GUARD ARCHAEOLOGY





Kelburn Windfarm Archaeological Watching Brief Project 3134



Kelburn Windfarm

Archaeological Watching Brief

On behalf of:	Renewable Energy Systems Ltd
NGR:	NS 250 545
Project Number:	3134
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This document has been prepared in accordance with GUARD Archaeology Limited standard operating procedures.

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Figure 1: Site Location

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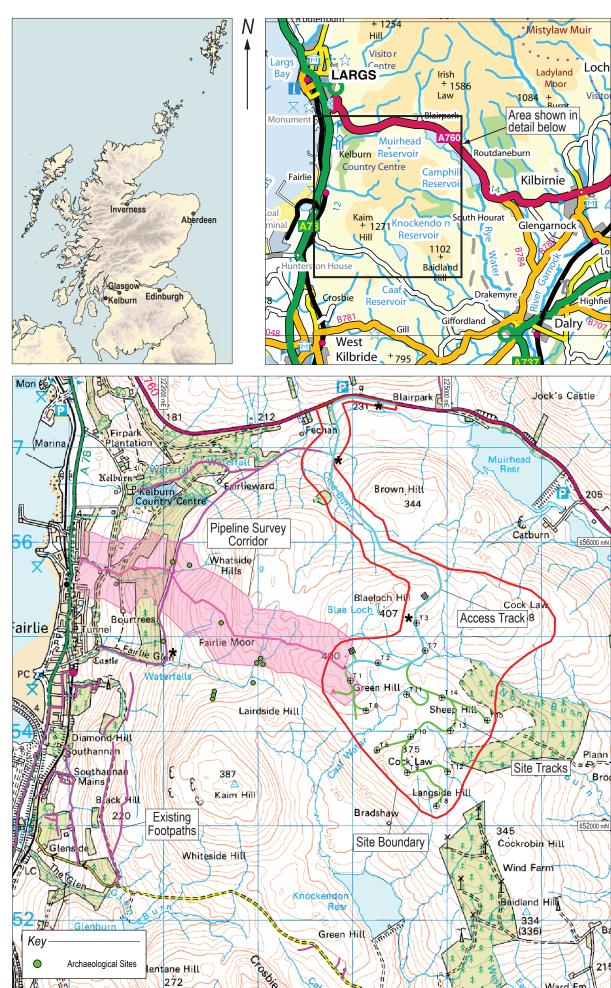


Figure 1:

Site Location

2_{km}



Executive Summary

1.1 GUARD Archaeology Limited were commissioned by Renewable Energy Systems Ltd to undertake an archaeological watching brief during the construction and excavation of access roads, turbine bases and other associated work at Kelburn Estate, North Ayrshire. This work was undertaken between May 2010 and August 2011 and revealed no new archaeological sites that had not previously been recognised during the course of the initial assessment (McLellan. 2004) and subsequent walkover survey of the site (Rennie 2009). This report also reports on the salvage excavation of two nineteenth grouse butts during the project.

Introduction

2.1 This report sets out the results of an archaeological watching brief undertaken by GUARD Archaeology limited, on behalf of Renewable Energy Systems Ltd on a site proposed for the construction and excavation of access roads and other associated construction at Kelburn Estate in North Ayrshire. During the course of the watching brief no new archaeological features where uncovered. GUARD Archaeology undertook this programme of work between May 2010 and August 2011.

Site Location, Topography and Geology

- 3.1 The proposed development at Kelburn, North Ayrshire (centred on NGR: NS 250 545) lies to the south-east of the town of Largs. The development took place on land that was refused planning permission (N/04/00786/PP) by North Ayrshire Council in 2004, but subsequently appealed and granted permission (PPA-31-159) by the Scottish Government's Directorate for Planning and Environmental Appeals (DPEA). The planning permission granted had the condition attached to it that necessitated the production of a mitigation plan for the site that included a WSI and avoidance proposals, as well as requiring this particular watching brief during all construction works.
- 3.2 The site itself lies mainly within the Kelburn Estate and is centred on Blaeloch Hill (NGR: NS 245 555). Much of the site is upland heath, containing areas of bracken, rough grazing and rock outcrops, and stretches of open moorland rising steeply to the summits of Blaeloch Hill, Cock Law, South Knowe, Brown Hill, Ward Hill, Sheep Hill, Green Hill, Meikle Green Law and Little Green Law. The northern-most portion of the site is a narrow section descending the northern side of Ward Hill to Kelburn Glen.
- 3.3 The underlying drift geology consists of Devensian Till with patches of peat. The solid geology at the west of the area surveyed consists of sandstone formations of Late Devonian age; to the east of Whatside hills the solid geology is Clyde Plateau Volcanic Formation of Asbian to Chadian Age (Geology Digimap)

Archaeological Background

Prehistoric Remains

4.1 Although several prehistoric ritual sites are known in the locales of Fairlie and Largs and on the hills to the east of the wind farm site (McLellan. 2004), none of these are within 300m of either of the proposed routes covered by this piece of work. Similarly, no prehistoric artefacts have been found within the corridor of the underground cable route.

Early Historic and Medieval Remains

4.2 No early historic or Medieval remains are known within the range of the field inspection. The fifteenth century tower house, Fairlie Castle (NMRS NS25SW 1), is situated close to the existing footpath through Fairlie Glen, but is not affected by the proposed footpath development. It is a Scheduled Ancient Monument and a B-listed building.



Post-Medieval Remains

4.3 A search of the National Monuments Record for Scotland (NMRS) on-line database, Canmore, and the on-line local Sites and Monuments Record (SMR) found that the remains of two post-medieval structures lie within the development area. These buildings are neither Scheduled Ancient Monuments nor listed buildings, and no artefacts are associated with them.

Aims and Objectives

- 5.1 The general aim of the watching brief was to identify any archaeological features encountered and record them fully. The specific objectives were:
 - Establish the presence or absence of any archaeological remains within the development area,
 - Determine the character, extent and significance of any archaeological deposits encountered,
 - Fully excavate and salvage any information possible from any significant features encountered.
- 5.2 To maintain a series of buffer zones around previously known archaeological sites and prevent damage or disturbance to these during the phase of construction work.

