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Geophysical Survey

Carcant Wind Farm Cable Route Moorfoot Hills Scottish Borders


Archaeological Works

Report No. 1724

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standard operating procedures.

**Carcant Wind Farm Cable Route
Moorfoot Hills
Scottish Borders**

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1. INTRODUCTION

- 1.1.1 This report presents the results of an archaeological watching brief undertaken in November and December 2009 during soil stripping operations for a cable route at Carcant Wind Farm, Scottish Borders (NGR: NT 35816 53583 – NT 36568 52390) (Fig. 1). The work was commissioned by Airtricity Ltd.
- 1.1.2 A Written Scheme of Investigation (WSI) dated 24 November 2009 for this programme of works was produced by CFA on behalf of Airtricity Ltd. The WSI was based on the result of a reconnaissance survey carried out by CFA in November 2009 (Kirby 2009) and was designed to meet the requirements of the Scottish Borders Council Archaeologist.
- 1.1.3 Numbers in bold in the following text refer to sites identified during two reconnaissance surveys (Kirby 2006 and Kirby 2009(B)) undertaken by CFA. This report should be read in conjunction with the more recent of the two aforementioned documents.

1.2 Background

- 1.2.1 An electrical cable measuring c. 1500m in length was installed linking the sub-station at Carcant Wind Farm with the existing mains power supply immediately to the south of Carcant House. It was originally intended that the cable route should follow the line of an existing track leading in a north-westerly direction from Carcant House before taking a straight north-westerly line across a series of improved fields onto the moorland above, then turning in a northerly direction across the Heckle Burn and terminating at the substation (Fig. 2). However, due to problems relating to the bedrock surface of the track, it was decided that the cable should be re-routed (Fig. 1) to the west of the proposed line. Re-routing was also undertaken close to the northern end of the cable route in order to avoid Sites **4 – 6**.
- 1.2.2 A desk-based assessment and reconnaissance survey carried out for the cable route by CFA in November 2009 (Kirby 2009(B)) identified fourteen sites within a 100m wide corridor centred on the proposed cable route. Details of these sites are contained in Appendix 1. Site **17** lies just outwith the 100m wide survey corridor, but was affected due to the re-routing of the cable.
- 1.2.3 A series of watching briefs (White 2006 and Kirby 2009(C)) and an evaluation (Kirby 2009(A)) undertaken within the wind farm area did not identify any features of archaeological significance.

1.2 Objectives

1.3.1 The objectives of the programme of works were:

- To mark off two sites (**5** and **6**) that lay close to the cable route to prevent any damage during construction works.
- To carry out a watching brief during groundbreaking works for the cable route.

2. WORKING METHODS

2.1 General

2.1.1 CFA Archaeology Ltd follows the Institute for Archaeologists' Code of Conduct, Standards and Guidance for Archaeological Fieldwork.

2.2 Marking off Sites

2.2.1 Sites **5** and **6** were marked off using wooden pegs, incorporating a buffer zone of not less than 20m.

2.3 Watching Brief

2.3.1 A 1.5m wide track of topsoil stripping totalling c.1300m in length was carried out using a 360° tracked excavator equipped with a smooth-bladed ditching bucket. This operation was carried out under constant archaeological supervision. It was decided in conjunction with the Scottish Borders Council Archaeologist that a 200m stretch of cable trench running through an area of forestry plantation did not have to be monitored. A further break in the track occurred where it crossed the Heckle Burn. This length of cable will be tunnelled beneath the watercourse.

2.3.2 The stratification of all excavated areas was recorded whether or not significant archaeological deposits were identified.

2.3.3 All excavation and on-site recording was carried out according to standard CFA procedures, principally by drawing, photography and by completing standard CFA record forms.

3. ARCHAEOLOGICAL RESULTS

3.1 Marking off Sites

- 3.1.1 The cable trench was re-routed to avoid Site **5** and Site **6** meaning that these features were unaffected by the development.

