grid Reference: SU 82174 12187

Barrow 2:

List Entry Number: 1010919

Scheduled Monument Number/UID: 12852: (County Site No. 0934)

Name: Oval Barrow, the south-eastern of two on Stoughton Down
Parish: Stoughton
District: Chichester
County: West Sussex
Grid Reference: SU 82342 12047



Figure 2: Barrow locations relative to Stoughton village

Trial trenches were put in across the two barrows in 1980 by the Sussex Archaeological Field Unit (SAFU), overseen by Peter Drewett (see Figure 3, Drewett 1980). His findings revealed the 50cm wide ditches of both barrows were still in existence with a depth of 80cm (Barrow 1) and 60cm (Barrow 2). There was an attempt to obtain dating and environmental evidence from these barrows to compare the C-14 date of 2360 ± 110 bc from the excavations at Alfreston East Sussex in 1974 (Drewett et al. 1975). A few flint flakes were found in each section, but no organic material suitable for a C-14 date was recovered. Soil samples were taken for later molluscan analysis although their location and analysis status remain unknown. Drewett's section drawings highlighted the depth of the overlying deposits and the dimensions of the ditches in relation to the remaining barrow mounds.

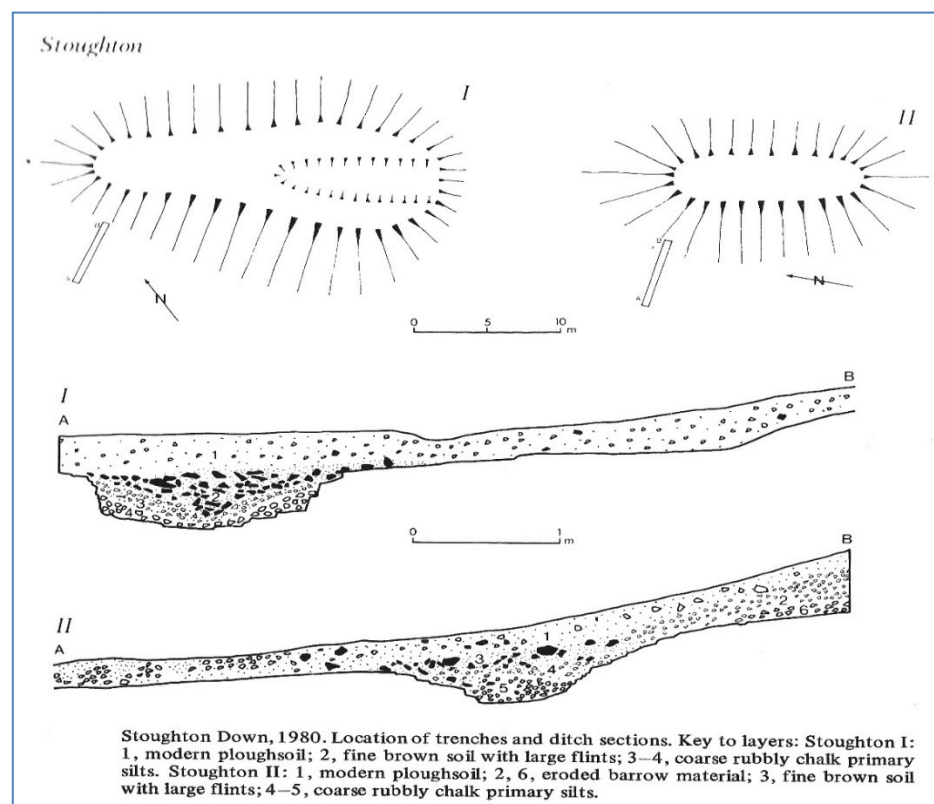


Figure 3: Rescue Archaeology trial trench results (Drewett, 1980)

4. Site Access/ Health and Safety

The Health and Safety Risk Assessment (Appendix 1) was prepared and issued to participating members, prior to undertaking the survey.

