

Archaeological Watching Brief at Home Farmhouse, Knowlton, Goodnestone, Kent

NGR 628747 153929

Site Code: KNOWL/WB/14

Planning Application: DOV/13/00405

Date: 27/03/2014



Report for Vogt Solar Ltd

SWAT. ARCHAEOLOGY

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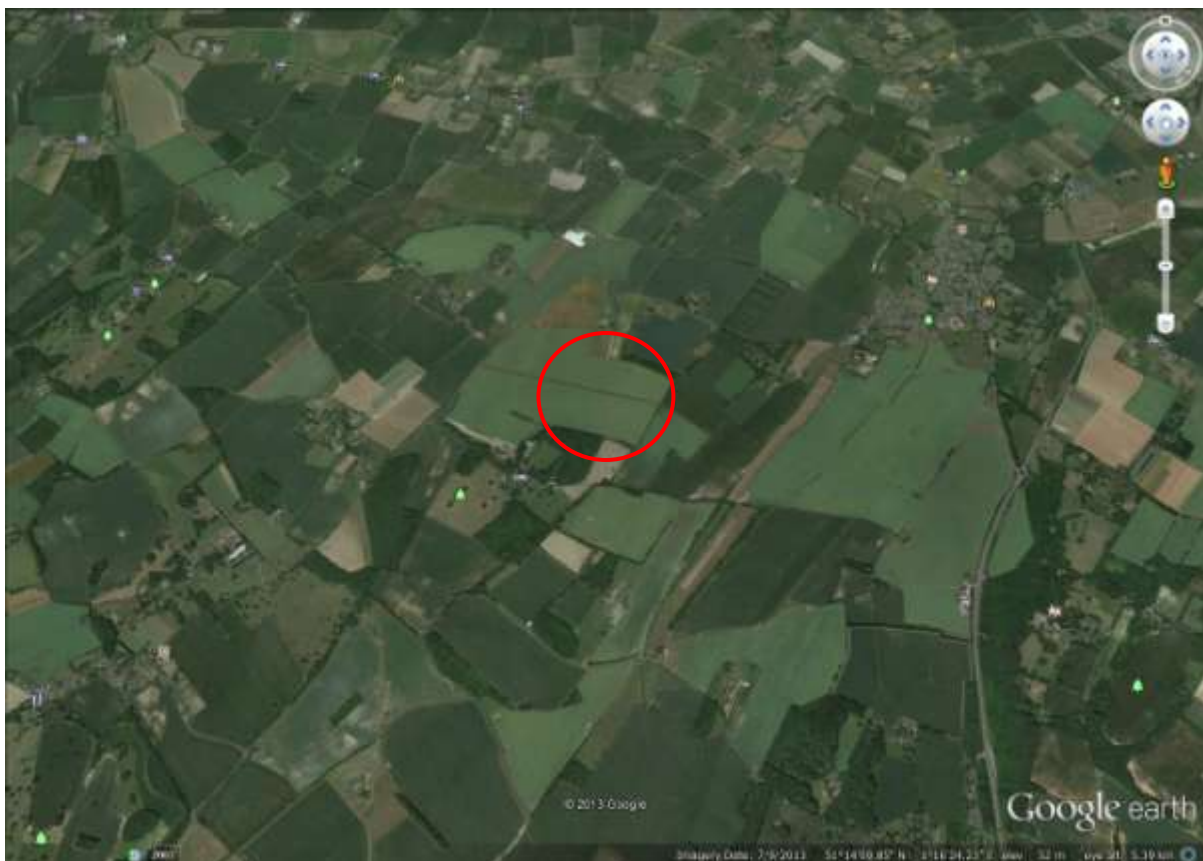


Plate 1. Aerial view of site (Google Earth 7/9/2013)

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SUMMARY

Swale & Thames Survey Company (SWAT) carried out an archaeological watching brief of land to the north-west of the historic estate of Knowlton in Kent. A planning application (DOV/13/00405) for the construction of a solar array park at Knowlton (Figs. 1 & 2) whereby Dover District Council requested that an Archaeological Watching Brief be undertaken in order to determine the possible impact of the construction work on any archaeological remains.

