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Burnfoot Hill Windfarm, Clackmannanshire: Grid Connection Route Archaeological Mitigation Works

Report No. 1786

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1. INTRODUCTION

1.1 General

1.1.1 This report presents the results of archaeological mitigation works undertaken by CFA Archaeology Ltd (CFA) during May and June 2010, along the route of the Burnfoot Hill Windfarm grid connection route, Clackmannanshire (Grid ref: NS 88784 97519, Fig. 1). The work was commissioned by Wind Prospect Ltd.

1.1.2 A Written Scheme of Investigation (WSI) for the project was produced by CFA to fulfil the requirements of the Stirling and Clackmannanshire Council Archaeologist.

1.2 Background

1.2.1 An underground grid connector cable is to be inserted to connect Burnfoot Hill Windfarm, in the Ochil Hills, with an existing substation at Fishcross. The route follows the line of an existing farm track beginning at Rhodders Farm (Fig. 2).

1.2.2 Several sites were identified within the cable route corridor (see the ‘Cultural Heritage’ chapter of the Environmental Statement (ES) prepared for the windfarm, 2009, and Appendix 1). The Stirling Council Archaeologist required several elements of archaeological work to be undertaken prior to, and during, the construction phase of the project. This work included:

- A photographic survey of all known cultural heritage sites identified within the cable route corridor in advance of any work commencing on the route, and following the completion of work.
- Fencing-off of sites within the cable corridor that are closest to the route (sites 201, 203-210, Fig. 1), using high visibility fencing.
- An archaeological watching brief on ground breaking work where known sites lie very close to the route (sites 201, 203-210, Fig. 1).
- Guidance documents and tool box talks with respect to on site archaeology to be undertaken for construction staff.

1.3 Objectives

1.3.1 The objectives of the program of archaeological works were:

- To record the baseline conditions of, and protect, the known cultural heritage features identified close to the cable route.
- To determine the presence or absence, location, extent, date, character, condition, significance and quality of any surviving sub-surface

archaeological remains which may be damaged or destroyed by this development

2. WORKING METHODS

2.1 General

2.1.1 All work complied with the requirements of the Council Archaeologist. All work was conducted with regard to the Institute for Archaeologists' Standards. Recording of all elements was carried out following established CFA methods.

2.2 Photographic Survey

2.2.1 The photographic survey was undertaken with industry standard equipment using both digital and 35mm SLR cameras, including a graded scale. Each site was photographed individually and in relation to the route of the cable along the existing farm track.

2.3 Fencing-off sites

2.3.1 The erection of high visibility fencing was undertaken by the contractors under the supervision of CFA staff. A buffer of 10m was placed around the sites identified unless ground conditions prevented this being achieved. A minimum buffer of 5m was then put in place and the Stirling Council Archaeologist was contacted if logistical requirements called for further reduction in buffer width.

2.4 Archaeological Watching Brief

2.4.1 Where practical, the removal of soil deposits was carried out using mechanical excavators equipped with smooth-bladed ditching buckets under constant archaeological supervision.

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

2.5 Construction Staff Awareness

2.5.1 An appendix was provided within the WSI entitled 'Guidance in Relation to Archaeology', defining procedures for identification and action if archaeological features were discovered during construction work. This was incorporated into site inductions for contractors and sub-contractors.

2.5.2 A 'Tool Box Talk' was given to construction staff prior to the commencement of works regarding the importance of the high visibility fencing and the nature and form of archaeological remains that may have been encountered during ground-breaking works.

3. ARCHAEOLOGICAL RESULTS

3.1 Photographic survey and fencing off of sites

- 3.1.1 The photographic survey and fencing off of sites were conducted at the same time. Figure 3 show the sites prior to fencing. A full list of all the photographs taken can be found in Appendix 2.
- 3.1.2 All sites were fenced off appropriately using orange netlon fencing.
- 3.1.3 Site 205 covered a length of approximately 250m and was 20-30m away from the track. Blue-rope bunting was used for this site and the fencing was moved along the length of the trackway so that it always lay adjacent to the working area.
- 3.1.4 Site 207 was found to extend to both sides of the farm track and was fenced accordingly.
- 3.3.5 Site 204 was found to have a different grid reference to that stated in the ES chapter, the actual location being c.25m away from the farm track. New coordinates were taken and the site gazetteer (Appendix 1) amended.
- 3.3.6 Site 209 was not located near the trackway as the grid connector cable route had changed, and so fencing was no longer necessary. The new route of the grid connector was also subject to walkover field survey and no new sites were identified.
- 3.1.7 Site 210 is an area of rig-and-furrow. It was not practical to fence off this area, but a watching brief was conducted on all ground-breaking work in this area.
- 3.1.8 A new site, site 211, was located just to the north of site 208. This consisted of a turf bank measuring 3.5m wide by 0.4m high, and was cut by the trackway. This site was also fenced off.

3.2 Archaeological Watching Brief

- 3.2.1 Numbers in bold refer to contexts, a full list of which is contained in Appendix 2.
- 3.2.2 Only limited monitoring along the grid connector route was felt to be necessary as much of the farm track that the route followed had been terraced into the natural bedrock of the hillside (Fig. 2). Monitoring was targeted at areas where upstanding archaeological features were present near or adjacent to the trackway. Other monitored ground-breaking works included the topsoil stripping for a temporary compound and access road; excavation of foundations for a switching station; a small electricity cable trench; and anchor base pits for protective catch wires running along the outer edge of the farm track (Fig. 2).