5. Method

These surveys utilised the following equipment:

1. Geoscan RM15 D Resistivity meter that CDAS was able to purchase for the Medmerry project as a result of generous donations for this purpose from the Chichester District Council Coastal Pathfinder Project and the Chichester City Council. The readings were processed in the software, Snuffler.
2. Geoscan FM256 magnetometer. Previously purchased by CDAS as the result of a generous grant from the Chichester Harbour Conservancy. The readings were processed in the software, Snuffler.
3. A drawing board, with A3 permatrace attached, used to create the two plans – scaled at 1:100. These were subsequently inked, scanned and tidied within Photoshop. Distance measuring was done using 30m and 100m tapes.

Four 30 metre grids squares were centred on each barrow for the geophysical surveys. The grids were aligned on a north/south line using a magnetic compass. The grid layout is shown in Appendix 2

For the topographical survey plans, a baseline was laid across the longest extents of the Barrows, and offset measurements were taken from it.

5. Volunteer Participation

CDAS members worked on the survey during 20th to 23rd March 2018. Six CDAS members participated in the survey, resulting in a total of 11 days of effort.

6. Survey results

The geology of the location is Newhaven Chalk, ‘formed approximately 72 to 86 million years ago in the Cretaceous Period’ (British Geological Survey 2018).