Methodology

- 6.1 The methodology for conducting the watching brief was developed within mitigation plan that included a WSI for agreement with the Planning Authority (Atkinson 2010).
- 6.2 Topsoil was stripped using a mechanical excavator, fitted with a flat-bladed ditching bucket, under close archaeological supervision. The topsoil was removed in spits to the surface of the subsoil. All on-site recording, written, drawn and photographic, was to the standards normally pertaining in archaeological fieldwork. No new archaeological features where uncovered during this process and no detailed recording was needed.
- 6.3 Conditions for the watching brief included the introduction of a number of buffer zones around existing archaeological sites found in the original assessment. Those of immediate interest situated close to the ongoing construction work. The sites directly impacted by the immediate construction are listed in the table below:

Site Number	Description	NGR	Proposed Mitigation Measure
2	Sheepfold	223570 656830	Maintain 20m buffer zone around site
3	Enclosure; sheepfold	223600 656760	Maintain 20m buffer zone around site
6	Field boundary	223570 656830	Maintain 20m buffer zone around site
8	Plane Crash Site	224059 654990	Maintain 100m buffer zone around site
9	Boundary Cairn	224564 655518	Maintain 20m buffer zone around site
11	Boundary cairn	223915 654791	Maintain 20m buffer zone around site
12	Grouse butts	225418 654156 to 225740 654101	Maintain 20m buffer zone around grouse butt
16	Boundary cairn	224582 653501	Maintain 20m buffer zone around site
18	Oval Structure	222610 655150	Maintain 20m buffer zone around site
21	Sheepfold	224123 655947	Maintain 20m buffer zone around site



Results

- 7.1 The initial stripping of top soil was split into two separate sites. Site 1 was the access road itself and associated work with the turbine bases. This was accessed from the entrance to the main site along the A760. The second area was Site 2, this was the excavation of cable track and substation accessed through Fairlie and the entrance to Kelburn Country Park.
- 7.2 The initial stripping commenced with Site 1. From the outset, peat of varying depth was uncovered during the stripping process. The initial access encountered thick peat varying from 2.5 m at its deepest (alongside the A760) lying directly on top of soft brown clay. No archaeology was found during this work with the only find of possible significance was a small clay "ginger beer" bottle found in the immediate topsoil.
- 7.3 As the topsoil strip reached the lower slopes of Brown hill, here the peat became increasingly shallow as it hit the high bedrock, however due to the undulating nature of this; it still contained pockets of deep peat. The peat encountered up slope appeared completely sterile and contained nothing of archaeological interest. At some areas the peat itself was extremely waterlogged, due to the nature of the drainage up-slope and the direction of the track through the landscape. In some sections it would have been extremely difficult if not impossible to discern any evidence of archaeological material due to these conditions
- 7.4 On the initial approach to the hillside, it was clear that archaeological sites 2, 3 and 6 (indicated on the site plan), sheep fold, field boundary and enclosure appeared well out of range of the construction area itself, over 500 m away. A small valley (Clee Burn) separated these from the immediate area of work. No further action was necessary to protect this from any potential impact from construction.
- 7.5 Again, as the track skirted round the eastern side of Blaeloch Hill, the archaeological site numbered 21 (indicated on the site plan) a sheepfold, was clearly visible from distance. Due to the nature of the "floating road" at this point no necessary action was needed to protect this structure as no major excavation was undertaken for the road itself. The only work undertaken in this immediate area included a number of drainage ditches and settling ponds.
- 7.6 The boundary cairn White Knowes (indicated as archaeological site number 9 on the plan) was also highly visible upslope from the road itself. The original site of the compound was initially planned to be situated to the east and down slope of this cairn, however the agreed location of this construction had to be changed and it was re-sited adjacent to the substation near Turbine 1. No action again needed to be taken to protect this cairn from any work.
- 7.7 One of the main concerns was over the World War II plane crash site (indicated as site number 8 on the site plan) and the proximity of the "borrow pit" to the 100 m buffer zone. The potential for outlying wreckage was of some concern. However the plan to utilise this borrow pit was reevaluated and thus, was it was eventually not opened. No further action was needed to protect this site buffer from any construction work.
- 7.8 The relocation of the compound area to the substation site near to Turbine 1, had no direct impact on any of the archaeological sites listed. Its proximity to the cairn archaeological site number 11 on the site plan, did not pose any immediate problem as the cairn itself was upslope on Green Hill and was 300-400 m away from any of the construction work.
- 7.9 Much of the excavation of the track between Blaeloch Hill and Sheep Hill encountered peat of varying depth. The nature of the valley allowed the accumulation of peat 3-4 m in depth at some points. This peat was very waterlogged in some areas and it was extremely difficult, if not impossible to discern any archaeological data from its excavation.
- 7.10 The cairn located to the South of Turbine 9 appeared to be an area of exposed bedrock; this was on an area of prominent high ground. The excavations of the turbine base and hard standing took place well out with the designated 20 m buffer zone and again no further action was needed to protect this from any of the construction works.