- 3.2.3 No features of archaeological significance were encountered during the watching brief.

Grid Connector Cable Trench

- 3.2.4 The trench excavated for the grid connector cable was c.1m wide by 1.2m deep (Fig. 4). In the areas monitored, deposits generally consisted of 0.15m of mid brown-grey sandy silt metallised trackway surface (**020**), overlying 0.3-0.5m of reddish-brown and grey-brown sandy silt made-ground/trackway make-up (**021**). In places this overlay natural subsoil (**002**), or bedrock (**024**) directly, but some parts of the trench also contained 0.1-0.15m of old ground surface/turf line (**022**), a grey-black silt which either overlay natural or 0.3-0.5m of hillwash (**023**).
- 3.2.5 The deposits encountered suggest that the trackway was constructed by cutting quite deeply into the hillside and which was then infilled with material and levelled. The trackway has thus probably truncated any previous remains along the grid connector route.

Switching Station

- 3.2.6 An area c. 35m by 20m was opened up and excavated into the side of a steep hillside slope beside Rhodders Farm (Fig. 5). Deposits consisted of 0.3m of topsoil (**001**) of mid grey-brown sandy silt with frequent medium sized angular stone inclusions. This overlay a hillwash/subsoil deposit (**003**) of mid orange-brown silty sand of depth 0.3m, under which a stone-lined rubble field drain was found in the northern part of the area (Figs. 2 & 5). It was aligned NW-SE and comprised a linear cut (**004**) measuring at least 3.6m in length by 0.5m in width by 0.35m deep, with vertical sides and a flat base. It was partially lined with 2-3 courses of roughly rectangular stones (**005**) of average dimensions 0.2m by 0.1m. Four capping stones (**006**) were still present, generally 0.4m across by 0.1m thick, but otherwise the drain was infilled with small to medium sized angular to sub-angular rubble (**007**). The drain was still working and was re-used by the contractors on site. It was cut into a 0.3m deep hillwash/subsoil deposit (**008**) of mid brownish-orange compact silty gravel, which overlay a natural subsoil of mid pinkish-grey gravelly clays (**002**).
- 3.2.7 Further downslope and to the east, a probable continuation of the stone-lined drain **004** was revealed underlying subsoil deposit **003**. The drain (Fig. 6) was aligned NNE-SSW and consisted of a linear cut (**015**), measuring at least 4.6m in length by 0.5m wide by 0.6m deep of similar shape and form to **004**. It was of similar construction comprising a stone lining (**016**), capping (**017**) and rubble infill (**018**). The drain was cut into a deposit (**019**), similar to subsoil deposit **008**, of depth 0.5m. This overlay an old ground surface or turf layer (**014**) (Fig. 6), of mid-dark brown-grey silt of depth 0.2m. This layer overlay natural subsoil (**002**) of mid-orange gravelly silt. The drain **015** had been constructed over **014**, but not cut into it.

Temporary Compound, Access Track and small electricity cable trench

- 3.2.8 An area c. 20m by 30m was stripped for the temporary compound, and a 4m wide strip was excavated for the access track. The electricity cable trench was c. 0.3m wide by 0.7-0.8m deep and extended along the south and eastern sides of Rhodders Farm (Fig. 7).
- 3.2.9 The temporary compound, access track and small electricity cable trench were located within fields containing rig-and-furrow (Site 210). No sub-surface remains of the furrows were identified and most topsoil stripping occurred at an oblique angle to the rigs which were only upstanding in these areas to a height of 0.1-0.15m and were not visible in section.
- 3.2.10 Deposits in this area consisted of 0.2-0.25m of topsoil (**001**) of mid grey-brown sandy silt. This overlay a hillwash/subsoil deposit (**010**) of mid orange-brown gravelly silt sand of depth 0.3-0.7m. Natural subsoil (**002**), where reached, was a compact mid-orange gravel. A ceramic drain was found in the western end of the cable trench (**013**).

4. CONCLUSION

- 4.1 A series of archaeological mitigation works were undertaken in advance of, and during, construction work for a grid connector cable at Rhodders Farm, Clackmannanshire, linking Burnfoot Hill Windfarm to the National Grid. Several sites of cultural heritage significance had been identified along the route of the cable and mitigation work involved a photographic survey, erection of barrier fencing around the sites and toolbox talks for construction staff on-site. During this work a new site was identified (site 211) consisting of a turf bank field boundary of probable post-medieval date.
- 4.2 The cable route followed the line of an existing trackway that had largely been terraced into bedrock. A watching brief was undertaken along points of the route that had not been as affected by the construction of the track, and in areas where known sites were adjacent to the route. Further mitigation involved an archaeological watching brief during work for site access, a temporary compound, switching station and electricity cable.
- 4.3 No features of archaeological significance were identified. Deposits encountered generally consisted of topsoil over hillwash/subsoil deposits onto a gravel natural. Two segments of a stone-lined rubble field drain (**004/015**) were encountered during excavation for the switching station. An old ground surface/turf line was encountered on the eastern part of the switching station and at various points along the grid connector cable route.
- 4.4 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 Clackmannanshire Council Sites and Monuments Record.
- 4.5 A summary statement of the results of this evaluation will be submitted for publication in *Discovery and Excavation in Scotland* (Appendix 6) and the project will be recorded via the OASIS protocol.