The work was carried out in accordance with consultations with the Archaeological Heritage Officer, KCC. The archaeological investigation consisted of monitoring of the excavation of topsoil for temporary haul roads (Plate 3) excavation of site compound and of trenches for electric cabling (Plate 4) linking the ends of solar panel arrays and the main cable run (Plates 2 & 4) between the site and the main electric grid. In addition a detailed walkover survey was undertaken to assess the survival of boundary stones on the east site boundary. No stones were found. A scan of the excavated spoil from the ground-works with a metal detector was also implemented.

The programme of archaeological works including the detailed walkover survey of the site revealed no archaeology. The Archaeological Watching Brief has therefore been successful in fulfilling the primary aims and objectives set by the Heritage Officer in an Archaeological Specification dated October 2013.

INTRODUCTION

Swale and Thames Survey Company (SWAT Archaeology) was commissioned by Vogt Solar Ltd, St John's Innovation Centre, Cowley road, Cambridge Road, CB4 0WS to carry out an archaeological watching brief at the above site. The work was carried out in accordance with consultation with the Archaeological Heritage Officer, KCC, and the written archaeological specification. The watching brief was carried out from 8th January to 17th February 2014.

SITE DESCRIPTION AND TOPOGRAPHY

The site is located on land at Knowlton in the parish of Goodnestone, near Canterbury in Kent. The site lies in open fields to the north-west of the historic estate centre, and is about 14 hectares in area. The site centre is at NGR: 628747 153929. The site is located in the north-eastern corner of a large arable field, its western and southern boundaries being arbitrarily defined and not demarcated on the ground. The eastern boundary is marked by modern post and wire fencing, and the northern by a small copse, and is located on a gentle north facing slope at an elevation of approximately 48-51m above Ordnance Datum (aOD). The land falls away to the east, north

and west.

According to the online geological maps of the British Geological Survey (1:50.000) the sites lies on Chalk with Thanet Beds to the north east. These are overlain by Head deposits. Inspection of the excavated trench runs revealed a common stratigraphy across the site of 30-35cm of topsoil overlaying brick earth. The deepest trench excavated was about 0.90m which revealed outcrops of Chalk (Plate 5).

PLANNING

The site has planning permission for the Solar Array from Dover District Council. The planning reference is DOV/13/00405 whereby Dover District Council requested that an archaeological Watching Brief be undertaken in order to monitor specific ground works associated with the solar array.

The following Condition was attached to the planning permission.

(6) Before the development commences, details of a programme of archaeological work to be carried out prior to the commencement of any construction shall be submitted to and approved in writing by the local planning authority. The said programme shall include provision for on-site investigations to include assessment of the historic boundary stones along the eastern boundary of the site, and means of recording in the event of finding archaeological remains. The development shall be carried out in accordance with the approved details.

ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Apart from recent investigative work by Wessex Archaeology (Archaeological Desk-based Assessment in April 2013 and a detailed Gradiometer survey report in September 2013) there is no record of any previous archaeological fieldwork undertaken within the Site. An archaeological survey was carried out at the southern edge of the Study Area, on the manorial complex at Shingleton Farm. The lack of previous investigations is due in large part to a lack of modern development within the wider landscape and, as a result, the recorded heritage resource within the Study Area is sparse. Aerial photographic surveys carried out within the Study Area have identified a number of probable archaeological features although the interpretation of these sites, in terms of date, significance and possible function is somewhat problematic in the absence of intrusive investigations. They form part of a rich archaeological landscape in this area of Kent, well documented by aerial photographic survey on favourable geological conditions.