- 7.11 The cairn found during works to the south-east of Turbine 14 on the top of Sheep Hill initially caused some problems. This was not picked up on the original Archaeological Assessment in 2003 possibly due to the height of vegetation at the time. The original path of the track passed within 1 m of the cairn itself, and the plans had to be revised, altering the track, thus introducing a larger buffer zone to protect this. A 15 m buffer was introduced to protect this cairn, as the road passed quite near to the area. No disturbance was caused to the cairn or immediate location during works and no further action was required.
- 7.12 The track leading towards the location of the Grouse Butts (site 12 indicated on the site plan), contained very shallow peat up to 0.3 m in most places. The existing remains of the grouse butts had been left in extremely degraded conditions. Due to the nature of the exposure on the hillside many had decayed and had collapsed. The decision was taken to excavate the north western grouse butt, as it was in the worst state of repair and had no upstanding elements left within it. During the excavation, the vegetation and peat where removed by hand exposing sterile subsoil below. Nothing of archaeological significance was uncovered during the stripping of the immediate area surrounding this, and the scattering of collapsed wood was documented and recorded. The decision was also taken to draw and record the grouse butt located due east of this original excavated grouse butt. This was located on the tree line of the plantation and subsequently removed later. It was also in a degraded condition, but remained intact during the felling of trees. This was again left preserved in situ with the rest of the upstanding grouse butts.
- 7.13 The area of site 2 was accessed through Kelburn Country Park Estate. This was the excavation of the cable track from the substation at the top of Green Hill, to the North of Turbine 1. This originally started down at the tree line near the base of Whatside Hill. A number of potential archaeological sites where noted in the original archaeological assessment. The potential oval structure (listed as site 18 on the site plan) was the only site indicated where any potential construction work could possibly impact. A 20 m buffer zone was implemented and although visible on the ground during excavation of the track, a significant distance was maintained during work and no further action was required. The excavation of the track itself uncovered undulating high bedrock and peat the full distance up slope ranging from 0.2 m to 0.8 m in depth. Much of this was sterile, with the vast length of the Fairlie Moor section of track, extremely waterlogged and providing extremely difficult conditions. At the top of the cable track, there was more than sufficient distance between the excavation works and the cairn (indicated as site 11 on the location map).
- 7.14 The phase of works below the tree line in Kelburn Country Park itself included the clearing of the lower substation. This included a section of cable track through the recently deforested area down to the substation to the east of A78. Nothing of archaeological interest was uncovered during the stripping of this section and no known archaeological site where impacted on during the works.

Discussion

8.1 The extensive watching briefs identified no new sites within the line of the access tracks, turbine bases and sub-stations that formed the main part of the wind farm complex. Not did they discover any new sites within the underground cable track from Kelburn Park up to the site. The only site impacted upon was the north-western grouse butt which was already badly denuded. No significant remains were encountered in relation to this feature, which was removed by hand by the archaeological team.

Recommendations

9.1 The watching briefs have proved that no archaeologically sensitive deposits or features exist within the wind farm development area. In consequence, it is recommended that no further archaeological work is required.



9.2 GUARD Archaeology would stress that these recommendations are intended for guidance only. Final decisions on the nature and extent of any future archaeological work rest with the planning authority.

Acknowledgements

10.1 GUARD Archaeology would like to thank RES UK and Ireland Ltd, in particular Fergal Duffy, Paul Nicholson and Gary Scowther for their assistance. Administrative and technical support was provided by Jen Cochrane, Aileen Maule and John Kiely. The illustrations were produced by Gillian McSwan, who also desk top published this report. The project was managed for GUARD Archaeology by John Atkinson.



Kelburn Windfarm Archaeological Watching Brief

Section 2: Appendices



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Appendices

Appendix A: Bibliography

Atkinson, J 2010 *GUARD 3134:* Kelburn Wind Farm - Watching Brief *Method Statement*, unpublished document.

McLellan, K 2004 Kelburn Wind Farm: Archaeological Assessment, GUARD report no. 1778, Glasgow.

Rennie, C 2009 Kelburn Wind Farm: Phases 2 & 3, GUARD report no. 2838, Glasgow.

Appendix B: List of Context

Context No.	Area	Description	Interpretation
001	Site 1 Area A	Loose dark brown silt	Topsoil
002	Site 1 Area A	Soft dark brown/black silt	Peat Deposit
003	Site 1 Area A	Light bown, sandy clay deposit	Sand/Clay Deposit
004	Site 1 Area A	Soft grey clay	Clay deposit
005	Site 1 Area A	Hard grey rock	Bedrock
006	Site 2 Area D	Linear Drystone Wall	Field Boundary
007	Site 2 Area D	Stone wall - collapsed	Collapsed wall section
008	Site 2 Area D	Loose brown silt	Topsoil
009	Site 2 Area D	Loose black/brown peat	Peat Deposit
010	Site 2 Area D	Grey - brown clay silt	Clay/silt deposit
011	Site 2 Area D	Grey hard stone	Bedrock
012	Site 2 Area Q	Loose light brown sandy silt	Topsoil
013	Site 2 Area Q	loose orange sand	Subsoil
014	Site 2 Area Q	Loose red/brown sand	Hillwash
015	Site 2 Area G	Wood remains	Grouse Butt remains

Appendix C: List of Finds

Find No.	Area	Context No.	No. of Pieces	Material	Description
1	Site 1 (Area G)	015	4	Metal	Nails - possibly modern
2	Site 1 (Area G)	015	2	Plastic	Unknown
3	Site 1 (Area A)	Gen	1	Clay bottle	Clay ginger beer bottle with stopper

Appendix D: List of Samples

Sample	A ====	Context	C:		Reason fo	r Samplin	g	Analization /Commonts	
No.	Area	No.	Size	Pot	Bone	Lithics	Botanics	Application/Comments	
1	Site 1 (Area G)	015	1 x L				Х	Natural Peat - possibly sterile	
2	Site 1 (Area G)	015	1 x L				Х	Sample of wood from grouse butts (Smaller fragments)	
3	Site 1 (Area G)	015	1 xL				Х	Sample of wood from grouse butts (Larger fragments)	

Appendix E: List of Drawings

Drawing No	. Area	Sheet No.	Subject	Scale
1	Site 1 (Area G)	1	Plan of destroyed Grouse Butt	1:20
2	Site 1 (Area G)	1	Plan of upstanding Grouse Butt	1:20