5. REFERENCES

Burnfoot Hill Wind Farm Grid Connection Environmental Report. Volume 1 Environmental Report Main Text 2009.

APPENDIX 1 – GAZETTEER OF ARCHAEOLOGICAL SITES AND MONUMENTS WITHIN THE PROPOSED DEVELOPMENT AREA

No	Site name	Site type	Grid Reference	NMRS / SMR no	Source	Importance	Site description
201		Enclosure banks, track	NS 8915 9759		Field survey	Local	Field survey identified an 11m length of bank 1m wide and 0.4m high running between the present track and the woodland boundary fence with a narrow (1m wide) track on its north side leading into the woodland of Silver Glen and towards the silver mines. To the N of this bank there is a second possible bank adjacent to the present track and surmounted by a large tree which masks its form.
202	Silver Glen	Industrial, extractive	NS 892 976	NS89NE 55 / 1117.01 & 02	NMRS; SMR	Regional	The NMRS records extensive mineral extraction in Silver Glen, dating back to the late 17th century, when silver mining began to develop in the area (Butt 1967). The abandoned silver and cobalt mines near Alva are situated on the E side of the burn at the S end of the glen. The silver extracted from these mines helped to fund the Jacobite Rebellion of 1745 and the cobalt ore was used by porcelain manufacturers such as William Littler of Prestonpans in East Lothian, as a blue colouring agent. The National Museums of Scotland (NMS) has undertaken a programme of research and excavation in an attempt to safeguard the remains at this site. The programme, conducted in the 1990s, included excavating the old dumps by hand and by JCB. The mines are depicted on the OS 1st Edition 6-inch map (Perth & Clackmannan, sheet cxxxiii, 1857). The OS Name Book (Name Book 1867) notes that there were 'five mines that can still be easily seen'.
203		Buildings	NS 8900 9771		Field survey	Local	Field survey identified the remains of a terrace of four buildings lying on the S side of and parallel to the present track. The buildings are all 4m wide across turf covered stone walls c.1m wide and 0.5m high. The buildings measure 8m long, 10m long, 6m long and 8m long respectively from E to W. There are detectable entrances to the easternmost three buildings from a broad terrace to the S in the centre of their lengths. The westernmost building has a possible entrance in the SE corner of the S wall.

204	Silver Glen	Enclosure banks	NS 8912 9779 New coordinates: NS 89119 97773 at N side	NS89NE 33	NMRS; OS; Field survey	Local	<p>The NMRS records that oblique aerial photographs (RCAHMSAP 1981) show a roughly circular plantation bank situated on a terrace immediately to the W of the Silver Glen. The plantation is depicted on the OS 1st edition map (Perthshire and Clackmannanshire 1865-6, sheet CXXXIII).</p> <p>Field survey identified the partial remains of a circular bank 2m wide and 1m high straddling the present woodland boundary fence.</p>
205		Trackway, mining	NS 8912 9779 - NS 8909 9823		Field survey	Regional	<p>Field survey identified a narrow trackway leading uphill from site 204 and passing through a narrow defile, barely 1.2m wide, which appears to have been artificially created, perhaps by mining activities relating to the silver and cobalt mines (202). Beyond the narrow defile, the trackway is intermittently visible as a series of narrow, sinuous and braided tracks covering the ground between the woodland boundary fence and the present track.</p>
206		Boundary bank	NS 8909 9823	NS89NE 53 / 1115	NMRS; SMR; Field survey	Local	<p>Field survey identified a boundary bank up to 2m wide and 0.5m high running up slope to the W from the W side of the present track. The bank does not continue on the E side of the track where the ground drops steeply away down to the Silver Burn.</p>
207		Enclosure	NS 8910 9875		Field survey	Local	<p>Field survey identified the truncated remains of a two-compartment enclosure measuring c.65m N-S by 20m on the NE slopes of The Nebit, on the W side of the present track. The larger compartment measures c.38m N-S and the smaller southern compartment is c.15m N-S. The enclosure is truncated along its whole E side by the track.</p>
208		Enclosure bank	NS 8910 9890		Field survey	Local	<p>Field survey identified the remains of a boundary bank spread to 2m wide and 0.4m high curving around the contours on the NE slopes of The Nebit on the E side of the present track. The bank can be traced from NS 8910 9890 almost to the enclosure (207) at NN 8910 9875.</p>
209		Shepherd's cairn (possible)	NS 89272 02402		Field survey	Local	<p>Field survey identified the remains of a possible shepherd's cairn c.800m NW of the summit of Ben Buck and located at the edge of a small grassy plateau. The cairn is oval in plan, measures 3m long and 2m wide, and is 0.5m high.</p>
210		Rig and furrow cultivation	NS 9740 8890		APs	Local	<p>The faint outline of rig and furrow cultivation is visible on current aerial photographs available through flash earth</p>

211	Field Bank	NS 89087 98961 to NS 89078 98969	Field Survey	Local	<p>(http://www.flashearth.com/). Field survey identified the faint outline of rig and furrow remains within an area of improved pasture to the E of Rhodders Farm. The outline of the rig and furrow are aligned NE to SW. The rig and furrow cultivation is bounded to the north by the remains of a linear field bank.</p> <p>New site identified during photographic survey and fencing off to N of site 208. Turf bank measuring 3.5m wide by 0.4m high. It was traced for 14m up to the track on its NW side, where it is aligned NNW-SSE. On the SE side of the bank it is aligned NW-SE.</p>
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APPENDIX 2: Context Register

