

Crystal Rig Substation Extension, Scottish Borders Archaeological Works Report

AOC Project 22988

4th July 2016



ARCHAEOLOGY

HERITAGE

CONSERVATION

Crystal Rig Substation Extension, Scottish Borders

Archaeological Works Report

On Behalf of:	RSK Environment Limited 65 Sussex Street Glasgow G41 1DX on behalf of Iberdrola
National Grid Reference (NGR):	NT 66269 69074
AOC Project No:	22988
Planning Application No:	12/00546/FUL
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This document has been prepared in accordance with AOC standard operating procedures.

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Summary

AOC Archaeology Group was commissioned by the RSK Environment Ltd (RSK) to undertake an archaeological watching brief and evaluation prior to development for the extension to the Crystal Rig Substation, part of the Aikengall Wind Farm.

19 trenches were excavated within the immediate environs of the Crystal Rig substation equating to a total area of 2,078.40m². In addition, the length of a cable trench between Westerdod Substation and the Crystal Rig Substation was undertaken. No archaeological finds or features were discovered during the course of the works.

1 INTRODUCTION

1.1 Site Background

- 1.1.1 AOC Archaeology Group was commissioned by the RSK to undertake an archaeological watching brief and an archaeological evaluation prior to the development of a new substation extension at Crystal Rig, part of the Aikengall Wind Farm development (Planning Application No. 12/00546/FUL). The works were undertaken in order to satisfy the requirements of the local planning authorities, the Scottish Borders Council who are advised on archaeological matters by the Scottish Borders Council Archaeology Service (SBCAS) and East Lothian Council.
- 1.1.2 This report presents the results of both an evaluation which was undertaken near the present Crystal Rig substation as an agreed alternative to the stripping of the area, and the archaeological watching brief on the topsoil strip of a cable trench between Westerdod and Crystal Rig substations.
- 1.1.3 The archaeological works were conducted in accordance with the principles set out in *Scottish Planning Policy* (2010) & *Planning and Archaeology 2/2011* (2011).

1.2 Site Location

- 1.2.1 The area of the evaluation was centred on NGR: NT 66269 6904 to the immediate south of the present Crystal Rig Substation (Figures 1 & 2). The area covered by the watching brief extends between the Westerdod Substation at NGR: NT 69652 68533 and the Crystal Rig Substation at NGR: 66406 69157 (Figure 3).

1.3 Historical background

- 1.3.1 A cultural heritage desk-based assessment was undertaken in 2012 which identified no Scheduled Ancient Monuments or Listed Buildings within the planned development area and it has historically been used as rough grazing and moorland (RSK 2015a, 3). However, previous surveys in the area located a turf bank and, prior to the excavations for the existing substation, an archaeological evaluation noted two undated drainage ditches (*ibid*).

2 OBJECTIVES

- 2.1 The objectives of the archaeological works were to determine and assess the character, extent, condition, quality, date and significance of any buried archaeological remains within the proposed development area through evaluation trenching and an archaeological watching brief.

3 METHODOLOGY

- 3.1 Initially, an archaeological watching brief had been stipulated in the planning condition (in relation to the Scottish Borders Council jurisdiction) and this was undertaken on 5th and 6th August 2015 (RSK 2015a). However, as a bulldozer was being used to move the topsoil, this was unsatisfactory as no view of any potential archaeology could be made. A compromise was thus reached between RSK, the Scottish Borders Council and Iberdrola that an evaluation would be undertaken on the site that was intended for a watching brief. This was due to the requirement for a presence of a 360° machine which, due to the isolated position and access issues, could not easily be on site at all times to undertake the necessary topsoil strip (RSK 2015b).
- 3.2 The evaluation was aimed at providing a 10% evaluation of the remaining area that could be stripped as part of the development. However, to the immediate west of the existing operational substation was an area of dumped material arising from the construction of the operational substation. There was also a small area to the south of the substation of the former area that had already been stripped of its topsoil with a bulldozer and was, at the time of the evaluation, the area of the main compound. This left the small area to the south