Appendix F: List of Photographs

Digital

Frame	Area	Context No.	Subject	Taken from
1	Site 1 (Area A)	Gen	Gen shot looking down road	W
2	Site 1 (Area A)	-	Gen shot looking down road	Е
3	Site 1 (Area A)	-	Shot looking into site from road	NE
4	Site 1 (Area A)	-	Section of Peat showing depth	S
5	Site 1 (Area A)	-	Section of Peat showing depth	Е
6	Site 1 (Area A)	-	Gen shot of area	Е
7	Site 1 (Area A)	-	Gen shot of area	Е
8	Site 1 (Area A)	-	Looking towards treeline - down proposed track	NE
9	Site 1 (Area A)	-	Completed initial compound area (Stripped)	N
10	Site 1 (Area A)	-	Completed initial compound area (Stripped)	N
11	Site 1 (Area A)	-	Gen shots of floating road	S
12	Site 1 (Area A)	-	Gen shots of floating road	W
13	Site 1 (Area A)	_	Gen shots of floating road	E
14	Site 1 (Area A)	_	Water pipe exposed	E
15	Site 1 (Crash site)	_	Wreckage of plane on hillside	N
16	Site 1 (Crash site)	-	Wreckage of plane on hillside	N
17	Site 1 (Crash site)	-	Wreckage from hillside	S
18	Site 1 (Crash site)		Wreckage from hillside Wreckage from hillside	E
	,	-	· · · · · · · · · · · · · · · · · · ·	
19	Site 1 (crash site)	-	Close up on engine	S
20	Site 1 (crash site)	-	Close up on engine	S
21	Site 1 (crash site)	-	Wreckage on outskirts	E -
22	Site 1 (crash site)	-	Wreckage on outskirts	E
23	Site 1 (crash site)	-	Close up of grafitti on wreckage	
24	Site 1 (crash site)	-	Wreckage Detail	W
25	Site 1 (crash site)	-	Wreckage Detail	S
26	Site 1 (crash site)	-	Wreckage Detail	S
27	Site 1 (crash site)	-	Wreckage Detail	S
28	Site 1 (crash site)	-	Wreckage from hillside	S
29	Site 1 (crash site)	-	Engine proximity to wreck	S
30	Site 1 (crash site)	-	Drainage ditch section	SW
31	Site 1 (Area P)	-	Drainage Ditch at side of road	SW
32	Site 1 (Area P)	-	Drainage ditch at side of road	SW
33	Site 1 (Area P)	-	Stripped area at Brown Hill	S
34	Site 1 (Area P)	-	Stripped area at Brown Hill	S
35	Site 1 (Area P)	-	Drainage ditch at Brown Hill	S
36	Site 2 (Area A)	-	Entrance to site beyond wall (stripped)	Е
37	Site 2 (Area A)	-	Shot looking up stipped access road	Е
38	Site 2 (Area A)	-	Ditch (drainage) dug without archaeologist present	W
39	Site 2 (Area B)	-	Cable trench (stripped)	E
40	Site 2 (Area B)	-	Cable trench (stripped)	E
41	Site 2 (Area B)	-	Cable trench (stripped)	E
42	Site 2 (Area B)	-	Gen Shot looking downhill at trench	E
43	Site 2 (Area B)	-	Gen shot of site from hillside	E
44	Site 2 (Area B)	-	Gen shot of site from hillside	E
45	Site 2 (Area C)	-	Small pile of stones from wall	S
45			Small pile of stones from wall	
	Site 2 (Area C)	-		E
47	Site 2 (Area C)	-	Small pile of stones from wall	S
48	Site 2 (Area C)	-	Small pile of stones from wall	E
49	Site 2 (Area C)	-	Small pile of stones from wall	S
50	Site 2 (Area C)	-	Drystone wall	S
51	Site 2 (Area C)	-	Drystone wall	N



Frame	Area	Context No.	Subject	Taken from
52	Site 2 (Area C)	-	Drystone wall	E
53	Site 2 (Area C)	-	Drystone wall	SE
54	Site 2 (Area C)	-	Trench cutting drystone wall	N
55	Site 2 (Area C)	-	Trench cutting drystone wall	N
56	Site 2 (Area C)	-	Cable trench (stripped)	W
57	Site 2 (Area C)	-	Working shots of stripping	NW
58	Site 1 (Area P)	-	Cut off ditch above road	S
59	Site 1 (Area P)	-	Road being cut through deep peat	W
60	Site 1 (Area P)	-	Section of peat cut with toothed bucket	N
61	Site 2 (Area D)	-	Cable trench (stripped)	E
62	Site 2 (Area D)	-	Section of shallow peat of cable trench	N
63	Site 2 (Area Q)	-	Shot of Stripped track	W
64	Site 2 (Area Q)	-	Stripped track through woodland area	Е
65	Site 2 (Area Q)	-	Stripped track through woodland area	S
66	Site 2 (Area Q)	_	Stripped track through woodland area	N
67	Site 2 (Area Q)	_	Stripped track through woodland area	S
68	Site 2 (Area Q)	_	Stripped track through woodland area	N
69	Site 2 (Area Q)	_	Stripped track through woodland area	S
70	Site 2 (Area D)	_	Cairn (site 11) from top of cable track	SW
71	Site 2 (Area D)	_	Detail of peat depth - SW of cairn 11	NE
72	Site 2 (Area D)	_	Working shot - SW of cairn 11	SW
73	Site 2 (Area D)	_	Working shot - SW of cairn 11	SE
73 74	Site 2 (Area D)		View of cairn from Trench - SW of cairn 11	SE
7 <u>4</u>				W
	Site 1 (Area P)	-	Working Shot	
76	Site 1 (Area P)	-	Working Shot	W
77	Site 1 (Area P)	-	Working Shot	W
78	Site 1 (Area P)	-	Excavated cut off ditch	E
79	Site 1 (Area P)	-	Section of cut off ditch	N
80	Site 1 (Area P)	-	Excavated cut off ditch	E
81	Site 1 (Area P)	-	Working shot showing excavation of ditch	NE
82	Site 1 (Area P)	-	Gen shot of cut off ditch	W
83	Site 1 (Area P)	-	Working shot showing depth of peat	NE
84	Site 1 (Area P)	-	Working shot showing depth of peat	NE
85	Site 1 (Area P)	-	Working shot showing depth of peat	NE
86	Site 1 (Area P)	-	Working shot showing depth of peat	NE
87	Site 2 (Area Q)	-	Service trench with ducts in situ	S
88	Site 2 (Area Q)	-	Detail of depth of service trench	W
89	Site 2 (Area Q)	-	Area during stripping	N
90	Site 2 (Area Q)	-	Area still to be stripped	W
91	Site 2 (Area Q)	-	During stripping	W
92	Site 2 (Area Q)	-	Section of stripped area	N
93	Site 2 (Area Q)	-	Section of stripped area	E
94	Site 1 (Area B)	Т3	General shot looking towards Turbine 3	NW
95	Site 1 (Area B)	T3	Waterlogged peat at track	N
96	Site 1 (Area C)	T7	Section at hardstanding at Turbine 7	NW
97	Site 1 (Area C)	T7	Showing peat/clay/rock at Turbine 7	SE
98	Site 1 (Area C)	T7	Section showing peat/silt caly/rock at T7	SE
99	Site 1 (Area C)	-	Gen shots of landscape	Е
100	Site 1 (Area C)	-	Gen shots of landscape	Е
101	Site 1 (Area C)	-	Gen shots of landscape	SW
102	Site 1 (Area C)	-	Gen shot of landscape	E
103	Site 1 (Area C)	_	Gen shot of landscape	E
104	Site 1 (Area C)	_	Gen shot of landscape	E
105	Site 1 (Area D)	_	Gen shot of landscape	W
100	Site 1 (Area D)	_	Gen shot looking back at T3 and T7	S