Context No.	Trench/Area	Description
001	All	Topsoil. Mid grey brown sandy silt with 20-30% stone inclusions
002	All	Natural subsoil. Mid orange brown-greyish pink silt gravels and gravelly clays to purple brown silty sand.
003	Switching Station	Subsoil/hillwash overlying drain [004]
004	Switching Station	Cut for stone-lined drain/culvert
005	Switching Station	Stone lining of drain [004]
006	Switching Station	Stone capping of drain [004]
007	Switching Station	Stone rubble infilling [004]
008	Switching Station	Subsoil into which [004] cut. Mid brownish orange gravelly silt
009	Cable duct	Voided stones in southern section of trench at west end. Possible rubble drain.
010	Cable duct	Subsoil/hillwash in which stones (009) sit. Mixed mid orange brown silty sand.
011	Cable duct	Main infill of pipe cut [013], mid-dark grey clay silt.
012	Cable duct	Upper fill of pipe cut [013], vestigial deposit of red blaise and crushed mortar.
013	Cable duct	Cut for old water/drainage pipe running along eastern part of trench.
014	Switching Station	Probable old turf layer. Mid-dark brownish grey and dark grey silt. Underlies (019).
015	Switching Station	Cut of stone-lined rubble drain, probable continuation of [004].
016	Switching Station	Stone coursing lining drain [015]. Probably same as (005).
017	Switching Station	Capping stones of drain [015]. Probably the same as (006).
018	Switching Station	Stone rubble infill of [015]. Probably the same as (007).
019	Switching Station	Subsoil/hillwash overlying (014). Mid brownish orange gravelly silt.
020	Grid Connector	Trackway surface, brown grey sandy-silt with metallised surface.
021	Grid connector	Trackway make-up. Reddish brown and grey brown sandy silt with medium angular inclusions.
022	Grid connector	Probable old turf-line. Dark black brown organic humic layer.
023	Grid connector	Subsoil/hillwash underlying (021). Mid orange brown silt sand
024	Grid connector	Bedrock.

APPENDIX 3: Photographic Register

Colour Slide Film 1

Shot	Contexts/Description	Taken from	Conditions
1	Registration shot	SE	O/C
2-3	Pre-ex shots of stone culvert [004]	NW	O/C
4-5	Pre-ex shots of stone culvert [004]	NW	O/C
6-7	Close-up shot showing stone capping and coursing (005) and (006)	SW	O/C
8-9	Close-up inner face of (005)	SW	O/C
10-11	Shot of SSW facing section showing drain [004] in section edge	NW	O/C
12-13	Plan view of stones (009) in cable duct	E	O/C
14-15	N facing section of stones (009)	N	O/C
16-17	Working shot of probable continuation of [004], drain [019]	S	O/C
18-19	Pre-ex shot of probable continuation of [004], drain [019]	S	O/C
20-25	SSW facing section of trench showing (014) from W-E	SSW	O/C

Colour Slide Film 2

Shot	Contexts/Description	Taken from	Conditions
1	Registration shot		O/C
2-3	SSW facing section of trench showing (014) at E end	SSW	O/C
4-5	WNW facing section of trench showing (014) and (016)	WNW	O/C

Digital

Field/Photo survey & fencing off sites

Shot	Contexts/Description	Taken from	Conditions
1-3	general views of the site from near the River Devon	SSW	O/C
4-6	General views of the trackway from the parking area at Rodders Farm	SW	O/C
7-10	Site 205 panorama from the 'defile' to the braided tracks	SE-N	O/C
11-12	Possible curvilinear bank between Site 205 and the present track	SSW	O/C
13	Proposed duct storage area at the top of the hill	SSW	O/C
14	Site 205 braided tracks from the top of the curvilinear bank	S	O/C
15-16	Site 206 visible on both sides of the track	NW & SE	O/C
17-19	General views of the track in the 2km to the N of Sites 207-8	Varied	O/C
20	General view of Sites 207-8	N	O/C
21	General view looking S from Site 206	N	O/C
22-23	The track at NS 89040 97905 showing the cut into bedrock and the bedrock surface	N & W	Sunny
24-25	General view up and down hill from the hairpin at NS 89008 97818 showing bedrock	W	O/C
26-28	General views downhill from hairpin at NS 89008 97818 inc Site 204	S-E	O/C
29	Southern extent of bedrock/boulders in track base from NS 88967 97739	W	O/C
30-33	Bedrock exposed up to and at hairpin at NS 89110 97815	E	O/C
34	Site 204 from the hairpin at NS 89110 97815	N	O/C
35-39	General views of Site 204	Varied	O/C
40	General view showing Site 204 on the right with the track top left	W	O/C
41-43	General views of Site 203 and the track	NW & W	O/C