6.1. Barrow 1: Resistivity and Magnetometry surveys

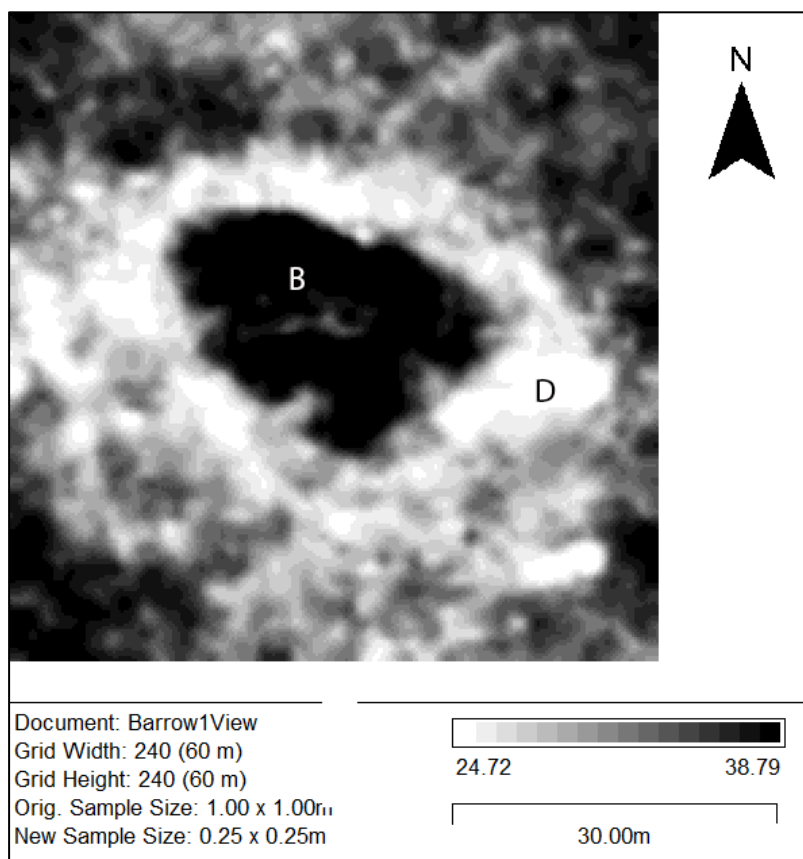


Figure 4: Resistivity results for Barrow 1

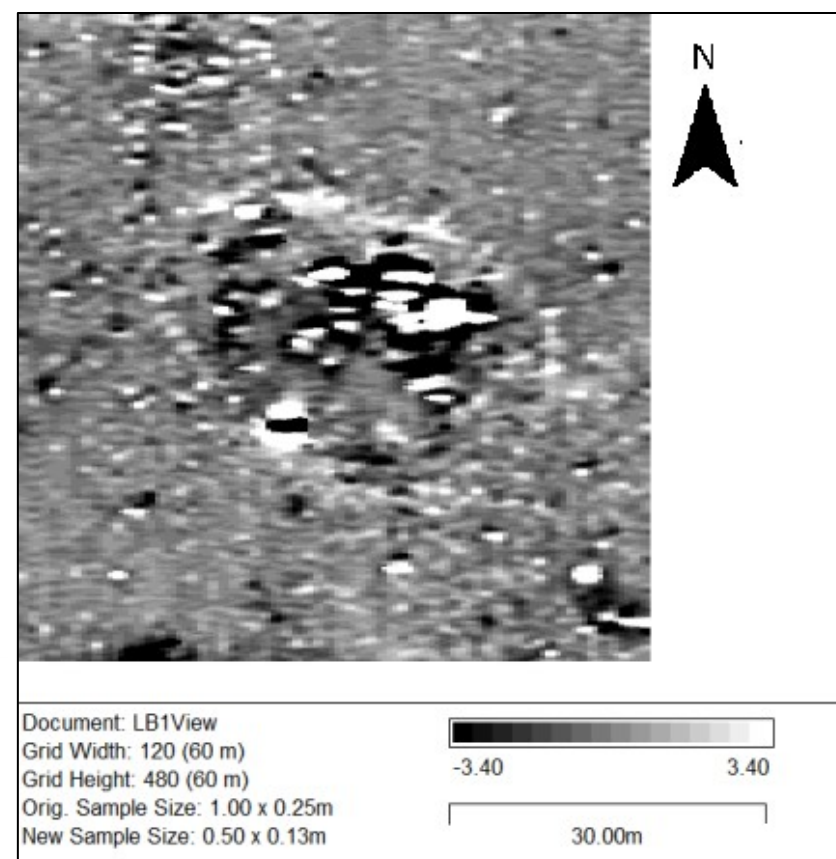


Figure 5: Magnetometry results for Barrow 1

Figures 4 and 5: Show the results of the resistivity and magnetometer surveys of Barrow 1. The conclusions are as follows:

- Label 'B' shows the shape of the barrow – oval in form, which is much clearer in the magnetometer results.
- Label 'D' shows the extent of the quarry ditch.
- It is possible that the 1980 trial trench is just visible as a small incursion onto the mound – left of Label 'B', crossing the ditch and encroaching onto the mound. However, there appears larger incursions, notably on the westside of the mound that are unexplainable at present.
- During the survey, the remains of mortar fins, 2x2inch and 1x3inch mortars, were recovered within the survey area and close to the Barrow. Local history relates that the Barrow had been used during WW2 as a target for such ordnance. This is the likely cause of the spikes seen in the magnetometry results.
- The survey team believe that cattle have often stood on the barrow and possibly contributed to scraping the top and sides and also causing scuff marks.