Frame	Area	Context No.	Subject	Taken from
107	Site 1 (Area D)	-	Neighbouring windfarm overlooking Dalry	N
108	Site 1 (Area D)	-	Neighbouring windfarm overlooking Dalry	N
109	Site 1 (Area H)	-	View of Arran from Sheep Hill	Е
110	Site 1 (Area O)	-	Gen shot of T11 access	SE
111	Site 1 (Area O)	-	Gen shot of T3 and T7	S
112	Site 1 (Area H)	-	Gen shot of whitelees windfarm	N
113	Site 1 (Area H)	-	Gen shot of Bute	Е
114	Site 1 (Area H)	-	Gen shot of Bute/Jura	Е
115	Site 1 (Area F)	-	Gen shots of two neighbouring windfarms	SE
116	Site 1 (Area C)	T3	Whitelees windfarm in mist	SW
117	Site 1 (Area C)	Т3	Whitelees windfarm in mist	SW
118	Site 1 (Area F)	T1	Shallow peat straight onto rock	NE
119	Site 1 (Area C)	T7	Deep peat cutting at T7	N
120	Site 1 (Area C)	T7	Deep peat cutting at T7	SW
121	Site 1 (Area F)	T1	Working shot of stripping)	SW
122	Site 1 (Area C)	T7	Detail of formation	Е
123	Site 1 (Area C)	T7	Gen shot of excavations	N
124	Site 1 (Area F)	_	Shot of neighbouring windfarm in mist	N
125	Site 1 (crash site)	_	Plane crash site - obscured by snow)	S
126	Site 1 (Area F)	_	Gen shot of fog banks towards arran	NE
127	Site 1 (Area F)	_	Windfarm to the south of site	N
128	Site 1 (Area F)		Cumbrae and south tip of Bute	E
129	Site 1 (Area F)	T1	Excavations at T1	SW
130		- 11	Ardrossan windfarm	N
131	Site 1 (Area F)	-	Ardrossan windfarm	N
131	Site 1 (Area F)			
	Site 1 (Area F)	-	Sunset towards Arran	NE
133	Site 1 (Area F)	-	Sunset towards Arran	NE S
134	Site 1 (Area F)	-	Moon to the North of site	
135	Site 1 (Area E)	-	Sunset towards Arran	NE
136	Site 1 (Area E)		Sunset towards Arran	NE
137	Site 1 (Area C)	T7	Post excavation	N
138	Site 1 (Area C)	T7	Post excavation shot of base	N
139	Site 1 (Area G)	T14	Section showing deep deposits	S
140	Site 1 (Area F)	T1	Section showing deep deposits	N
141	Site 1 (Area E)	Cairn	Shot of cairn near to main compuond	SE
142	Site 1 (Crash site)	-	General shots of wreckage	N
143	Site 1 (crash site)	-	General shots of wreckage	N
144	Site 1 (crash site)	-	General shots of wreckage	N
145	Site 1 (crash site)	-	General shots of wreckage	N
146	Site 1 (Area O)	Cairn	Cairn on high ground SE of junction of T11 track	NW
147	Site 1 (Area H)	Cairn	Cairn on high ground just after T14	N
148	Site 1 (Area G)	Grouse butt	View of grouse butt previously destroyed	W
149	Site 1 (Area G)	Grouse butt	View of grouse butt previously destroyed	S
150	Site 1 (Area G)	Grouse butt	Detail of existing post hole and wood remains	N
151	Site 1 (Area G)	Grouse butt	General shot of excavated area	SE
152	Site 1 (Area G)	Grouse butt	General shot of excavated area	NE
153	Site 1 (Area G)	Grouse butt	Detail of E - post hole	NW
154	Site 1 (Area G)	Grouse butt	Detail of W - post hole	NW
155	Site 1 (Area G)	Grouse butt	Section of peat	SE
156	Site 1 (Area G)	Grouse butt	Excavating grouse butt area	S
157	Site 1 (Area G)	Grouse butt	Excavating grouse butt area	S
158	Site 1 (Area G)	Grouse butt	Excavating grouse butt area	E
159	Site 1 (Area G)	Grouse butt	Excavating grouse butt area	E
160	Site 1 (Area G)	Grouse butt	Blade fingers area being excavated	SE
161	Site 1 (Area G)	Grouse butt	Blade fingers area being excavated	N