Shot	Contexts/Description	Taken from	Conditions
44-45	General views of Site 203 and the track	E	O/C
46-47	General views of Site 201 and the track	N	O/C
48	General views of Site 201 and the track	NE	O/C
49-50	General views of Site 201 and the track	SW	O/C
51	Void		
52	General view from the on-site control building over the cable route	NE	O/C
53	As 52 from SW of the building	NE	O/C
54	From location of 53 looking NE to location of control building	SW	O/C
55-6	Looking NE downhill to location of the control building	SW	O/C
57-8	Fence line at NS 89727 01913. Aligned NNE-SSW. Iron & wooden posts	S	O/C
59-60	General views of the route on the N slopes of Ben Buck	NE/SW	O/C
61-2	General views of the route on the N slopes of Ben Buck	NE/SW	O/C
63-5	Final (southern) part of the re-route up to the existing track above Rhodders Farm	NE	O/C
66-69	Panorama from the top of the track	S-NE	O/C
70	View down the track	N	O/C
71	As 55-6	SW	O/C
72	Fence line at NS 90111 02156. Aligned E-W. Wooden posts	WSW	O/C
73-4	View SW from Hill 1 over the location of the on-site control building	NE	O/C
75-6	Site 211 to NW of the track	SSE	Bright
77	Site 211 to SE of the track	NNE	Bright
78-9	Site 211 after fences erected	N	Bright
80-1	Site 208. View of bank to E of the track	NNW	O/C
82	Site 208. View of bank to W of the track	SSE	O/C
83	Site 208. Site fenced to the W of the track	S	O/C
84	Site 208. Site fenced to the E of the track	N	O/C
85-6	Site 207. Continuation of the S end of the enclosure bank onto the E side of the track	N	O/C
87	Site 207. As 85-6	E	O/C
88-9	Site 207. The southernmost bank where it is cut by the track	E	O/C
90	Site 207 fenced, general view	NNE	O/C
91	Site 207, Southern end fenced	NE	O/C
92-3	Site 206, W side of track fenced	S & W	Sunny
94-6	Site 206, E side of track & N end of Site 205 fenced	W	Sunny
97	Site 205. View N over the site towards fenced Site 206 in distance	S	Sunny
98	Site 205. Fencing in place between the S end of the site and the duct storage area	N	Bright
99	Site 205. The 'defile' and the modern track above it	N	Sunny
100-2	Site 204. Fencing in place on the N (upslope) side with Site 203 beyond	N	Bright
103-4	Site 204. Fencing in place on the N (upslope) side	W	Sunny
105	Site 203. Fenced	WNW	Sunny

Watching Brief

Shot	Contexts/Description	Taken from	Conditions
1-5	General working shots showing stripping for track next to Rhodders Farm.	Various	O/C
6-9	Pre-ex of area for switching station	S	O/C
10-11	General shots showing soil stripping for switching station	N	O/C
12-13	Area for switching station following soil stripping	N	O/C
14-15	General shots of extra area of stripping for switching station	NE/N	Rain
16-17	Pre-ex shots of stone culvert [004]	SE	O/C

Shot	Contexts/Description	Taken from	Conditions
18-19	Pre-ex shots of stone culvert [004]	NW	O/C
20-21	Close-up showing capping stone and coursing (005) and (006)	NW	Rain
22-23	Close up showing inner face of stone coursing (005)	SW	O/C
24-25	Shot of SE section where drain [004] goes into trench edge	NW	O/C
26	Shot of drain [004] showing continuation in use by Waitings	SE	Rain
27	Shot of drain [004] showing continuation in use by Waitings	ESE	Rain
28-29	General shots of drain/excavation area	ESE	Rain
30-31	General shots of beginning of temporary compound area	WNW	Bright
32	General shot of W end of cable duct at Rhodders Farm	W	Sunny
33	Plan view of stones of possible rubble drain	E	Sunny
34-35	N facing section cable duct showing possible rubble drain	N	Sunny
36	General shot of cable duct, post-ex	W	Bright
37	General shot of (001) onto deposit (011)	S	Bright
38	General shot of E end of cable duct showing pipe running along in S facing section	WSW	Bright
39	General shot of extra area stripped for switching station	NE	Bright
40	General shot of trackway at second bend	ENE	Sunny
41	Shot of second anchor pit	NE	Sunny
42	General shot of trackway on 5 th bend	N	Sunny
43	General shot of anchor pit on 5 th bend	SSW	Sunny
44	Shot of base of modern wooden fence posts rotting in-situ	W	Sunny
45	Shot of concrete bases for metal poles	S	Sunny
46	General shot of continuation of cable duct	S	Sunny
47	Working shot of stone-lined rubble drain [015]	S	O/C
48	Working shot of stone-lined rubble drain [015]	S	O/C
49	Post-ex shot of NW terminal end of cable duct	NW	O/C
50-53	SSW facing section showing deposit (014), W-E	SSW	O/C
54	WNW facing section showing deposit (014) and (016)	WNW	O/C
55-57	General shots of area of [015] and [004] in background	S	O/C
58	General shot of area of [015]	E	O/C
59	Anchor pit 1 on 1 st hairpin bend	SE	O/C
60	Anchor pit 6 to north of site 206	SSW	O/C
61	Anchor pit 6 to north of site 206	SSE	O/C
62	Anchor pit 5 S of site 206	S	O/C
63	Anchor pit 3 to NE of site 203	SW	O/C
64	General shot showing location of anchor pit 3	SW	O/C
65	General shot of anchor pit 2	NE	Dull
66	General shot of anchor pit 1	SSE	Dull
67-68	General working shots	E	O/C
69-72	N facing section of cable trench	N	O/C
73-74	General working shots	E	O/C
75-76	S facing section of cable trench showing bedrock	S	Rain
77-78	General working shot showing trench progress	E	Rain
79	SW facing section of cable trench	SW	Rain
80	E facing section of cable trench showing trackway cut into natural	E	Rain
81-83	Shots showing trackway cut into hillside	SW	Rain
84-85	W facing section of cable trench	W	O/C
86	E facing section of cable trench	E	O/C
87-88	General working shots	NW/SW	O/C
89-90	General shots showing truncation caused by trackway	S	O/C
91	Shot showing trackway with truncated field boundary 206 in background	S	O/C
92	E facing section of truncated field boundary 206	E	O/C
93	General shot of trackway truncation into hillside	N	O/C
94-95	Shots showing trackway truncation of site 204 enclosure	SE/S	O/C
96	General shot showing trackway cut into hillside	S	O/C