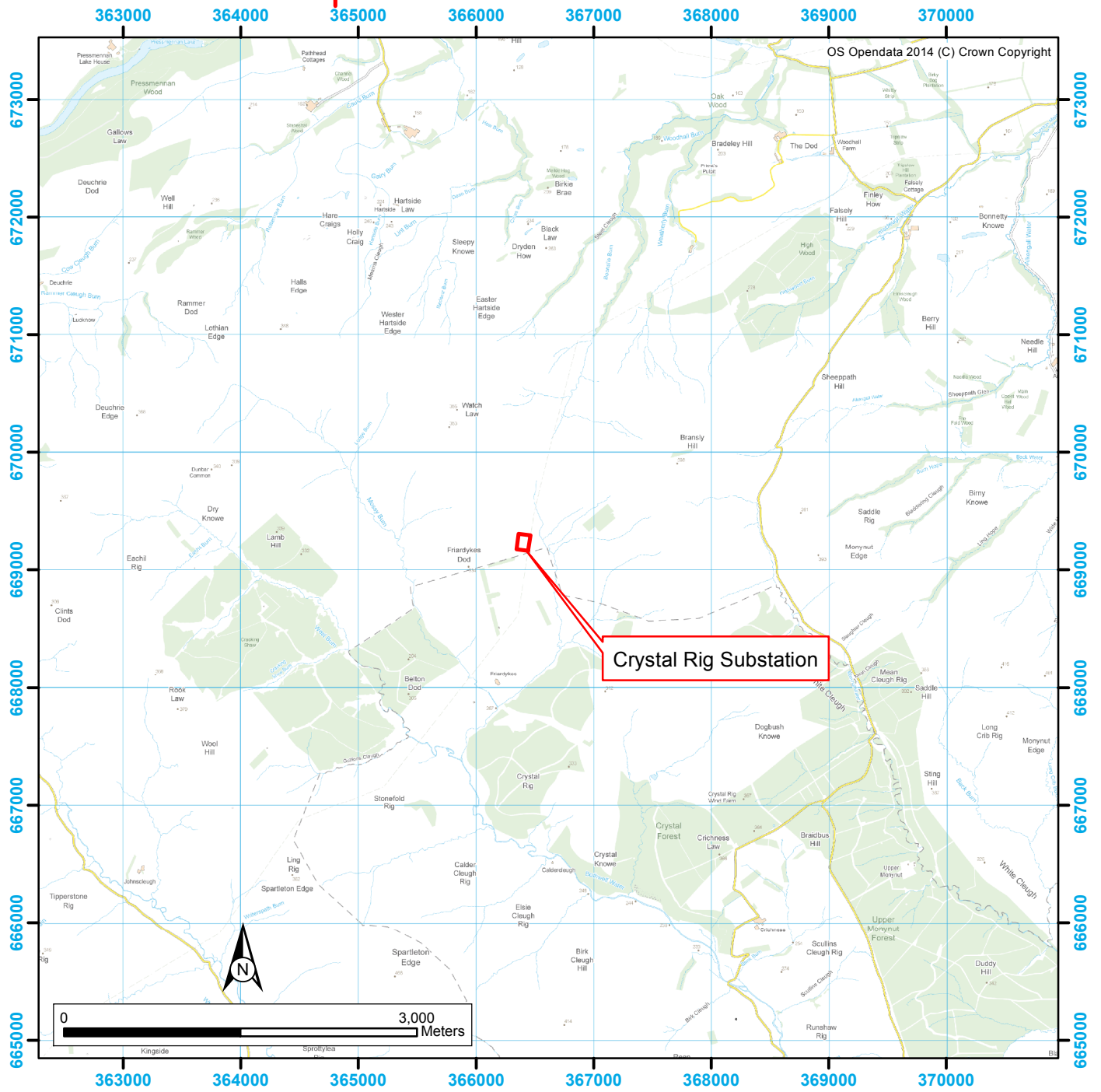
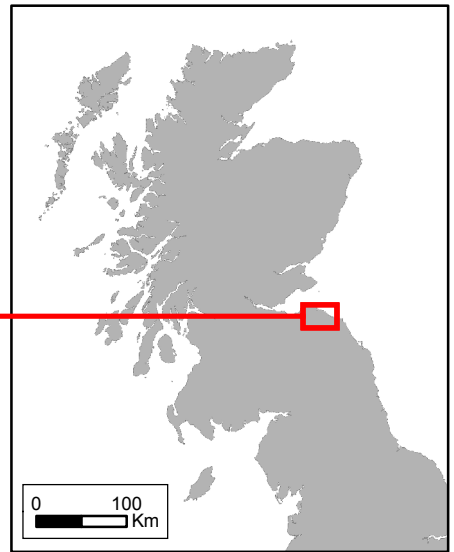
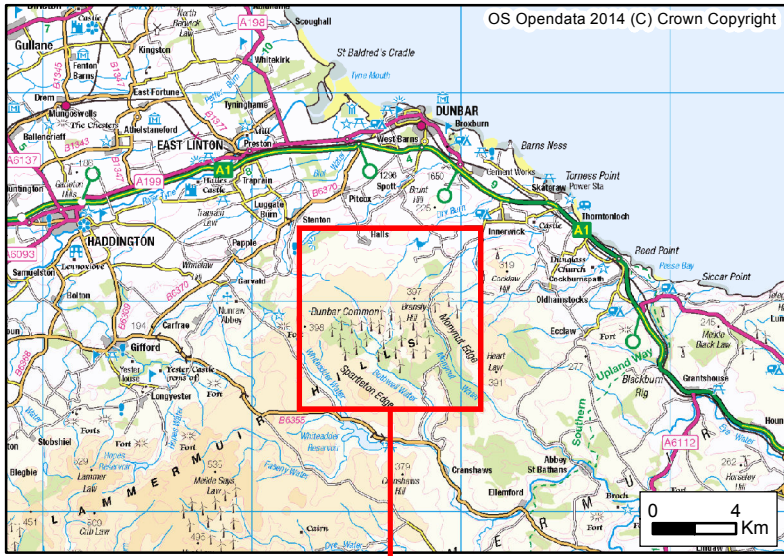