Frame	Area	Context No.	Subject	Taken from
162	Site 1 (Area G)	Grouse butt	Blade fingers area being excavated	N
163	Site 1 (Area G)	Grouse butt	Gen shot showing proximity to existing grouse butts	W
164	Site 1 (Area G)	Grouse butt	Excavated area for blade finger	NE
165	Site 1 (Area G)	Grouse butt	Working shot of excavating	NE
166	Site 2 (Area Q)	-	Stripping cable track area close to bottom substation	W
167	Site 2 (Area Q)	-	Stripping cable track area close to bottom substation	W
168	Site 2 (Area Q)	-	Stripping cable track area close to bottom substation	W
169	Site 2 (Area Q)	_	Stripping cable track area close to bottom substation	W
170	Site 2 (Area Q)	_	Stripping cable track area close to bottom substation	NW
171	Site 2 (Area Q)	_	Bottom substation area stripped	SE
172	Site 2 (Area Q)	_	Bottom substation area stripped	SE
173	Site 2 (Area Q)	_	Bottom substation area stripped	N
174	Site 2 (Area Q)	_	Bottom substation area stripped	N
175	Site 2 (Area Q)		Detail of section showing shallow peat depth	N
176	Site 2 (Area A)	-	Detail of track stripping through wall	NW
		-	,, , ,	
177	Site 2 (Area A)	-	Detail of track stripping through wall	NW
178	Site 2 (Area A)	-	Detail of access track stripped	SE
179	Site 2 (Area A)	-	Detail of access track stripped	SE
180	Site 2 (Area A)	-	Gen shot of view from track	E
181	Site 2 (Area A)	-	Gen shot of view from track	E
182	Site 2 (Area A)	-	Shot of cable track excavated	SE
183	Site 2 (Area A)	-	Detail of cable trench - stripped	NW
184	Site 2 (Area A)	-	Section of cable trench	SW
185	Site 2 (Area A)	-	Gen shot of machine doing the stripping	-
186	Site 2 (Area B)	-	Gen shot of view overlooking Kelburn	Е
187	Site 1 (Area A)	-	Gen shot of lifting of turbine can	-
188	Site 2 (Area B)	-	Gen shot of machine and terrain	W
189	Site 2 (Area B)	-	Gen shot of stripping	E
190	Site 2 (Area B)	-	Detail of cable trench - stripped	Е
191	Site 2 (Area B)	-	Gen shot of area B - looking towards Largs	SW
192	Site 2 (Area B)	-	Gen shot of area B - looking towards Largs	SW
193	Site 2 (Area B)	-	Detail of bedrock in cable track	SW
194	Site 2 (Area C)	-	Gen shot of tractor stuck in mud	-
195	Site 2 (Area C)	-	Gen shot of tractor stuck in mud	-
196	Site 1 (Area P)	-	Gen shot of machine stripping	S
197	Site 1 (Area P)	_	Gen shot of machine stripping	N
198	Site 1 (Area P)	_	Gen shot of cut off ditch	NE
199	Site 1 (Area P)	_	Shot of peat collapsing due to depth	NE
200	Site 2 (Area Q)	_	Shot of bottom half of cable track being stripped	W
201	Site 1 (Area O)	Cairn	Shot of cairn near to T14	SW
202	Site 1 (Area O)	Cairn	Shot of carring to 114 Shot of carring near to T14	S
202	Site 1 (Area K)	- Call II	Gen shot of machine	NE
203		-	Gen shots of machines working	
	Site 1 (Area K)			W
205	Site 1 (Area K) Site 1 (Area H)	- Cairn	Gen shots of machines working Shot of collapsed cairn near to split for T11 (SW side of	S
207	Site 1 /Area III	Caira	road)	c
207	Site 1 (Area H)	Cairn	Detail of collapsed cairn (SW side of road)	S
208	Site 1 (Area H)	Cairn	Detail of collapsed cairn (SW side of road)	S
209	Site 1 (Area H)	Cairn	Detail of collapsed cairn (SW side of road)	S
210	Site 1 (Area D)	-	General shot of site - with landrover	SW
211	Site 1 (Area L)	-	General shot of stripping showing depth of peat	S
212	Site 1 (Area L)	-	General shot of deep peat	S
213	Site 1 (Area P)	-	Shot of concrete pit dug	E
214	Site 1 (Area P)	-	Shot of concrete pit dug	E
215	Site 1 (Area L)	-	Shot of peat depth	W



Frame	Area	Context No.	Subject	Taken from
216	Site 1 (Area L)	-	Shot of peat depth	W
217	Site 1 (Area O)	-	Shot of peat depth	W
218	Site 1 (Area E)	-	General shot overlooking site	SW
219	Site 1 (Area H)	-	General shot showing depth of peat	S
220	Site 1 (Area H)	-	General shot showing depth of peat	S
221	Site 1 (Area C)	-	General shot in direction of plane crash site	SE
222	Site 1 (Area E)	-	General shot in direction of plane crash site	SE
223	Site 1 (Area F)	-	General shot looking towards millport	Е
224	Site 1 (Area H)	-	Drainage ditch being dug	W
225	Site 1 (Area O)	-	General shot of cairn at T14	NW
226	Site 1 (Area O)	-	General shot showing ground churned up	NW
227	Site 1 (Area O)	-	General shot showing ground churned up	NW
228	Site 1 (Area O)	-	General shot showing proximity to cairn	SE
229	Site 1 (Area C)	-	General shot showing crane blocking road	N
230	Site 1 (Area C)	-	General shot showing crane blocking road	N
231	Site 1 (Area C)	_	General shot showing crane blocking road	N
232	Site 1 (Area C)	_	General shot showing crane blocking road	N
233	Site 1 (Area C)	_	General shot showing crane blocking road	NW
234	Site 1 (Area C)	_	General shot showing crane blocking road	S
235	Site 1 (Area C)	_	General shot showing crane blocking road	S
236	Site 1 (Area C)	_	General shot showing crane blocking road	N
237	Site 1 (Area C)	_	General shot showing crane blocking road	N
238	Site 1 (Area F)	_	Stripped compound area	NE
239	Site 1 (Area F)	_	Stripped compound area	NE
240	Site 1 (Area J)		General shot of landrover and snow	N
241	Site 1 (Area J)	-	General shot of weather conditions	N
242	Site 1 (Area L)		General shot of floating road	SW
243	Site 1 (Area H)	-	General shot of road cutting	SE
243	Site 1 (Area L)	-		NE NE
244	, ,	-	General shots showing machines out of reach	NE
245	Site 1 (Area L)	-	General shots showing machines out of reach	N
	Site 1 (Area P)	-	General shot showing road widened	N
247	Site 1 (Area I)		General shot showing road widened	
248	Site 1 (Area L)	-	Shot of machine sunk in mud	S
249	Site 1 (Area L)	-	Shot of machine sunk in mud	
250	Site 1 (Area L)	-	Shot of machine sunk in mud	S
251	Site 1 (Area L)	-	Shot of machine sunk in mud	S
252	Site 1 (Area L)	-	Shot of machine sunk in mud	S
253	Site 1 (Area E)	-	Animal feed - near cairn	-
254	Site 1 (Area E)	-	Animal feed - near cairn	-
255	Site 1 (Area L)	-	General shots of water filled track	N
256	Site 1 (Area L)	-	General shots of water filled track	N
257	Site 1 (Area L)	-	General shots of water filled track	N
258	Site 1 (Area D)	-	General shot of machine sunk in peat)	S
259	Site 1 (Area C)	T7	Shot of hardstanding extended	N
260	Site 1 (Area H)	-	Stripping of the split at T9	N
261	Site 1 (Area H)	-	Stripping of the split at T9	N
262	Site 1 (Area H)	-	Detail of use of toothed bucket	N
263	Site 1 (Area H)	-	Area stripped without archaeologist (due to heath and safetey	N
264	Site 1 (Area L)	-	General shot of stripping of junction	SE
265	Site 1 (Area L)	-	General shot of stripping of junction	SE
266	Site 1 (Area A)	-	Settling ponds dug without archaeologist	SW
267	Site 1 (Area P)	-	Cut off ditch dug without archaeologist - breaking wire	Е
268	Site 1 (Area P)	-	Gen shot of mast - line cut by machine	E
269	Site 1 (Area N)	-	Detail of road churned up	NW