6.2. Barrow 2: Resistivity and Magnetometry surveys

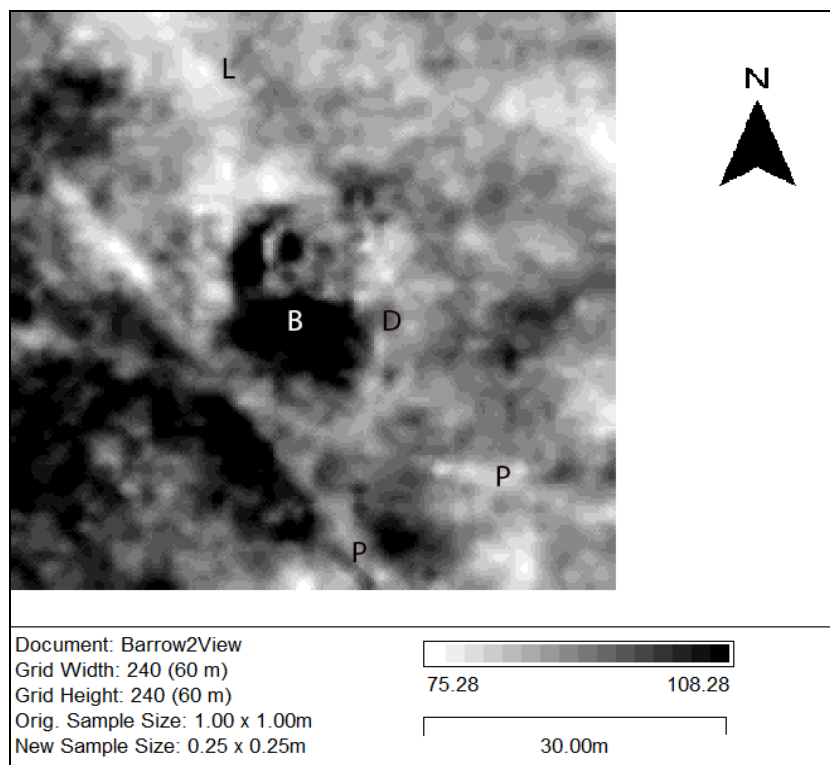


Figure 6: Resistivity results for Barrow 2

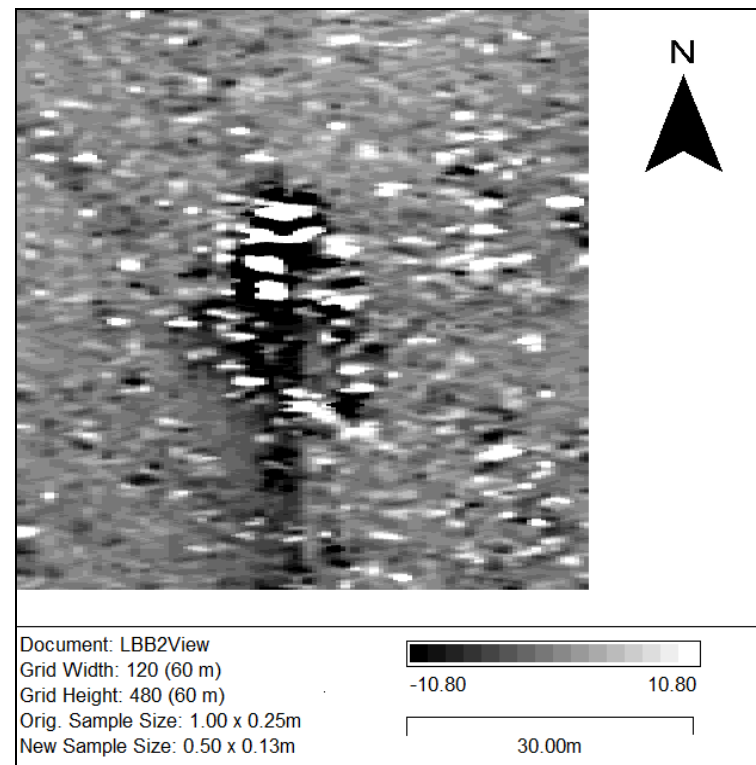


Figure 7: Magnetometry results for Barrow 2

Figures 6 and 7: Show the results of the resistivity and magnetometer surveys of Barrow 2. The conclusions are as follows:

- Label 'B' shows the shape of the barrow – it is less clear than Barrow 1 but appears Oval in form.
- Label 'D' shows the extent of the quarry ditch.
- Label 'P' shows traces of foot paths crossing each other. The lower path heads towards Barrow 1 and was marked on old Ordnance Survey Maps from 1853, 1890 and 1910. By 1970 the path had been re-routed to the east of the barrow where it still

runs today. The right hand 'P' (path) running downhill into the valley was previously unrecorded in Ordnance Survey maps, however post survey work, this footpath can be seen clearly in the Southdown's National Park Authority Secrets of the High Woods LiDAR, running up over Bow Hill to join the footpath on the eastern side of the hill. (Southdown's National Park Authority 2018).

- Label 'L' marks a lynchet which runs north to south, this Barrow lies across the lynchets bank.