Figure 1: Site location plan

of the access track to a wind turbine to the south of the compound and also a larger stretch of land to the west of the compound (Figure 1).

- 3.3 The initial stage of the evaluation was undertaken on 24th and 25th August 2015 to the west of the compound and on 20th October 2015 to the south of the compound. 19 trenches were excavated in total with an overall area of 2,078.40m², or 866 linear metres of trenching based on a 2.40m wide ditching bucket (Figure 2).
- 3.4 Excavation was undertaken in units/spits until the first significant archaeological horizon or natural subsoil was reached. All machine excavation was supervised by an experienced field archaeologist and according to AOC Archaeology Group's standard operating procedures.
- 3.5 In early 2016 it was decided, in agreement with RSK, East Lothian Council, the Scottish Borders Council and Iberdrola, to undertake an archaeological watching brief on the topsoil strip and excavation of a cable trench between Westerdod and Crystal Rig substations (Figure 3). An archaeological officer was present during all ground-breaking works associated with the excavations.

4 RESULTS

- 4.1 Weather conditions were generally bright and dry throughout both phases of the evaluation and watching brief, and the archaeological visibility remained good throughout. The following results should be read in conjunction with Figure 2 and the appendices:

Appendix 1: Evaluation Trench Descriptions

Appendix 2: Photographic Register

- 4.2 No archaeological finds or features were located in any of the trenches. The topsoil varied from 0.20m - 0.54m in depth and directly overlay a natural subsoil of compact light brown orangish stony clay (Plates 1 & 2). Some plough scars were notes in the area to the south of the Crystal Rig Substation (in Trenches 15 – 19).