Frame	Area	Context No.	Subject	Taken from
270	Site 1 (Area E)	-	Detail of ducting at substation (top of hill)	Е
271	Site 1 (Area A)	-	Shot of puncture	-
272	Site 1 (Area G)	-	General shot of drainage being dug)	S
273	Site 1 (Area G)	-	General shot of drainage being dug)	S
274	Site 1 (Area G)	Grouse butt	Gen shot of grouse butts location	NW
275	Site 1 (Area G)	Grouse butt	Gen shot of grouse butts location	NW
276	Site 1 (Area G)	Grouse butt	Gen shot of grouse butts location	NW
277	Site 1 (Area G)	Grouse butt	Detail of destroyed grouse butt	NW
278	Site 1 (Area G)	Grouse butt	Detail of destroyed grouse butt	NW
279	Site 1 (Area G)	Grouse butt	Detail of destroyed grouse butt	NW
280	Site 1 (Area G)	-	Detail of sdestroyed grouse butt location	NW
281	Site 1 (Area G)	-	Detail of hard standing stripping	W
282	Site 1 (Area M)	-	Large tree root uncovered in peat	-
283	Site 1 (Area L)	-	Widening of fork in road)	NW
284	Site 1 (Area G)	-	General view of view from site	NW
285	Site 1 (Area O)	Cairn	View from cairn looking towards other windfarm	NW
286	Site 1 (Area G)	-	Detail of destroyed grouse butt	NW
287	Site 1 (Area G)	-	Detail of destroyed grouse butt - recovered wood	-
288	Site 1 (Area M)	-	Stripping of track	NW
289	Site 1 (Area M)	-	Stripping of track	NW
290	Site 1 (Area M)	-	Detail of depth of peat	SE
291	Site 1 (Area G)	Grouse butt	General shots of cleaned up grouse butt on tree line	N
292	Site 1 (Area G)	Grouse butt	General shots of cleaned up grouse butt on tree line	N
293	Site 1 (Area G)	Grouse butt	General shots of cleaned up grouse butt on tree line	W
294	Site 1 (Area G)	Grouse butt	General shots of cleaned up grouse butt on tree line	W
295	Site 1 (Area G)	Grouse butt	General shots of cleaned up grouse butt on tree line	S
296	Site 1 (Area G)	Grouse butt	General shots of cleaned up grouse butt on tree line	S
297	Site 1 (Area G)	Grouse butt	General shots of cleaned up grouse butt on tree line	W
298	Site 1 (Area G)	Grouse butt	General shots of cleaned up grouse butt on tree line	W
299	Site 1 (Area G)	Grouse butt	Discarded original grouse butt sections of wood	NE
300	Site 1 (Area G)	Grouse butt	Discarded original grouse butt sections of wood	NE
301	Site 1 (Area G)	Grouse butt	Detail of discarded wood	W
302	Site 1 (Area G)	Grouse butt	Detail of discarded wood	W
303	N/A	-	Detail of 4x4	-
304	N/A	_	Detail of 4x4	_
305	N/A	_	Detail of 4x4	_
306	N/A	_	Detail of 4x4	_
307	N/A	_	Detail of 4x4	_
308	N/A	_	Detail of 4x4	_
309	N/A	_	Detail of 4x4	_
310	N/A	_	Detail of 4x4	_
311	N/A	_	Detail of 4x4	_
312	N/A	_	Detail of 4x4	_
313	N/A	-	Detail of 4x4	_
314	N/A	_	Detail of 4x4	_
315	N/A	-	Detail of 4x4	_

Black and White

Frame	Area	Context No.	Subject	Taken from
1	Site 1 (Area A)	-	Shot of stripped area	NW
2	Site 1 (Area A)	-	Shot of stripped area	SE
3	ID SHOT	-	-	-
4	Site 1 (Area E)	Cairn	Shot of cairn near top compound	SE



Frame	Area	Context No.	Subject	Taken from
5	Site 1 (Area E)	Plane Crash	General shots of wreckage	N
6	Site 1 (Area E)	Plane Crash	General shots of wreckage	N
7	Site 1 (Area E)	Plane Crash	Detail of propeller section	GEN
8	Site 1 (Area E)	Plane Crash	Close up of wing section	GEN
9	Site 1 (Area E)	Plane Crash	Close up of larger section of wing	GEN
10	Site 1 (Area E)	Plane Crash	Shot of outer lying wreckage	GEN
11	Site 1 (Area E)	Plane Crash	Shot of wreckage	S
12	Site 1 (Area E)	Plane Crash	Shot of engine	N
13	Site 1 (Area E)	Plane Crash	Shot of wreckage	NE
14	Site 1 (Area O)	Cairn	Junction for track leading to T11	NW
15	Site 1 (Area O)	Cairn	Next to T14	N
16	Site 1 (Area G)	Grouse Butts	View of grouse butt (Destroyed)	W
17	Site 1 (Area G)	Grouse Butts	View of grouse butt (Destroyed)	S
18	Site 1 (Area G)	Grouse Butts	Detail of PH remains plus wood remains	N
19	Site 1 (Area G)	Grouse Butts	General shot of excavated area	SE
20	Site 1 (Area G)	Grouse Butts	General shot of excavated area	NE
21	Site 1 (Area G)	Grouse Butts	Detail of "E" post hole remains	NW
22	Site 1 (Area G)	Grouse Butts	Detail of "W" post hole remains	NW
23	Site 1 (Area G)	Grouse Butts	Section of peat	SE