Shot	Contexts/Description	Taken from	Conditions
97	Shot of trackway truncating site 208	W	O/C
98	General shot of trackway cut into hillside	S	O/C
99	S facing section of cable trench	S	O/C

APPENDIX 4: Drawing Register

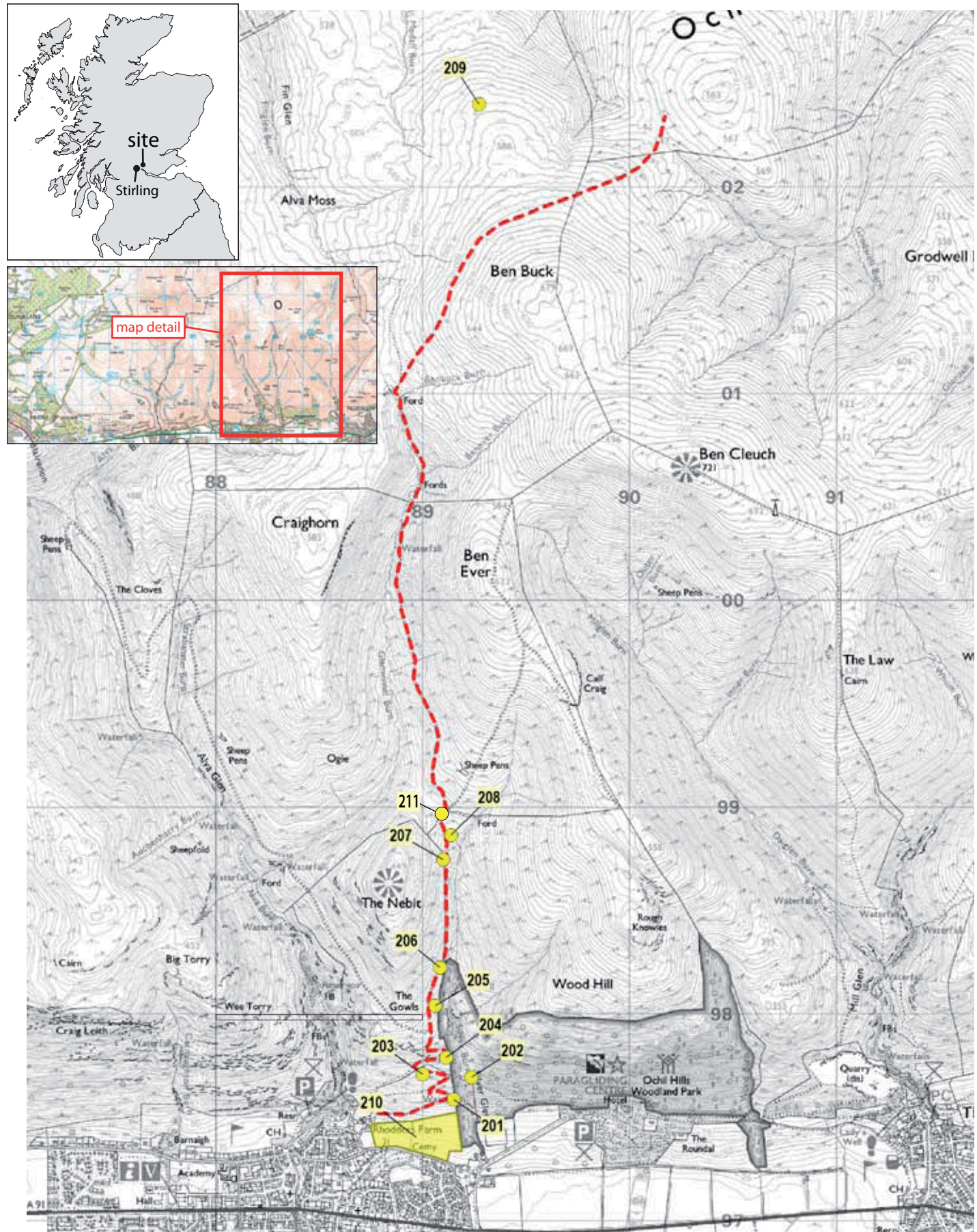
Dwg No.	Sheet No.	Contexts/Description	Plan/section	Scale
1	1	Pre-ex plan of culvert/drain [004]	P	1:20
2	1	SW facing section of inner face of (005)	S	1:10
3	1	NE facing section/profile of [004]	S	1:10
4	1	N facing section of W end of cable duct showing (009)	S	1:10
5	1	S facing section of W end of cable duct showing (009)	S	1:10
6	1	Plan of W end of cable duct showing (009)	P	1:20
7	1	W facing section of W end of cable duct trench	S	1:10
8	DB	S facing section of W end of cable duct trench	S	1:10
9	DB	Rough sketch showing [015] location	P	1:100
10	2	Plan of [015]	P	1:20
11	2	SSW facing of excavation for switching station showing old turf line (014)	S	1:20
12	2	WNW facing section showing (014) and (016)	S	1:10
13	DB	SW facing section of anchor pit 3	S	1:20
14	DB	S facing section of anchor pit 5	S	1:20
15	DB	SSW facing section of anchor pit 6	S	1:20
16	DB	NE facing section of anchor pit 2	S	1:20
17	DB	SE facing section of anchor pit 1	S	1:20