3.2 Watching Brief

- 3.2.1 The topsoil across the area consisted of 0.2m – 0.3m of mid to dark-brown silt/peaty silt overlying orange-brown sandy-clay. Numerous field drains of the ceramic cylinder type were identified between Site **7** and Site **17**, indicating that the land had been improved during the 19th and 20th century. Two dry stone walls (Site **8** and Site **17**) were cut through by the cable route. An enclosure (Site **15**) depicted on the First Edition 6” Ordnance Survey map may also have been crossed by the cable route, but no surviving remains were identified. There were no additional features, deposits or artefacts of archaeological significance identified during the watching brief.

4. CONCLUSIONS AND RECOMMENDATIONS

- 4.1 A programme of archaeological work was carried out at Carcant Wind Farm. The programme of works involved marking off archaeological sites that had been previously identified during a reconnaissance survey carried out by CFA, and a watching brief undertaken during soil stripping operations for the insertion of an electrical cable. The watching brief did not identify any features, deposits or artefacts of archaeological significance.
- 4.2 CFA does not recommend any further archaeological work in relation to this programme of works. However the final decision on any further mitigation measures lies with the Scottish Borders Council Archaeology Service.
- 4.3 The project archive, comprising all CFA record sheets, maps and reports, will be deposited with the National Monuments Record of Scotland (NMRS) and copies of reports will be lodged with the Scottish Borders Council Sites and Monuments Record.
- 4.4 A summary statement to be submitted for publication in *Discovery and Excavation in Scotland* (Appendix 3) will be sufficient to disseminate the results of this programme of works.

5. REFERENCES

Kirby, M 2006 *Carcant Wind Farm, Scottish Borders: Archaeological Survey* CFA Data Structure Report No. 1246

Kirby, M 2009(A) *Carcant Wind Farm, Scottish Borders: Archaeological Evaluation* CFA Data Structure Report No. 1726

Kirby, M 2009(B) *Proposed Cable Route, Carcant Wind Farm, Moorfoot Hills Scottish Borders: Desk-Based-Assessment and Reconnaissance Field Survey* CFA Data Structure Report No. 1708

Kirby, M 2009(C) *Carcant Wind Farm, Scottish Borders: Archaeological Works* CFA Data Structure Report No. 1671

White, R 2006 *Carcant Wind Farm, Moorfoot Hills, Scottish Borders: Archaeological Watching Brief* CFA Data Structure Report No. 1273

APPENDIX 1 – Gazetteer of sites within 100m wide cable corridor

No.	NGR	Source	Class	Description
3	NT 35764 53506	Field survey	Quarry Scoop	Field survey identified a shallow quarry scoop beside existing track measuring 20m E to W by 12m N to S. A small pile of angular stones is present in the centre of the scoop.
4	NT 35910 53368	Field survey	Cairn	Field survey identified a low cairn consisting of a collection of angular and rounded stones. It measures 4m N to S by 2.2m E to W and stands to a height of c.0.3m. It stands on the edge of an area of partly improved pastureland and is probably a clearance cairn.
5	NT 35905 53352	Field survey	Cairn	Field survey identified a low cairn situated immediately to the south of cairn 4. It measures c.3m in diameter and stands to a height of c. 0.4m.
6	NT 35888 53353	Field Survey	Possible Prehistoric Platform	Field survey identified a slightly raised circular area of grass with a number of stones placed intermittently around the edge. It has a diameter of 8m and is c. 0.1m – 0.2m high. It is potentially of prehistoric date, but may be a base for a hay rick relating to post-improvement agriculture.
7	NT 3602 5264 – NT 3623 5312	Field Survey. maps	Wall	Field survey identified a dry–stone field boundary wall in variable condition. In some areas it still stands to its full height of c. 1.3m but in others it has been robbed out and only stands to c.0.2m. It has a width at the base of c. 0.7m. This wall is first depicted on the First Edition 25” Ordnance Survey map of 1893 and along with walls 8, 16 and 17 forms part of a series of large enclosures.
8	NT 3602 5264 – NT 3623 5312	Field Survey, maps	Wall	Field survey identified a dry–stone field boundary wall in variable condition. In some areas it still stands to its full height of c. 1.3m but in others it has been robbed out and only stands to c.0.45m. It has a width at the base of c. 0.6m. This wall is first depicted on the First Edition 25” Ordnance Survey map of 1893 and along with walls 7, 16 and 17 forms part of a series of large enclosures.
9	NT 36146 52993	Field Survey	Quarry Scoop	Field survey identified a roughly circular quarry scoop with a diameter of c.20m and a depth of c.1m. A small collection of angular quarried stone is present towards the centre of the feature.
11	NT 3648 5245	NMRS (No. NT35SE 5)	Findsite	The NMRS records that a flint scraper and a similar flake were found on a westward-facing hill 400yds to the north of Carcant. The grid reference given should be regarded as a general area rather than an accurate position.
12	NT 36506 52533	1 st Edition OS map	Sheepfold	The First Edition 6” Ordnance Survey map (1854) depicts a sheepfold to the north of Carcant farm cottages, but it is not depicted on subsequent editions. This feature was not identified during the field survey. It is likely that it was removed when Carcant House was constructed between 1854 and 1892.
13	NT 36530 52502	NMRS (No. NT35SE	Bridge C(S)- Listed	The NMRS records a bridge over the Carcant Burn. It is described as later 19 th century,