Appendix G: DES

LOCAL AUTHORITY:	
PROJECT TITLE/SITE NAME:	
PROJECT CODE:	
PARISH:	
NAME OF CONTRIBUTOR(S):	
NAME OF ORGANISATION:	
TYPE(S) OF PROJECT:	
NMRS NO(S):	
SITE/MONUMENT TYPE(S):	
SIGNIFICANT FINDS:	
NGR (2 letters, 6 figures)	
START DATE (this season)	
END DATE (this season)	
PREVIOUS WORK (incl. DES ref.)	
MAIN (NARRATIVE)	
DESCRIPTION:	
(May include information from other fields)	
PROPOSED FUTURE WORK:	
SPONSOR OR FUNDING BODY:	
CAPTION(S) FOR ILLUSTRS:	
ADDRESS OF MAIN CONTRIBUTOR:	
EMAIL ADDRESS:	
ARCHIVE LOCATION	
(intended/deposited)	



Appendix H: Project Design/WSI

GUARD 3134: Kelburn Wind Farm - Watching Brief Method Statement

1.0 Introduction

This document sets out GUARD Archaeology's watching brief methodology. The watching brief strategy includes monitoring of all topsoil and peat removal during the construction works associated with Kelburn Wind Farm and any hand excavation and recording of archaeological features discovered during the project and demarcation of known archaeological sites within the site boundary.

On completion of the watching brief a report to data structures level and an accompanying post-excavation research design (PERD) and costing (if appropriate) will be submitted for agreement with RES Ltd and West of Scotland Archaeology Service (WoSAS). The PERD if produced would also outline arrangements for final publication of the site.

2.0 Aims and Objectives

The aims and objectives of the archaeological watching brief are as follows:

- demarcate and protect known locations of archaeological activity in line with the written scheme of investigation and archaeological mitigation plan;
- establish the presence or absence of any archaeological remains during all ground-breaking work;
- determine the character, extent and significance of any archaeological deposits encountered;
- excavate and salvage any information possible from any significant features encountered.

3.0 Methodology

The strategy to be employed during the watching brief will consist of the following:

- All ground breaking work will be monitored by an archaeological supervisor assisted, where necessary, by other archaeologists and under the overall guidance of a project manager.
- The number of archaeologists required during the watching brief programme will be dependent on the number of machines being used at any one time.
- The topsoil and peat deposits will be removed in spits to the first archaeological horizon or, where none is present, to the natural subsoil. Any archaeological features encountered will be cleaned by hand to determine the date of the deposits, their character and extent. Such features will be recorded by written description on *pro forma* recording sheets, by photograph and by measured drawing.
- Any significant archaeological features encountered will be dealt with by the on-site archaeologists. Should negative-cut features be encountered they will be 50% excavated in order to determine their significance, date and function. In the event that they are deemed to be important discoveries, they will be fully excavated. Recording will include pro forma sheets, drawings and photographs.
- Suitable down time, up to a maximum of four hours per significant feature, will be provided to the onsite archaeologists in order to fully recover any archaeological evidence encountered during the watching brief.
- All archaeological finds will be dealt with by the on-site archaeological team. The general practice will be
 to bulk recover all artefacts by context where they are discovered in the topsoil or peat layers. Should
 finds be encountered from stratified and sealed layers they will be three-dimensionally recorded prior to
 up-lifting.
- All excavated feature fills and horizons will be sampled for palaeo-environmental evidence. This may also include micromorphological sampling in order to address key issues on soil development.
- Representative sections will be recorded during the works to denote depth of topsoil and peat, any stratigraphy present and the nature of the soil. This information will be logged in the day book together with a sketch drawn to scale and a photographic record of deposits.



On completion of the watching brief phase of work, a report suitable for submission to the Planning Authority and the National Monuments Record for Scotland (NMRS) will be produced. This report will be accompanied by a post-excavation research design (PERD) and costing in order to bring the results forward for analysis and publication should this be required.

4.0 **Products**

The products of a programme of work will be:

- a preliminary data structure report, after completion of all fieldwork suitable for submission to the Planning Authority, the NMRS and the local Sites and Monuments Record.
- a brief summary of results of the fieldwork will be submitted to *Discovery and Excavation in Scotland*.
- Post-excavation and publication of the results of the watching brief within an academic journal, should this be warranted.
- Preparation and disposal of the site archive and finds.

5.0 Archive Arrangements

Once all fieldwork is completed, all materials from the programme of work will be prepared to the appropriate archive standard. GUARD Archaeology will undertake to deposit the resultant archive to the NMRS on completion of the report for publication.

All finds will be reported to the Treasure Trove Advisory Panel, and GUARD Archaeology will undertake to ensure their safe deposition within the designated museum at the appropriate time.

6.0 Timetable

The construction programme at Kelburn commenced on the 4 June 2010 and is expected to continue until July 2011.

7.0 Staffing

The programme of archaeological watching briefs will be conducted by experienced Field Officers from GUARD Archaeology. CVs for all individuals concerned can be made available on request.

8.0 Health and Safety and Insurance

8.1

All archaeological working practices will be subject to a risk assessment prior to commencement of the work where likely health and safety issues associated with the site can be highlighted.

8.2

GUARD Archaeology adheres to all standard Health and Safety regulations governing fieldwork projects. GUARD Archaeology also possess appropriate third party/public liability insurance cover, proof of which may be supplied upon request.

9.0 **Monitoring Procedures**

The construction programme at Kelburn will be internally monitored by John Atkinson, GUARD Archaeology's Managing Director.

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