APPENDIX 5: Sample Register

Sample No.	Context No.	Sample Type	Volume (l)
1	014	Bulk	4

APPENDIX 6: Discovery and Excavation in Scotland Entry

LOCAL AUTHORITY:	Clackmannanshire
PROJECT TITLE/SITE NAME:	Burnfoot Hill Windfarm Grid Connector Route
PROJECT CODE:	MOBU3
PARISH:	Alva
NAME OF CONTRIBUTOR:	Helena Gray
NAME OF ORGANISATION:	CFA Archaeology Ltd
TYPE(S) OF PROJECT:	Archaeological works/mitigation measures
NMRS NO(S):	-
SITE/MONUMENT TYPE(S):	-
SIGNIFICANT FINDS:	None
NGR (2 letters, 6 figures)	NS 8878 9752
START DATE (this season)	May 2010
END DATE (this season)	July 2010
PREVIOUS WORK (incl. DES ref.)	None
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	<p>CFA Archaeology Ltd undertook a series of archaeological mitigation works in advance of, and during, construction work for a grid connector cable in Clackmannanshire for Burnfoot Hill Windfarm. Several sites of cultural heritage significance had been identified along the route of the cable and mitigation work involved a photographic survey and erection of barrier fencing around the sites. During this work a new site was identified consisting of a turf bank field boundary of probable post-medieval date.</p> <p>The cable route followed the line of an existing trackway that had largely been cut deeply into hillside bedrock. A watching brief was undertaken along points of the route that had not been as affected by the construction of the track, and in areas where known sites were adjacent to the route. Further mitigation involved an archaeological watching brief during work for site access, a temporary compound and switching station.</p> <p>No sites of archaeological significance were encountered during the watching brief, but work in the switching station area revealed two segments of a stone-lined drain with remains of coarse stone capping.</p>
PROPOSED FUTURE WORK:	Unknown
CAPTION(S) FOR ILLUSTRS:	
SPONSOR OR FUNDING BODY:	Wind Prospect Ltd
ADDRESS OF MAIN CONTRIBUTOR:	The Old Engine House, Eskmills Park, Musselburgh, East Lothian EH21 7PQ
EMAIL ADDRESS:	cfa@cfa-archaeology.co.uk
ARCHIVE LOCATION	The National Monuments Record of Scotland (NMRS) Stirling Council SMR



Key:

- Grid connector route
- Sites of cultural heritage

0 5km

Scale: 1:12500@A4

Fig. No: 1 Revision: Client: Wind Prospect Ltd

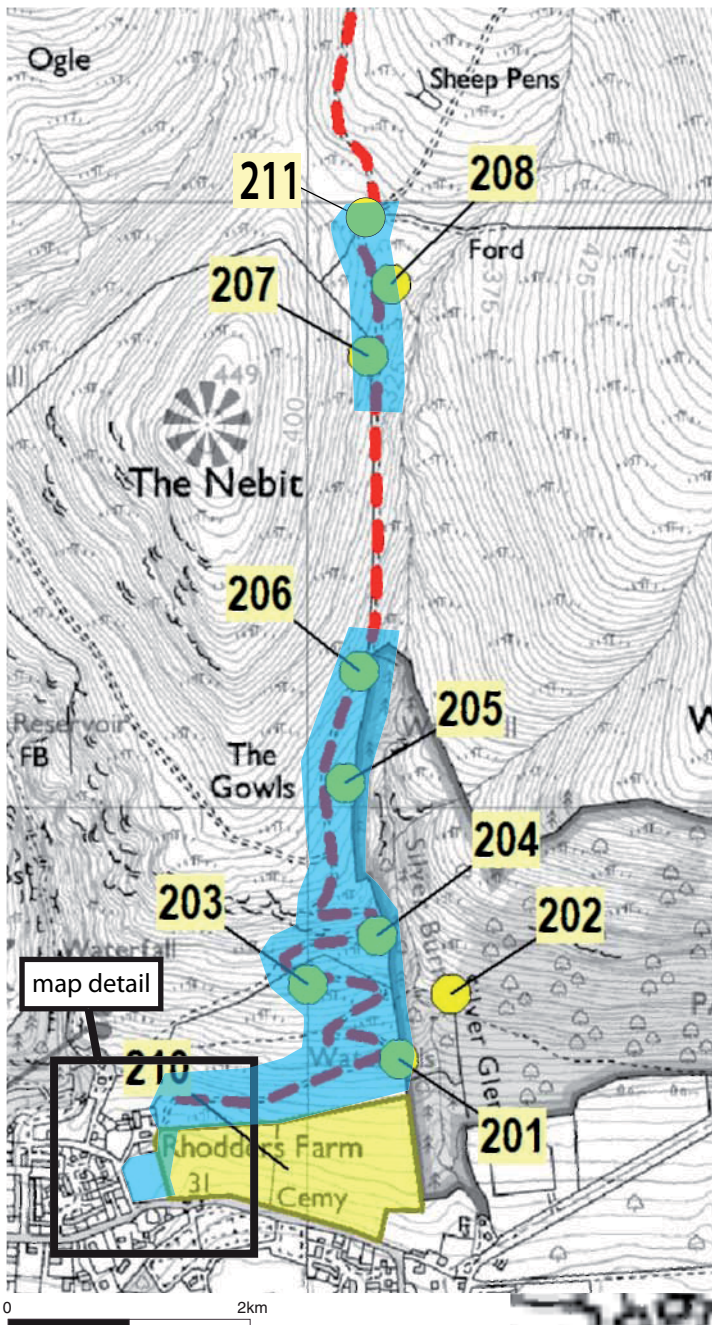
Title: Site location map showing grid connector route and associated cultural heritage sites