No.	NGR	Source	Class	Description
		35) (HB No. 8208) Maps Field Survey		consisting of two semi-circular arches. The bridge is first depicted on the First Edition 25" Ordnance Survey map of 1893. Field survey confirmed that it is as described and is in good condition and in current usage. It is Category C(S) Listed
14a	NT 36488 52461	NMRS (No. NT35SE 34.0) (HB No. 8297) Maps Field Survey	House C(S)- Listed	The NMRS records Carcant House, which is described as a Scots Baronial house dating to the later 19 th century. The House is first depicted on the First Edition 25" Ordnance Survey map of 1893. Field survey confirmed that it is as described and is in good condition and in current usage. It is Category C(S) Listed
14b	NT 36555 52420	NMRS (No. NT35SE 34.1)	Cottage	The NMRS records Carcant Cottage under the same record as Carcant House. The cottage pre-dates the house, being depicted on the First Edition 6" Ordnance Survey map of 1854. Field survey confirmed that it is in current usage.
15	NT 36520 52423- NT 36525 52438 (Surviving)	1 st Edition OS map Field Survey	Enclosure	An enclosure is depicted on the First Edition 6" Ordnance Survey map of 1854, but is not depicted on subsequent editions. Field survey identified a 22m length of turf bank. The bank had a width of c.2m and was upstanding to a maximum height of c. 1m on the downslope side of the field, but only c. 0.2m on the upslope side. The remainder of this feature had been removed by a combination of plough truncation and landscaping associated with the construction of Carcant House.
16	NT 3623 5312- NT 3636 5267	Maps Field Survey	Wall	This length of wall is first depicted on the Second Edition 25" Ordnance Survey map (1907) and on all subsequent editions. Field survey identified a denuded dry-stone wall surviving to a height of c. 0.3m.
17	NT 3602 5264- NT 3636 5267	Maps Field Survey	Wall	Field survey identified a dry-stone wall bordering an area of forestry. The wall was in good condition surviving to its full height of c. 1.2m. This wall is first depicted on the First Edition 25" Ordnance Survey map of 1893 and along with walls 7, 8, and 16 forms part of a series of large enclosures. This site lies just outwith the 100m wide survey corridor but was affected by the re-routing of the cable.