Plate 1: General post-excitation view of Trench 1 from the east



Plate 2: Trench 17, general post-excitation shot from the west

- 4.3 The excavation of the cable trench consisted of the excavation of a trench 4m – 5m in width as outlined in Figure 3, and extended for a length of approximately 3,900km. The topsoil was generally between 0.10m – 0.50m in depth throughout the length of the track, and consisted of a dark brown peaty clay with inclusions of small-medium-sized sub-rounded stones. This overlay a natural subsoil of compact light brown orangish stony clay

5 CONCLUSIONS & RECOMMENDATIONS

- 5.1 The archaeological works did not identify any archaeological finds or features. As such, it is recommended that all relevant archaeological planning conditions on the site be discharged.

6 REFERENCES

RSK 2015a *Crystal Rig Substation Extension Written Scheme of Investigation for an Archaeological Watching Brief.*

RSK 2015b *Crystal Rig Substation Extension Written Scheme of Investigation Addendum 1: Evaluation of Compound and Substation Area.*

Scottish Planning Policy SPP23. 2010 *Archaeology and Planning.* Scottish Government Nov 2008.

Scottish Government 2011 *Planning and Archaeology 2/2011.*

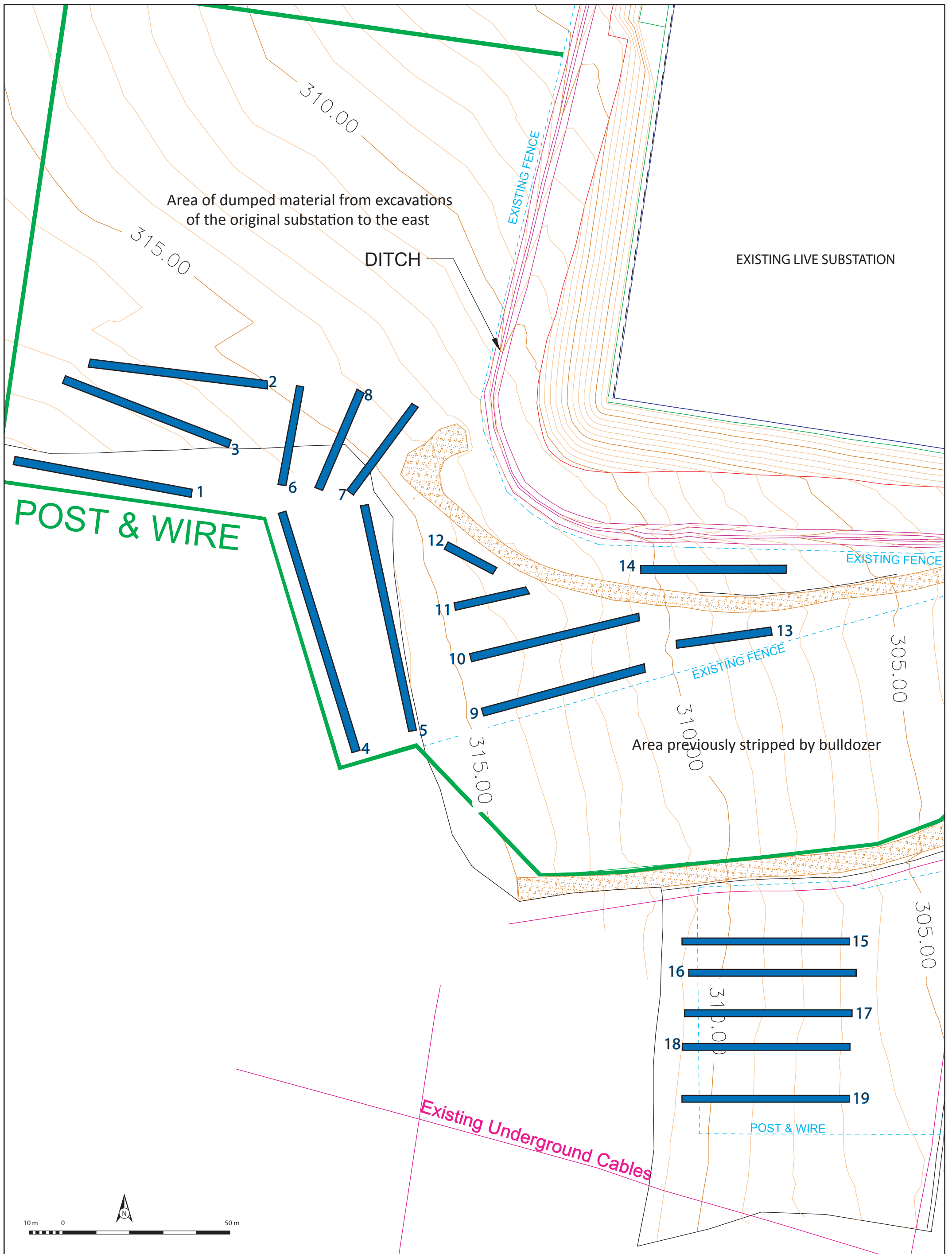


Figure 2: Site plan showing location of evaluation trenches