6.3. Topographic records for both barrows

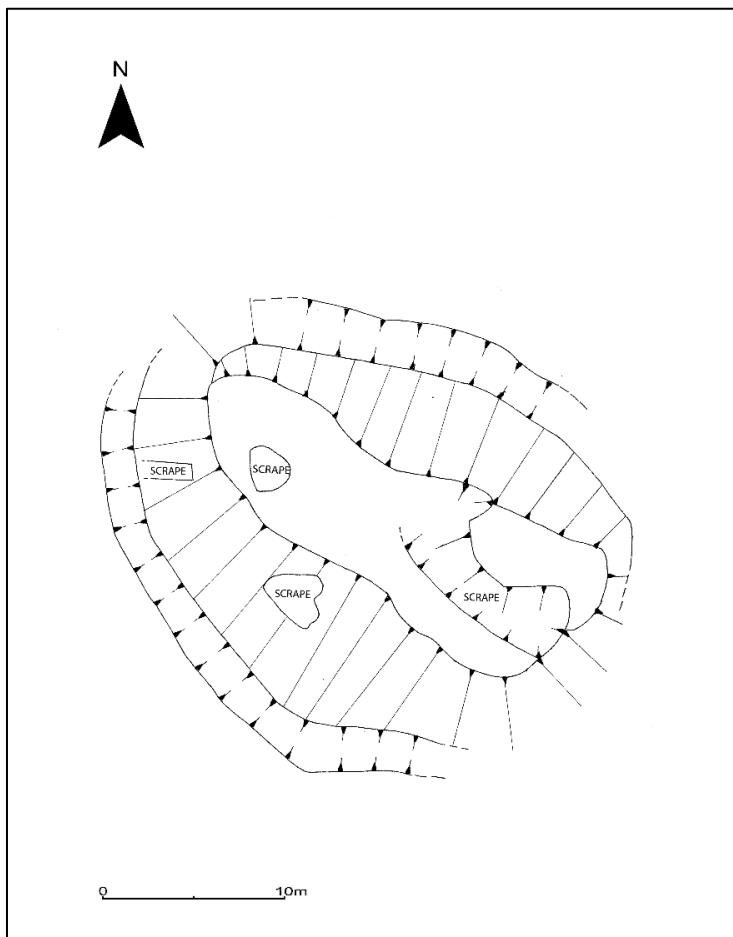


Figure 8: Barrow 1

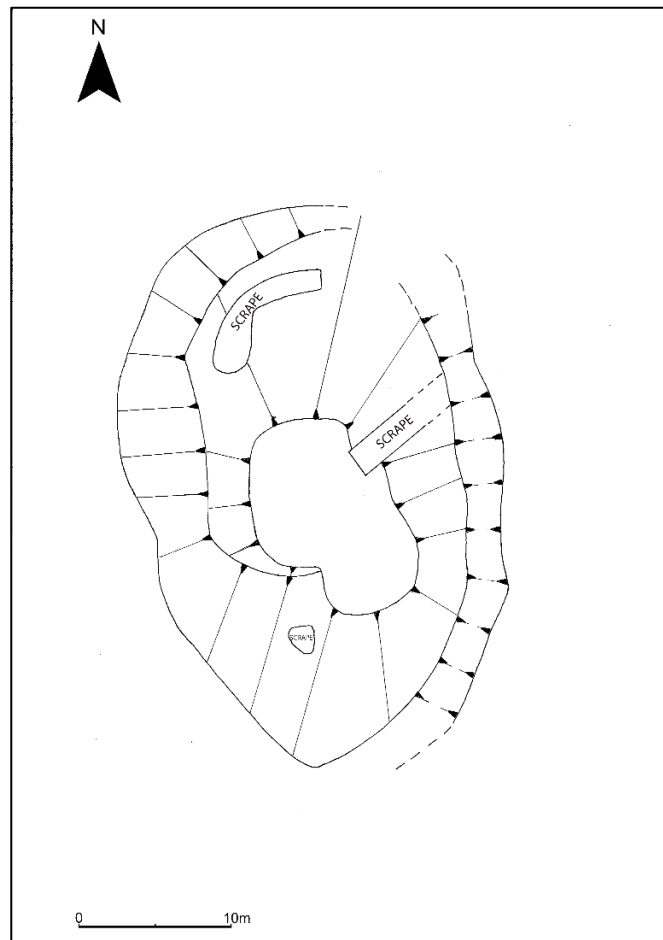


Figure 9: Barrow 2

Figures 8 and 9 show the records made from the topographic surveys of both barrows. The conclusions are as follows:

- Both visible quarry ditches, especially relating to Barrow 2, are steadily infilling and are difficult to discern in places and may totally infill in time – although we offer no outlook for this process.
- Whether the result of animal action, or WW2 mortar firing practise, several localised scrapes are observed.
- These surveys conform to the general form of Oval Barrows.