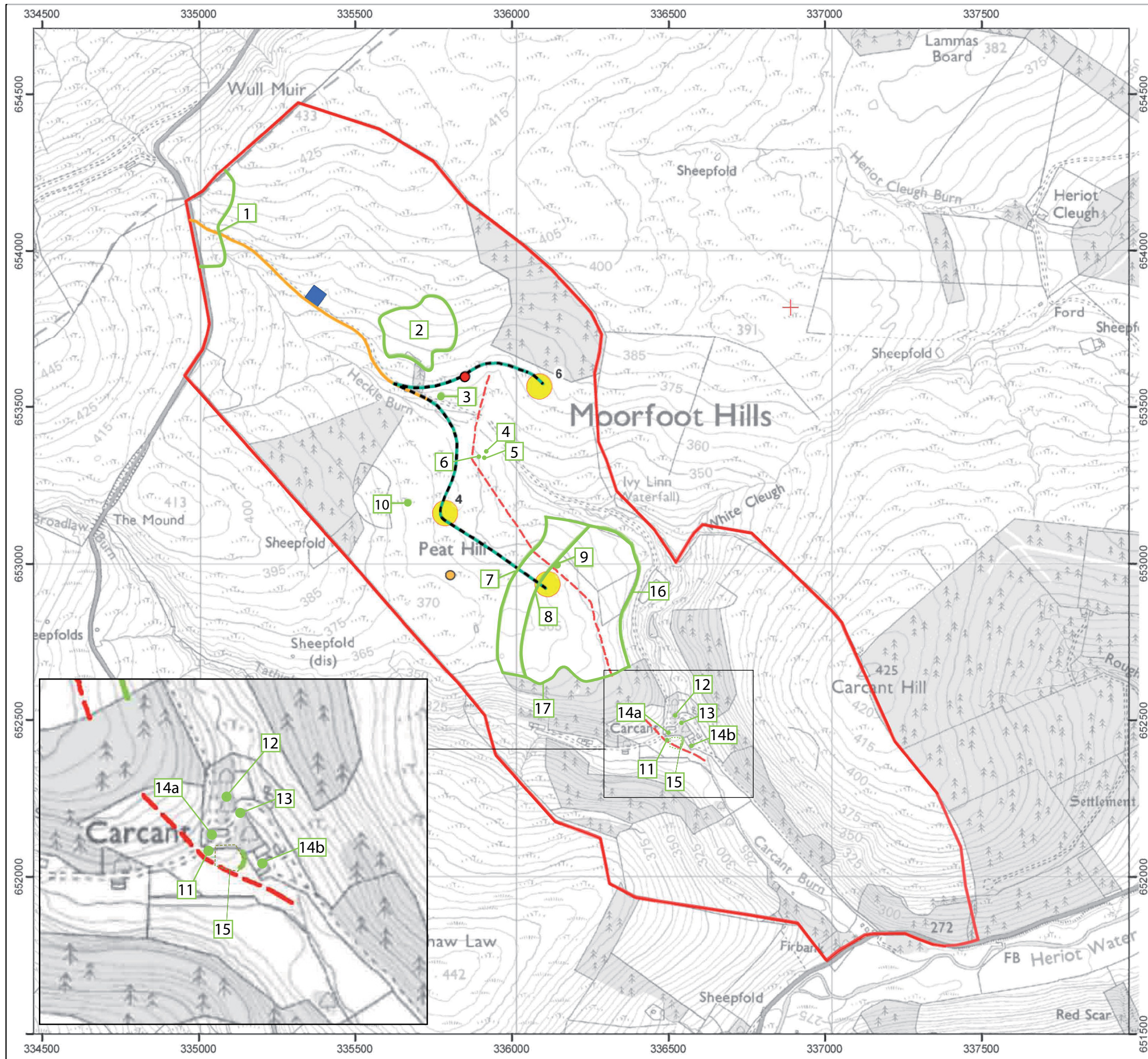
APPENDIX 2: Photographic Register

Digital

Shot	Description	From	Conditions
1-4	General working shots showing cable trench being excavated into bedrock base of track	Various	Overcast
5-17	General working shots showing topsoil stripping for cable trench between substation and Site 7	Various	Overcast
18-19	General working shots showing topsoil stripping for cable trench between Site 7 and Site 8	NW	Overcast
20-21	Wall 8 prior to excavation of cable trench	SW	Overcast
22-23	Wall 8 prior to excavation of cable trench	NE	Overcast
24-25	Typical ceramic cylinder drain present across improved ground	N/A	Sun
26-29	General working shots showing topsoil stripping for cable trench between Site 8 and Site 16	Various	Sun
30-31	Wall 16 prior to excavation of cable trench	NW	Sun
32-33	Wall 16 prior to excavation of cable trench	W	Sun
34-35	General working shots close to Carcant House	NW	Overcast
36-37	Wall 8 cut by cable trench	SW	Overcast
38-39	General working shots close to Carcant House	NW	Overcast