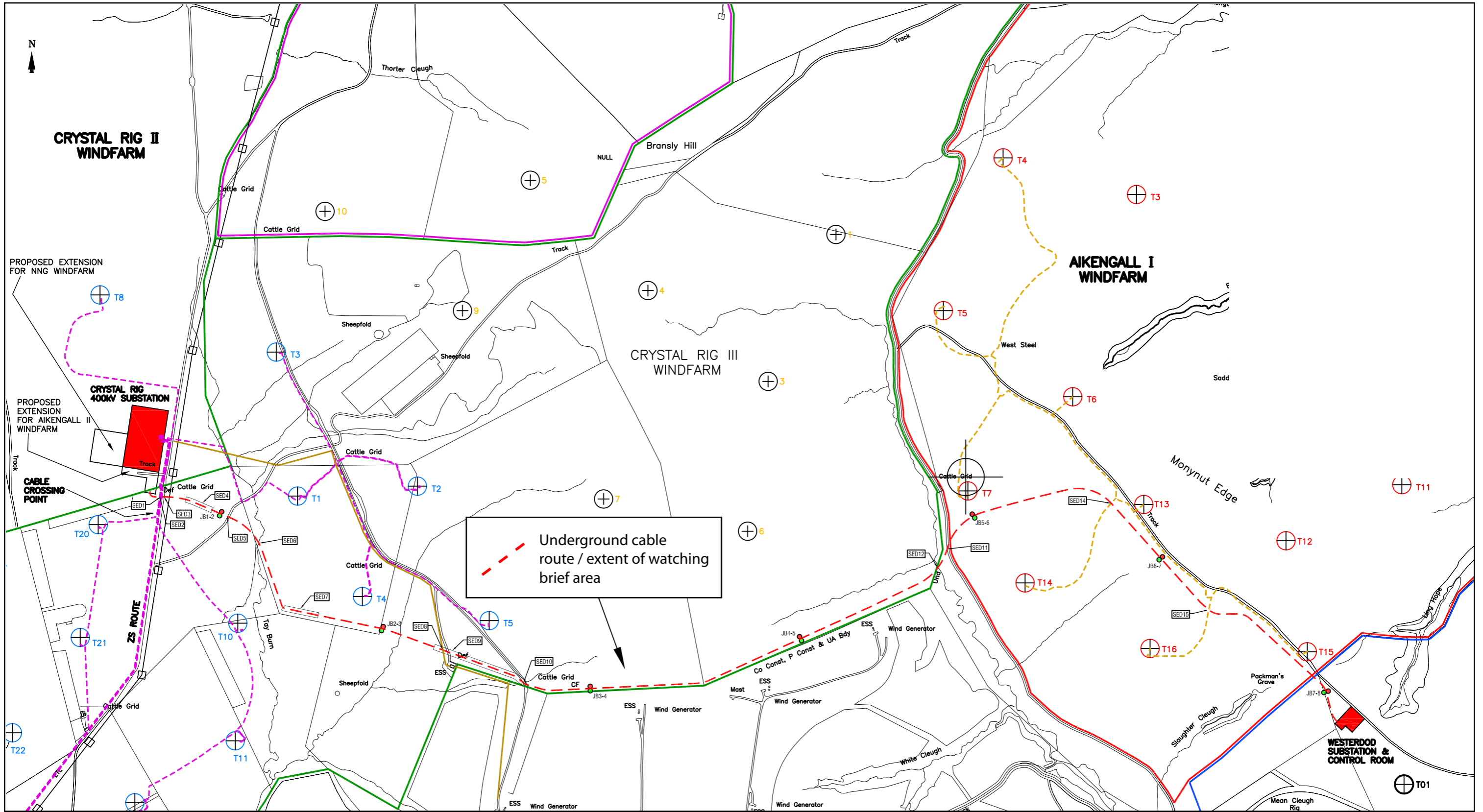


Figure 3: Site plan showing the cable route and the extent of the watching brief area (site base plan supplied by Iberdrola)

APPENDIX 1: Evaluation Trench Descriptions

Trench 1

Length	54m
Width	2.40m
Orientation	NWW/SEE
Top-soil Depth	0.25m – 0.30m
Depth of Excavation	0.30m
Significant Features	None
Other Features	None
Finds	None

Trench 2

Length	54m
Width	2.40m
Orientation	E/W
Top-soil Depth	0.27m – 0.54m
Depth of Excavation	0.54m
Significant Features	None
Other Features	None
Finds	None

Trench 3

Length	54m
Width	2.40m
Orientation	NWW/SEE
Top-soil Depth	0.27m – 0.54m
Depth of Excavation	0.54m
Significant Features	None
Other Features	None
Finds	None

Trench 4

Length	76m
Width	2.40m
Orientation	NW/SE
Top-soil Depth	0.38m – 0.76m
Depth of Excavation	0.76m
Significant Features	None
Other Features	None
Finds	None

Trench 5

Length	70m
Width	2.40m
Orientation	NW/SE
Top-soil Depth	0.35m -0.70m
Depth of Excavation	0.70m
Significant Features	None
Other Features	None
Finds	None

Trench 6

Length	30m
Width	2.40m
Orientation	N/S
Top-soil Depth	0.15m -0.30m
Depth of Excavation	0.30m
Significant Features	None
Other Features	None
Finds	None

Trench 7

Length	32m
Width	2.40m
Orientation	NE/SW
Top-soil Depth	0.25m -0.28m
Depth of Excavation	0.28m
Significant Features	None
Other Features	None