AIMS AND OBJECTIVES

The aims of the watching brief were to be targeted at these aspects:

1. The stripping of ground deposits (topsoil and subsoil) to create a foundation base for inverter housings. These excavations should be carried out with a flat bladed bucket under the direction of the supervising archaeologist and in a manner that would allow any archaeology present to be properly exposed, identified and investigated before subsequent disturbance by construction.

2. The construction of a new access road and internal access tracks.
3. The archaeologist should then record and investigate any archaeology visible before stripping to full construction depth is completed.
4. Monitoring of the excavation of the trenches for electric cabling linking the ends of the solar panel arrays and main cable run between the site and the main electric grid (Plate 6).
5. Prior to construction starting a detailed walkover survey, particularly its eastern boundary to identify and protect any surviving boundary stones as shown on the 1st Edition OS map.

METHODOLOGY

The objectives of the archaeological watching brief are to contribute to heritage knowledge of the area through the recording of any archaeological remains exposed as a result of excavations in connection with the ground works. Stripping for access roads and compounds were watched (Plates 2 & 3) but were of insufficient depth to impact on the geology or buried archaeological features.

Trenching was carried out 11th January to 17th February 2014, with the excavation of long trenches for the cable runs measuring 0.65m in width. Trench location was to an agreed plan carried out by the solar array contractors (Fig. 2 and Appendix 2).

The trenches prior to excavation were scanned for finds by a SWAT Archaeology metal detectorist, and during and after excavation. Excavation was carried out using a 3 and 20 ton mechanical excavator fitted with a toothless bucket for the cable runs, access road, and removing the overburden to the top of the first recognisable archaeological horizon, or natural, under the constant supervision of an experienced archaeologist. The trench was subsequently inspected to identify any exposed features in plan and carefully selected cross-sections through the features would have been excavated to enable sufficient information about form, development date and stratigraphic relationships to be recorded without prejudice to more extensive investigations, should these prove to be necessary.

No archaeology was revealed in the cable runs or solar array area.

All archaeological work was carried out in accordance with the KCC Archaeological Specification (2013).

MONITORING

No site visits by the Heritage Officer (KCC) were carried out.

RESULTS

The first activity on site was the construction of temporary access road (Plate 3) and storage area. Then the piling of the solar array galvanised steel uprights by the ground contractors followed closely by the excavation

of the cable runs (Plates 5 & 6). Work started on all phases of development whilst Paul Wilkinson from SWAT Archaeology was present on site.

The Archaeological Watching Brief continued for the rest of the groundwork's but no archaeology was revealed. Geology revealed was constant across the site and comprised topsoil- a grey brown sandy clay loam of about 35cm thick overlaying a dark grey brown sandy stiff clay (Brick earth). A metal detector survey was carried out but the ferrous and non-ferrous material recovered was modern and mostly fastenings discarded by the solar array contractors.

FINDS

No finds were retrieved

CONCLUSION

The archaeological Watching Brief has been successful in fulfilling the primary aims and objectives of the Specification. A common stratigraphic sequence was recognised across the site comprising topsoil **(01)** overlying subsoil **(02)** sealing Head Chalk **(03)**.

ACKNOWLEDGEMENTS

SWAT would like to thank Vogt Solar Ltd for commissioning this project. Thanks are also extended to Ben Found Heritage Officer, Kent County Council for his advice and assistance.

Paul Wilkinson undertook the fieldwork, assisted in the field by Mike Robson on metal detector. Illustrations were produced by Jonny Madden for Digitise This.

Dr Paul Wilkinson MifA
27th March 2014

REFERENCES

The archaeological potential of the site is covered in a desk based assessment "Home Farm, Knowlton, Kent – Archaeological Desk-Based Assessment" Wessex Archaeology April 2013 (ref: 889570.01). Subsequent to the production of the desk-based assessment the site has been subject to geophysical survey "Home Farm, Knowlton, Kent – Detailed Gradiometer Survey Report" Wessex Archaeology September 2013 (ref: 89571.01).