APPENDIX 3: Discovery & Excavation in Scotland Entry

LOCAL AUTHORITY:	Scottish Borders Council
PROJECT TITLE/SITE NAME:	Carcant Wind Farm
PROJECT CODE:	CARC
PARISH:	Heriot
NAME OF CONTRIBUTOR:	Magnus Kirby
NAME OF ORGANISATION:	CFA Archaeology Ltd
TYPE(S) OF PROJECT:	Archaeological Works
NMRS NO(S):	N/A
SITE/MONUMENT TYPE(S):	N/A
SIGNIFICANT FINDS:	None
NGR	NT 360 530 centred
START DATE (this season)	June 2009
END DATE (this season)	December 2009
PREVIOUS WORK (incl. <i>DES</i> ref.)	N/A
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	<p>A programme of archaeological works was carried out at Carcant Wind Farm. The initial phase of works was carried out in 2006 and consisted of a reconnaissance survey. The reconnaissance survey identified ten sites consisting of a wall and gate pillar, an enclosure, two quarry scoops, two cairns, a raised circular platform of possible prehistoric date, two drystone field walls and an area of probable peat workings. With the possible exception of the circular platform, the features identified are thought to relate to 19th/20th century agricultural improvements.</p> <p>Subsequent phases of work consisted of a series of watching briefs, an evaluation and a further reconnaissance survey along the proposed line of an electrical cable route. The reconnaissance survey identified a further length of dry-stone wall and the denuded remains of an enclosure, which is depicted on the First Edition 6" Ordnance Survey map of 1854. The watching briefs and evaluation did not lead to the identification of any archaeological features.</p>
PROPOSED FUTURE WORK:	None
CAPTION(S) FOR ILLUSTRS:	N/A
SPONSOR OR FUNDING BODY:	Airtricity Ltd
ADDRESS OF MAIN CONTRIBUTOR:	The Old Engine House, Eskmills Park, Musselburgh, EH21 7PQ
EMAIL ADDRESS:	cfa@cfa-archaeology.co.uk
ARCHIVE LOCATION (intended/deposited)	National Monuments Record of Scotland and Scottish Borders Council Sites and Monuments Record

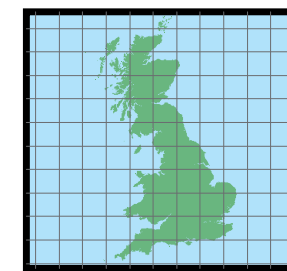


Carcant Wind Farm

Figure 1
Location Map showing cable
trench monitored

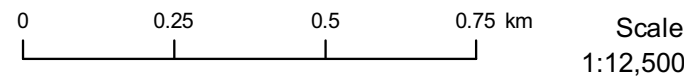
Legend

- Wind Turbine (including foundation and hardstanding)
- Monitoring mast location
- Substation location
- Site boundary
- Temporary Compound
- Indicative cable route running alongside road
- Existing Road (requires upgrading)
- New Roads
- Location of cultural heritage features
- Carcant Auxiliary Route