Finds	None

Trench 8

Length	32m
Width	2.40m
Orientation	NE/SW
Top-soil Depth	0.16m – 0.32m
Depth of Excavation	0.32m
Significant Features	None
Other Features	None
Finds	None

Trench 9

Length	50m
Width	2.40m
Orientation	NEE/SWW
Top-soil Depth	0.25m 0 0.50m
Depth of Excavation	0.50m
Significant Features	None
Other Features	None
Finds	None

Trench 10

Length	50m
Width	2.40m
Orientation	NEE/SWW
Top-soil Depth	0.25m 0 0.50m
Depth of Excavation	0.50m
Significant Features	None
Other Features	None
Finds	None

Trench 11

Length	23m
Width	2.40m
Orientation	NEE/SWW
Top-soil Depth	0.22m – 0.30m
Depth of Excavation	0.30m
Significant Features	None
Other Features	None
Finds	None

Trench 12

Length	17m
Width	2.40m
Orientation	NW/SE
Top-soil Depth	0.30m- 0.35m
Depth of Excavation	0.35m
Significant Features	None
Other Features	None
Finds	None

Trench 13

Length	17m
Width	2.40m
Orientation	NEE/SWW
Top-soil Depth	0.25m – 0.27m
Depth of Excavation	0.27m
Significant Features	None
Other Features	None
Finds	None

Trench 14

Length	44.5m
Width	2.40m
Orientation	E/W
Top-soil Depth	0.22m – 0.45m
Depth of Excavation	0.45m
Significant Features	None
Other Features	None
Finds	None

Trench 15

Length	50m
Width	2.40m
Orientation	E/W
Top-soil Depth	0.24m 0 0.25m
Depth of Excavation	0.25m
Significant Features	None
Other Features	None
Finds	None