7. Discussion of results

The purpose of the survey was to determine if these two monuments are Oval or Long Barrows. It seems clear from the results, especially those of the geophysics surveys, that these are confirmed as Oval Barrows. The key characteristics are present – the shape and surrounding ditch – even though these features are no longer fully visible on the ground.

The survey has also identified damage caused during wartime training. Cattle roaming over the barrows is continuing their gradual destruction.

8. Acknowledgements

We are grateful to the landowner, Mr Charles Langmead of R.C. Langmead Ltd, for permission to access the locations of the barrows and his support to the survey.

9. Next Steps

- Add this report to the CDAS archive.
- File this report to update the Chichester District Council Historic Environment Record

Steve Cleverly

CDAS Survey Team

May 2018

REFERENCES

FIGURE 2 - [HTTP://GRIDREFERENCEFINDER.COM/](http://GRIDREFERENCEFINDER.COM/)

British Geological Survey - <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>

Drewett, P., 1980. *Rescue Archaeology in Sussex 1980: A Seventh Progress Report on the Sussex Archaeological Field Unit*

Southdown's National Park Authority - http://www.southdowns.gov.uk/wp-content/uploads/shw_site_pack/

APPENDIX 1**CHICHESTER AND DISTRICT ARCHAEOLOGY SOCIETY - RISK ASSESSMENT FORM**

SITE NAME: Stoughton Down	SITE CODE: SD19	ASSESSMENT BY: Steven Cleverly DATE: 17/3/18	PAGE 1 OF 2				
ACTIVITY: Surveying – week commencing 19 th March 2018		No. of people present: 4 (Max)					
HAZARD IDENTIFICATION							
HAZARDS IDENTIFIED	People at risk (tick)		Likelihood of injury (tick)			NOTES	ASSESSED BY
	Volunteers*	Public	Probable	Possible	Remote		
1. Beware ticks	✓			✓		From deer – can cause Lyme's disease	
2. Avoid leptospirosis	✓			✓		An infectious disease that affects humans & animals	
3. Exposure to sun, wind, rain and cold	✓			✓		No shelter available on site	
4. Rough ground and trip hazards	✓			✓		Pegs, walk/base lines and leads are potential trip hazards	
5. Insect bites	✓			✓			

ACTION PLAN			
Hazard No.	MEASURES REQUIRED TO REDUCE RISK TO ACCEPTABLE LEVEL	NOTES	All measures in place. Signed/dated by Site Supervisor
1	Check for skin for ticks		
2.	Wash hands before eating		
3.	Volunteers advised to bring and use suntan cream and drink plenty of fluid. Use of hats and windproof jackets and trouser advised.	Day 2/Tuesday, is intended as being a magnetometry geophysics – so metal free clothing is required.	
4.	Boots to be worn where possible	Note metal free requirement above.	