Project: Burnfoot Windfarm, Clackmannanshire: Grid connection route

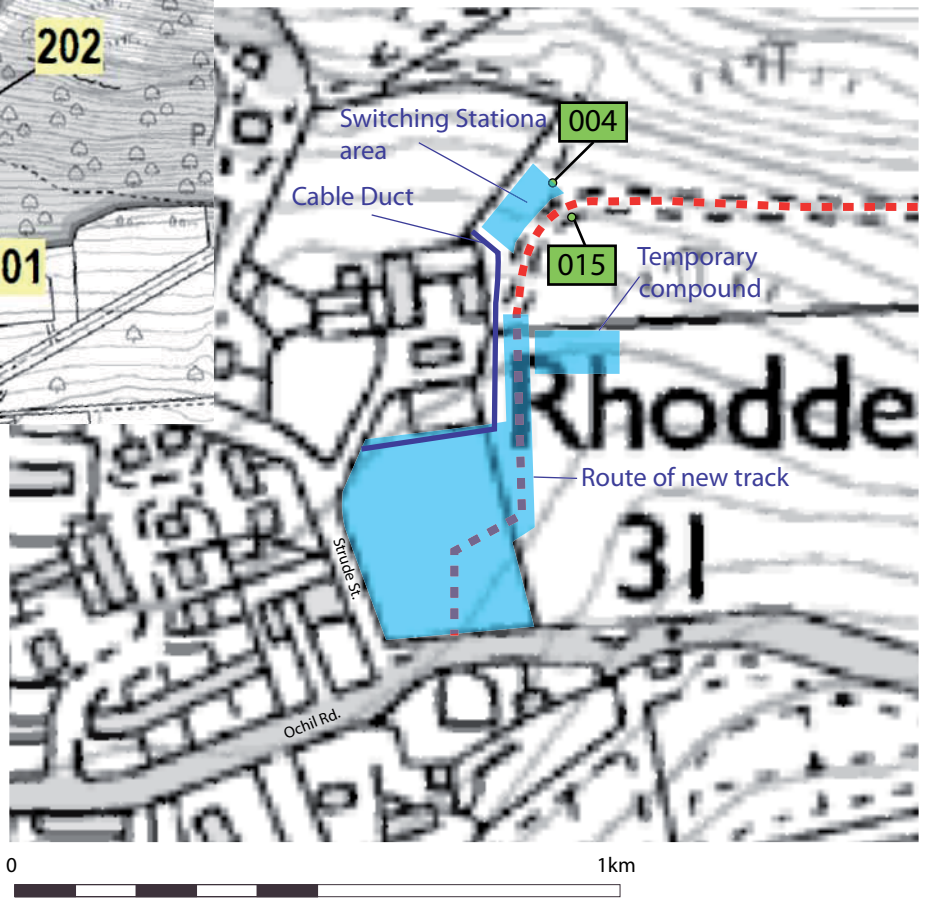
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w: www.cfa-archaeology.co.uk

Drawn by: GC Page No: Report No: 1786



map detail



Key:	Grid connector route	
	Sites of cultural heritage	
	Watching brief areas	
	Drains	
Scale:		

Fig. No:	2	Revision:		Client:	Wind Prospect Ltd
Title:	Detail of southern part of map showing areas monitored during watching brief				
Project:	Burnfoot Windfarm, Clackmannanshire: Grid connection route				

	CFA ARCHAEOLOGY LTD The Old Engine House Eskmills Park Musselburgh East Lothian, EH21 7PQ				
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Site 210 from SW



Site 205 from S



Site 201 from NE



Site 206 from NW



Site 203 from W



Site 207-8 from N



Site 204 from W



Site 211 from SSE

Key:

Scale:

Fig. No: **3**

Revision:

Client:

Wind Prospect Ltd

Title:

Shots of sites 210, 201, 203, 204, 205, 206, 211 and 207-8

Project:

Burnfoot Windfarm, Clackmannanshire: Grid connection route



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General shot of excavation of grid connection cable from NW



W facing section of cable trench through existing farm track


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	Project: Burnfoot Windfarm, Clackmannanshire: Grid connection route			
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General shot of area being stripped for switching station from N



Shot of stone lined culvert (004) from NW


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	Title:			
	Project: Burnfoot Windfarm, Clackmannanshire: Grid connection route			
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Shot of SSW facing section of part of switching station excavation showing layer (014)



Shot of stone lined culvert (015) from S

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	Title:			
Scale:	Project: Burnfoot Windfarm, Clackmannanshire: Grid connection route			Drawn by: GC
				Page No:
				Report No: 1786




General shot of excavation of access track from NW



General shot of topsoil stripping for temporary compound showing bases of modern fence posts



General shot of small electricity cable duct from W

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	Title:			
	Project: Burnfoot Windfarm, Clackmannanshire: Grid connection route			
Scale:	Drawn by: GC		Page No:	Report No: 1786