Trench 16

Length	50m
Width	2.40m
Orientation	E/W
Top-soil Depth	0.30m - 0.34m
Depth of Excavation	0.34m
Significant Features	None
Other Features	None
Finds	None

Trench 17

Length	50m
Width	2.40m
Orientation	E/W
Top-soil Depth	0.28m – 0.36m
Depth of Excavation	0.36m
Significant Features	None
Other Features	None
Finds	None

Trench 18

Length	50m
Width	2.40m
Orientation	E/W
Top-soil Depth	0.30m -0.32m
Depth of Excavation	0.32m
Significant Features	None
Other Features	None
Finds	None

Trench 19

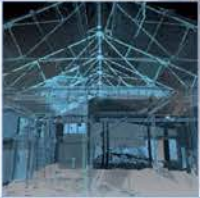
Length	50m
Width	2.40m
Orientation	E/W
Top-soil Depth	0.33m - 0.34m
Depth of Excavation	0.34m
Significant Features	None
Other Features	None
Finds	None

APPENDIX 2: Digital Photographic register

Ref	Trench	Description	Taken From	Date
1 – 2	-	General stripping to area to S of existing substation	NW	06/08/2015
3 – 4	-	Post-Excavation	S	06/08/2015
5 – 6	1	Post-Excavation	E	25/08/2015
7 – 8	2	Post-Excavation	E	25/08/2015
9 – 10	3	Post-Excavation	SE	25/08/2015
11 – 12	4	Post-Excavation	SE	25/08/2015
13 – 14	5	Post-Excavation	SE	25/08/2015
15 – 16	6	Post-Excavation	S	25/08/2015
17 – 18	7	Post-Excavation	SW	25/08/2015
19 – 20	8	Post-Excavation	SW	25/08/2015
21 – 22	9	Post-Excavation	W	25/08/2015
23 – 24	10	Post-Excavation	E	25/08/2015
25 – 26	11	Post-Excavation	W	25/08/2015
27 – 28	12	Post-Excavation	NW	25/08/2015
29 – 30	13	Post-Excavation	W	25/08/2015
31 – 32	14	Post-Excavation	W	25/08/2015
33 – 35	15	Post-Excavation	W	20/10/2015
36 – 37	16	Post-Excavation	W	20/10/2015
38 – 39	17	Post-Excavation	W	20/10/2015
40 – 41	18	Post-Excavation	W	20/10/2015
42 – 43	19	Post-Excavation	W	20/10/2015

APPENDIX 3: 'Discovery and Excavation in Scotland' (DES) Report

LOCAL AUTHORITY:	The Scottish Borders Council
PROJECT TITLE/SITE NAME:	Crystal Rig Substation Extension
PROJECT CODE:	22988
PARISH:	Scottish Borders
NAME OF CONTRIBUTOR:	Diana Sproat
NAME OF ORGANISATION:	AOC Archaeology Group
TYPE(S) OF PROJECT:	Evaluation
NMRS NO(S):	None
SITE/MONUMENT TYPE(S):	None
SIGNIFICANT FINDS:	None
NGR (2 letters, 6 figures)	NT 66269 69074
START DATE (this season)	6 th August 2015
END DATE (this season)	27 th April 2016
PREVIOUS WORK (inc DES)	None
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	AOC Archaeology Group was commissioned by the RSK Environment Ltd (RSK) to undertake an archaeological watching brief and evaluation prior to development for the extension to the Crystal Rig Substation, part of the Aikengall Wind Farm. 19 trenches were excavated within the immediate environs of the Crystal Rig substation equating to a total area of 2,078.40m ² . In addition, the length of a cable trench between Westerdod Substation and the Crystal Rig Substation was undertaken. No archaeological finds or features were discovered during the course of the works.
PROPOSED FUTURE WORK:	None
CAPTION(S) FOR ILLUSTRATIONS:	N/A
SPONSOR OR FUNDING BODY:	RSK Environment Ltd on behalf of Iberdrola
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ARCHIVE LOCATION	Archive to be deposited in NMRS



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