KCC Archaeological Watching Brief Specification 2013

Plates



Plate 2. Access road being built (looking south-west)



Plate 3. Construction of compound (looking south-east)



Plate 4. Construction of access tracks (looking east)



Plate 5. Cable runs to inverter (looking north-east)














Plate 6. Spur trenches under construction (looking north).



Figure 1. Development site (inside red line).



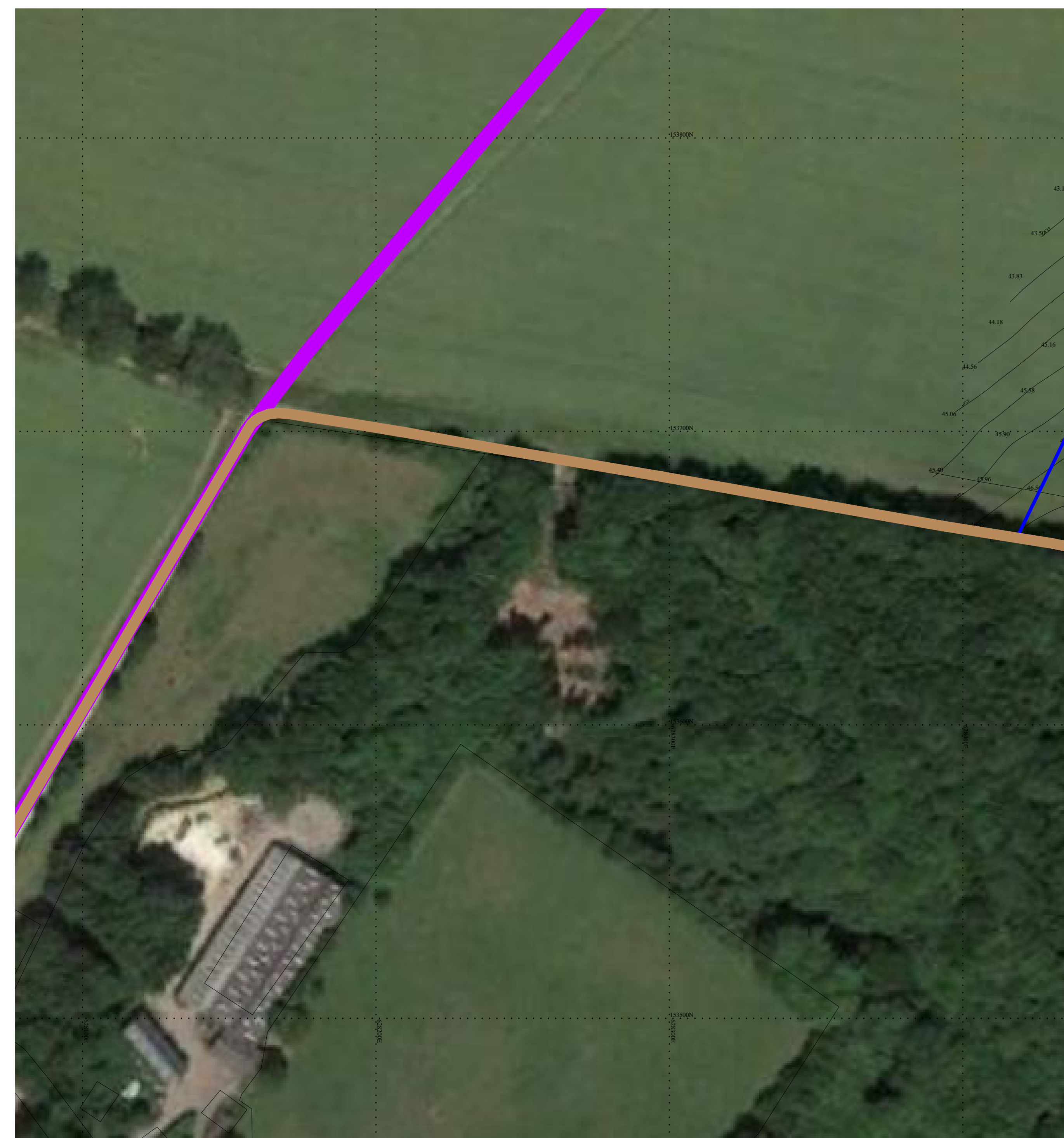
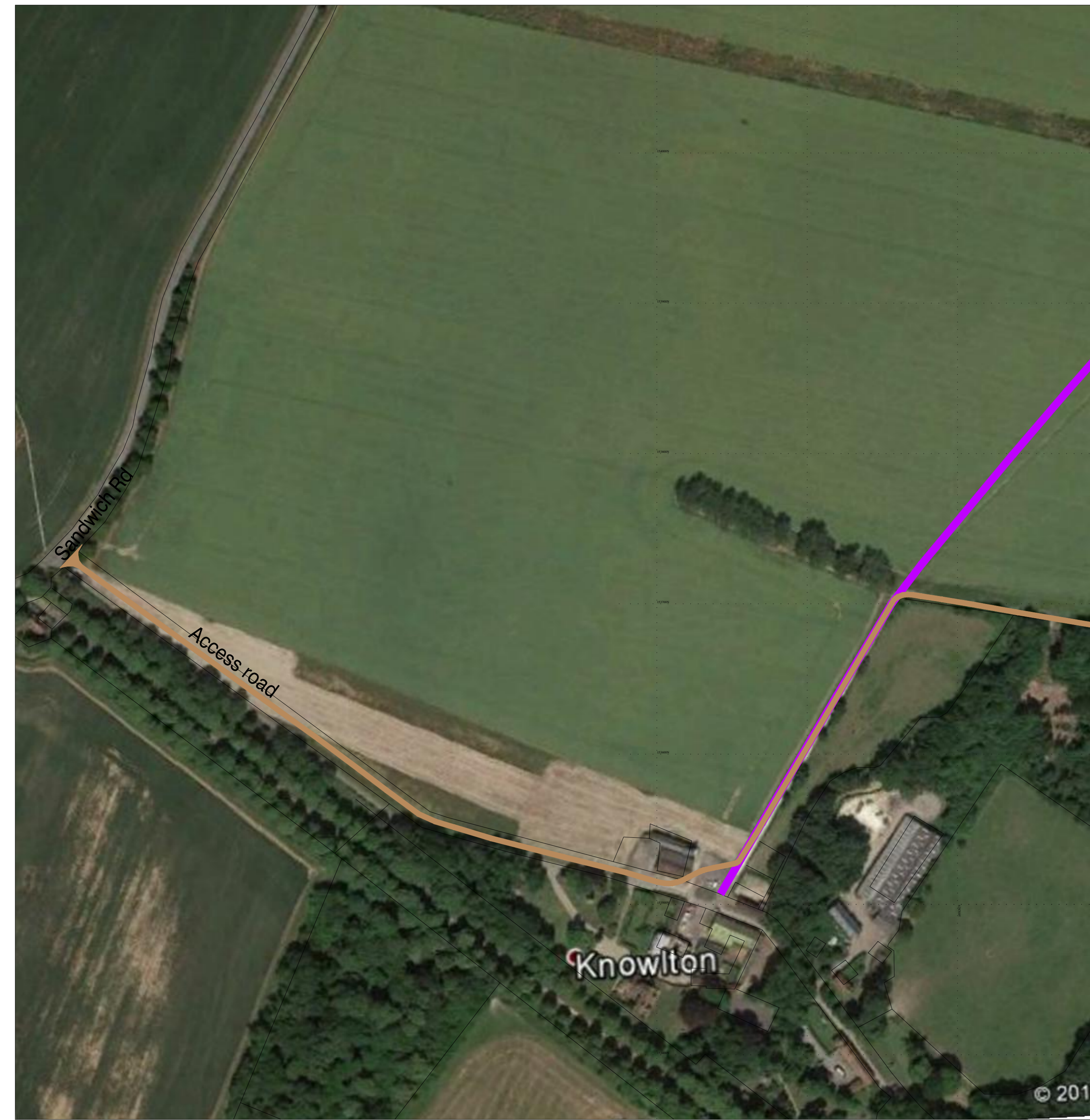
Figure 2. Development plan (above) with key (below). Appendix 2 contains same plan but in more detail.