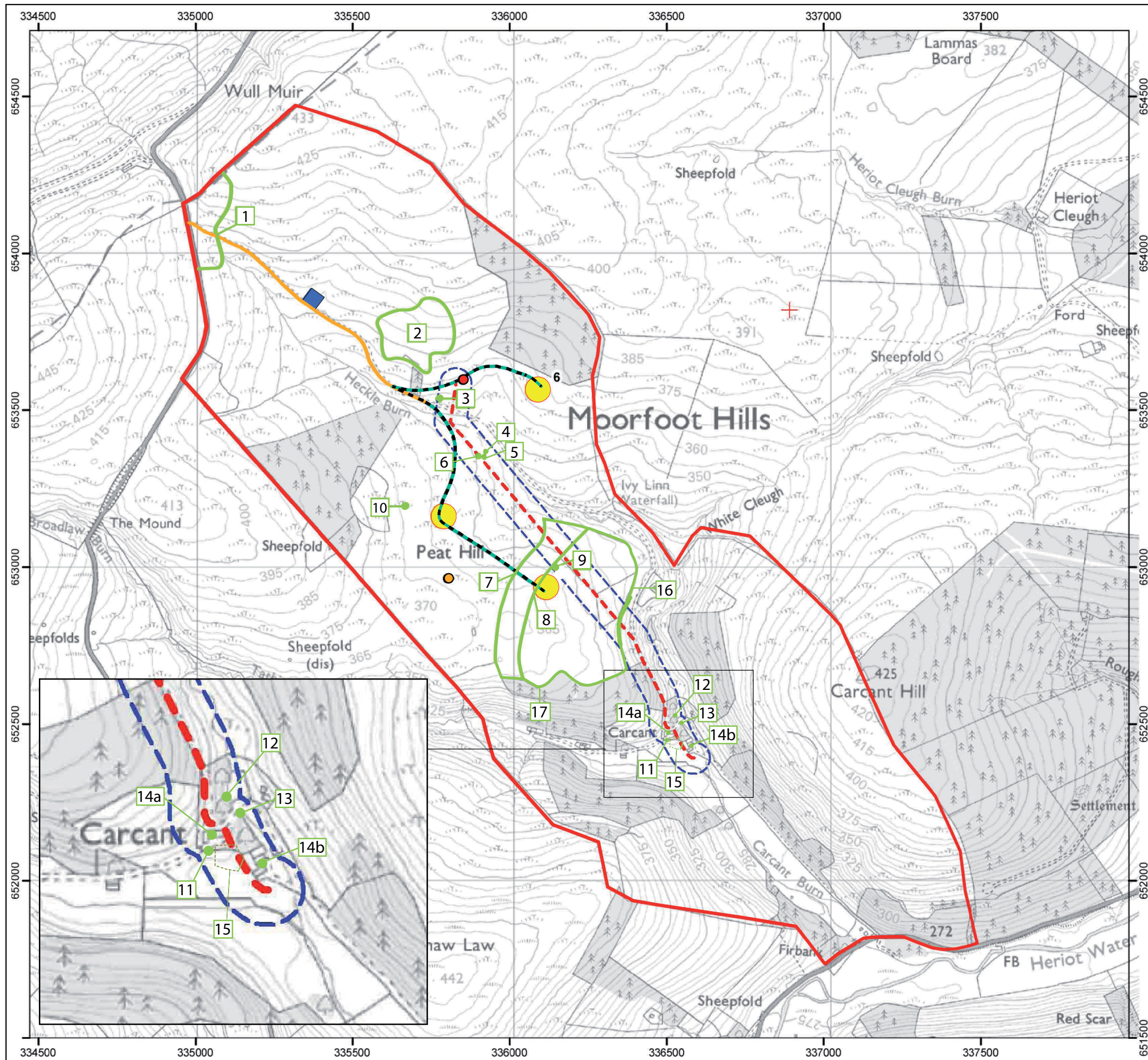


Layout:
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Carcant_cable_v4_ab0637,
CARCANT_SRd_v05_ab0637,
Carcant_substn_v6_ab0637_Area,
LCAR021_80ROTOR,
Carcant_site_bdry_v1_ab0407_1to25k,
CARCANT_TempCompound_v2_ab0519

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Date	By	Paper	Layout	Drg No	Rev
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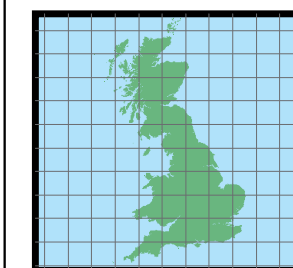


Carcant Wind Farm

Figure 2
Original proposed route and 50m
buffer zone

Legend

- Wind Turbine (including foundation and hardstanding)
- Monitoring mast location
- Substation location
- Site boundary
- Temporary Compound
- Indicative cable route running alongside road
- Existing Road (requires upgrading)
- New Roads
- Location of cultural heritage features
- Carcant Auxiliary Route
- Carcant Auxiliary Route 50m Buffer



Layout:
Monitoring_mast_v2_ab0537,
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CARCANT_SRd_v05_ab0637,
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LCAR021_80ROTOR,
Carcant_site_bdry_v1_ab0407_1to25k,
CARCANT_TempCompound_v2_ab0519

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0 0.25 0.5 0.75 km Scale
1:12,500


Date	By	Paper	Layout	Drg No	Rev
16/11/09	AB	A3	LCAR 021	6125 - 700 - CA - 003	A



Fig. 3 - General working shot



Fig. 3 - General working shot

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	Title:									
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