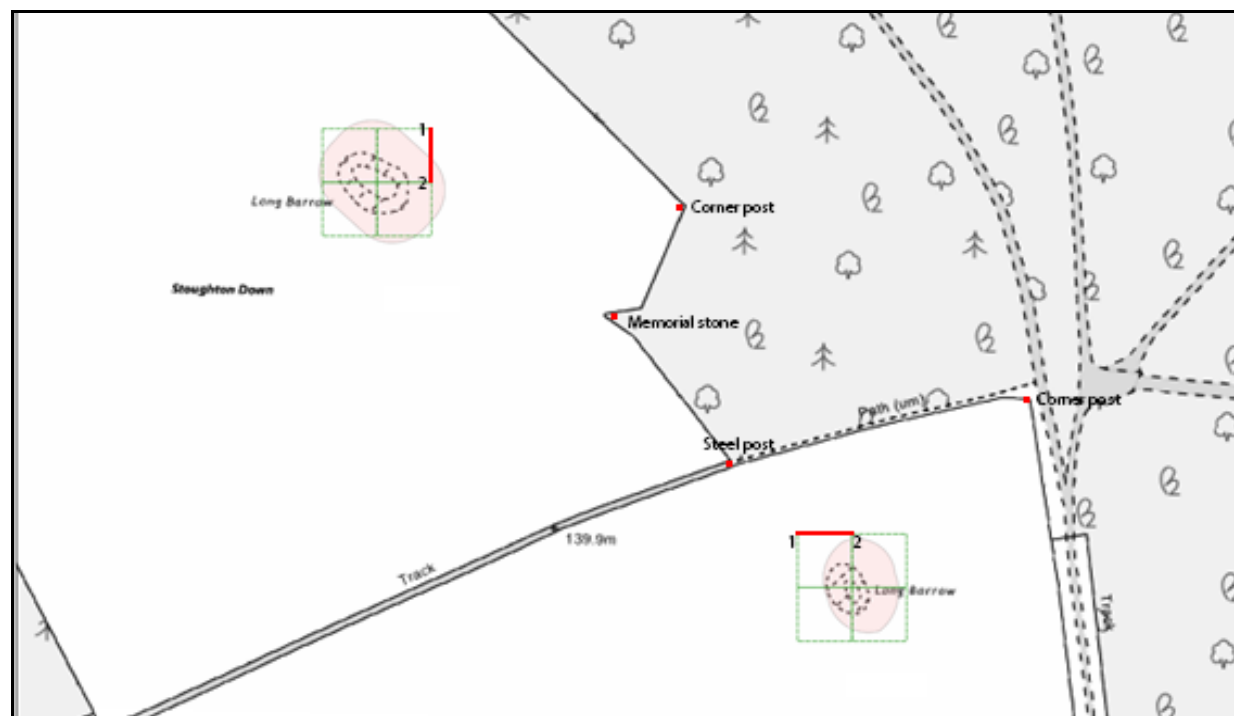
5.	First Aid kit available		
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CHICHESTER AND DISTRICT ARCHAEOLOGY SOCIETY - RISK ASSESSMENT FORM

SITE NAME: Stoughton Down	SITE CODE: SD19	ASSESSMENT BY: Steve Cleverly DATE: 13/3/18	PAGE 2 OF 2				
ACTIVITY: Surveying – week commencing 19 th March 2018		No. of people present: 4 (Max)					
HAZARD IDENTIFICATION							
HAZARDS IDENTIFIED	People at risk (tick)		Likelihood of injury (tick)			NOTES	ASSESSED BY
	Volunteers*	Public	Probable	Possible	Remote		
1. Sharp points on resistivity equipment	✓			✓			
2. Manual handling	✓			✓			
3. Trip Hazard	✓			✓			

ACTION PLAN			
Hazard No.	MEASURES REQUIRED TO REDUCE RISK TO ACCEPTABLE LEVEL	NOTES	All measures in place. Signed/dated by Site Supervisor
1.	Boots to be worn when using this equipment	Note metal free requirement.	
2.	Volunteers advised. First Aid kit available	Ensure those carrying the equipment are rotated regularly.	
3.	Volunteers reminded of correct lifting procedure. Warning against becoming tired. Use canes and hazard tapes as necessary. First Aid kit available.		

APPENDIX 2



Barrow 1 configuration

- From 1 to the corner post measures 91.5mtrs
- From 1 to the base of the Memorial stone measures 102.67mtrs
- From 2 to the corner post measures 80.95mtrs
- From 2 to the base of the Memorial stone measures 80.55mtrs

Barrow 2 configuration

- From 1 to the corner post measures 94.2mtrs
- From 1 to the steel post along Monarchs Way measures 19.2mtrs
- From 2 to the corner post measures 66.4mtrs
- From 2 to the steel post along Monarchs Way measures 46.62mtrs