-  Fence
-  Application site area
-  Overhead cables & electric pole
-  PV area - 3 m to fence
-  Footpath
-  Main cable trench
-  Maintenance road
-  Swales
-  Spoil
-  Level contours
-  Gate

APPENDIX 1 – Kent County Council HER Summary Form

Site Name: <i>Knowlton Solar Farm site,</i>	
SWAT Site Code: <i>KNOWL/WB/14</i>	
Site Address: <i>Land north-west of Home Farmhouse, Knowlton, Goodnestone, Kent</i>	
Summary: <i>Swale & Thames Survey Company (SWAT) carried out an archaeological watching brief on land north-west of Home Farmhouse. A planning application for the construction of a new solar array at the above site was submitted to Dover District Council (DDC) whereby Kent County Council Heritage and Conservation (KCCHC), on behalf of Dover District Council requested that an Archaeological Watching Brief be undertaken in order to determine the possible impact of the development on any archaeological remains. The work was carried out in accordance with the requirements set out within an Archaeological Specification (KCC 2012) and in discussion with the Archaeological Officer, Kent County Council.</i> <i>The Archaeological Watching Brief consisted of watching all phases of construction which encountered no archaeological features.</i>	
District/Unitary: <i>Dover</i>	Parish:
Period(s): Tentative:	
NGR (centre of site : 8 figures): (NB if large or linear site give multiple NGRs): <i>NGR 628747 153929</i>	
Type of archaeological work (delete) <i>Watching Brief</i>	
Date of Recording: <i>Jan-Feb 2014</i>	
Unit undertaking recording: <i>Swale & Thames Survey Company (SWAT)</i>	
Geology: <i>Brick earth over outcropping Upper Chalk</i>	
Title and author of accompanying report: <i>Wilkinson P. An Archaeological Watching Brief Home Farmhouse, Knowlton, Goodnestone, Kent</i>	
Summary of fieldwork results (begin with earliest period first, add NGRs where appropriate) <i>As above</i> <p style="text-align: right;">(cont. on attached sheet)</p>	
Location of archive/finds: <i>SWAT</i>	
Contact at Unit: <i>Paul Wilkinson</i>	Date: <i>27th March 2014</i>

1 Access road between main road and PV site
M 1:2000



Geographical coordinates

Country: UK
 Address: Knowlton Court
 N: Canterbury
 Kant: CT3 1PT

Latitude: 51°14'18"N
 Longitude: 1°16'31"E
 Altitude: 42.50 m

Areas:

	fenced area	length
total:	157,300 m²	2,060 m

within the fenced area

	maintenance roads
access road	4,450 m²
total:	1,650 m²

storage area

total:	4,000 m²
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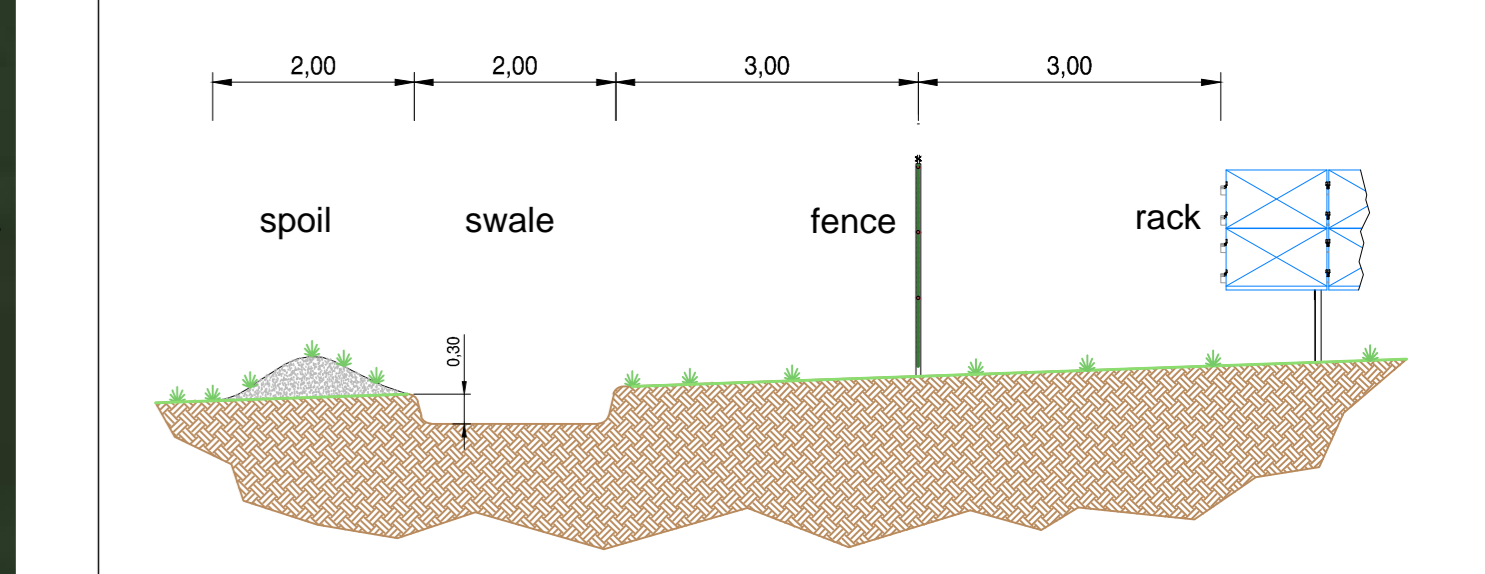
System

	No. of Racks	No. of Inverters
Total:	1,904	14

Substructure

Number of racks: 1,904
 Modules per rack: 2x12 (portrait)
 Pitch: 0.0°
 Plane tilt: 15°
 Pitch: appr. 5.30 m
 Axis width: appr. 2.04 m

1 Typical cross-section through swale
M 1:75



LEGEND

- Fence
- Application site area
- Overhead cables & electric pole
- PV area - 3 m to fence
- Footpath
- Main cable trench
- Maintenance road
- Swales
- Spoil
- Level contours
- Gate

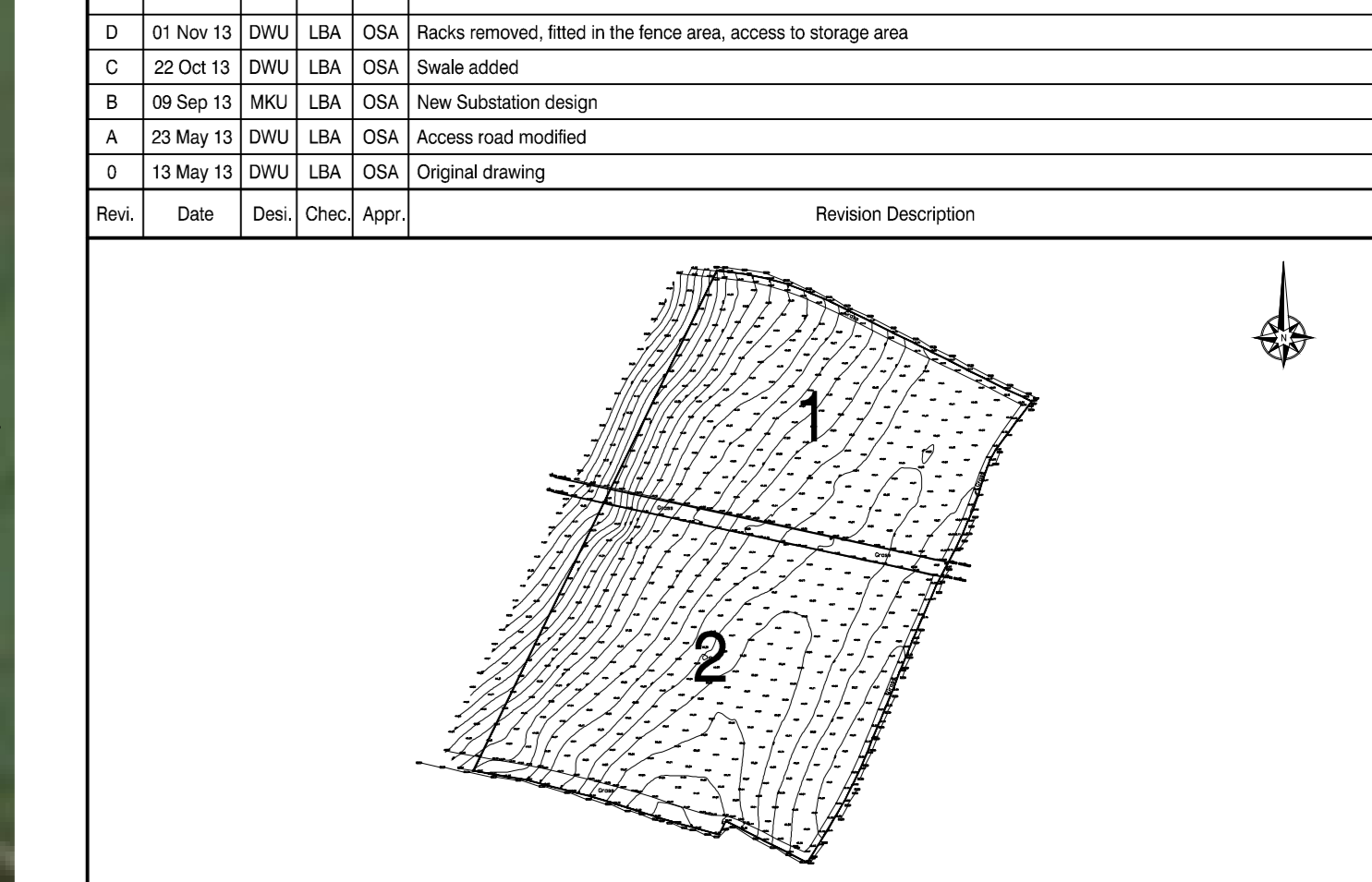
Used Xrefs of external planners in the current drawing

Rev.	Date	Xref(DWG) - File name / Planning expert

Please note that all drawing contents have to be checked on the contractor's own responsibility prior to construction start. Discrepancies have to be communicated to the contractual partner or to the responsible technical planners. Drawing numbers and index have to be observed. With release of new drawing, previous drawings lose their validity and will not be withdrawn.

Document No: **2127.AP.001.0.D**

Rev.	Date	Drawn	Checked	Appr.	Revision Description
D	01 Nov 13	DVA	LBA	OSA	Racks removed, filled in the fence area, access to storage area
C	22 Oct 13	DVA	LBA	OSA	Swale added
B	09 Sep 13	MKG	LBA	OSA	New Substation design
A	23 May 13	DVA	LBA	OSA	Access road modified
S	13 May 13	DVA	LBA	OSA	Original drawing



Project Management / Engineering Design

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Supplier:

Version	Metric	European Proj.	Page	Drawing Scale

Designed by: 13 May 2013 W. W. 1
 Checked by: 13 May 2013 S. S. 1
 Approved by: 13 May 2013 S. S. 1

File: Knowlton
 Module Array Layout

Planning Phase:	Status:
Approval Design	01 Nov 13

Document No: **2127.AP.001.0.D**

Project No.	Drawn	Checked	Appr.	Rev.

Revision Note: **D**

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