Site Code: SBW02
Date: January 2007
Client: Falck/RDC Scotland Ltd

Kilbraur Wind Farm, Strath Brora, Highland.
An Archaeological Evaluation of a proposed borrow-pit; A Watching brief on the groundworks of an access road & the Survey of Sites 102, 103 and 104

PROJECT SUMMARY SHEET (SBW02)

Client	Falck/RDC Scotland Ltd
National Grid Reference	
Evaluation	NC 7700 0700 (Site centred)
Watching Brief	NC 76541 06097
Site 102	NC 77824 07058
Site 103	NC 81327 03479
Site 104	NC 81333 03556
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Schedule	
Fieldwork	18th –22th December 2006
Report	January 2007

Summary

This report presents the findings of an Archaeological Programme of Works for the construction of the Kilbraur Windfarm, Strath Brora. The fieldwork was undertaken between the 18th and 22nd of December 2006 and comprised a trial trench evaluation on the site of the proposed on-site borrow-pit; a watching brief on the groundworks associated with the construction of the access track; and the survey of three unrecorded archaeological sites.

The field evaluation entailed a 5% sample of the 2ha development area. Sixteen trenches were excavated, where ground conditions permitted, covering 832m². The trenches were excavated through varying depths of peat with the gleyed mineral soil reached at an average depth of 0.35m below the ground surface. Two features – the remains of two separate clearance cairns – were recorded within the south-eastern margins of the borrow-pit area. These may be associated with the prehistoric hut circles and field system (Sites 4 & 5) recorded to the south- east.

The watching-brief undertaken at the foot of the hill, where an existing hill-track meets the main Golspie Road, did not identify any archaeological finds or features.

Three new sites were recorded within the windfarm area.

KILBRAUR WIND FARM, STRATH BRORA
RESULTS OF AN ARCHAEOLOGICAL EVALUATION; WATCHING BRIEF & SURVEY

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1. INTRODUCTION

Headland Archaeology Ltd was commissioned by Falck/RDC Scotland Ltd. to undertake an ongoing programme of archaeological work during the construction of the Kilbraur Windfarm, Strath Brora. This report presents the results of a phase of these works, which comprised (i) a trial trench evaluation on the site of the proposed on-site borrow pit; (ii) a watching brief on the groundworks associated with the construction of the access track and (iii) the survey of three previously unrecorded sites. The fieldwork was carried out between the 18th and 22nd of December 2006 in very cold but dry weather conditions.

The project was undertaken in accordance with a specification prepared by the Highland Council Planning and Development Service, Archaeology Unit, and followed a method statement for the trial trench evaluation (Lowe 2006a) and the archaeological programme of works (Lowe 2006b). This report follows detailed reporting of the cultural heritage within the area of the windfarm (Dalland & Lowe 2005; Geddes 2006; Hatherley 2006; Robertson 2006).

2. OBJECTIVES

Trial Trench Evaluation

The area of the proposed on-site borrow-pit lies on a steep north-west facing slope and takes in part of a modern forestry plantation with the remaining ground area characterised by open heather moorland (Figure 1). The upper slope is fairly dry characterised by short heather, while the base of the slope and the area towards the north and west extent of the development area are dominated by rushes and sphagnum mosses attesting to the boggy conditions in these areas.

The development area lies in an area of archaeological potential. Immediately to the west of the development area there is a possible burnt mound (Site 3) and along the eastern margins there lies a large old settlement area marked by hut circles and cultivation remains, principally in the form of small field clearance cairns (Sites 4 & 5).

The primary objective of the field evaluation was to determine the presence or absence, quality, nature, extent and character of any archaeological remains within the area that may be associated with the prehistoric activity within the area. The results would be used to allow the client and local authority to make an informed decision regarding further mitigation works.

Watching Brief

The watching brief within this phase of the archaeological programme of works covers the initial stripping of an area to the west of Farlary, where the main Golspie Road meets an existing hill-track (Figure 4). The access track towards the turbines and sub-station utilises the existing hill-track for the construction of the access track only as far as the Allt Clais á Chait.

The objectives of the watching brief were to determine the presence or absence, quality, nature, extent and character of any archaeological remains within the areas of the intrusive groundworks that could be damaged or destroyed by this development. This work would be carried out with minimal delay or disruption to the development.

Survey of archaeological sites
The objective of the survey was to record and mark out three previously unrecorded archaeological sites. This would ensure that the detailed cultural heritage record of the windfarm area was maintained and that construction did not encroach upon these monuments.

Site 102 (Figure 2 & 4) lies next to a modern fence line running in a NW-SE direction alongside the current access track. It comprises a handful of possible clearance cairns, turf-covered stony mounds up to 3m across. Although the site lies outwith the construction footprint of the access track, the site will need to be marked out prior to construction of the access track.

Sites 103 and 104 (Figure 3 & 4) can be found in the Dunrobin Glen where the access track extends through a modern forestry plantation. Located outwith the original construction footprint, the sites were identified by the site ecologists. Site 103 is a curvilinear dyke crossed by the access track and Site 104 a walled enclosure.

3. METHODS

Trial Trench Evaluation
A sample of the area comprising 1000m^2, or 625m linear was to be excavated, equivalent to just over 5% of the available area of the 2ha development area. A 7 tonne mechanical tracked excavator with a 1.6m wide flat bladed ditching bucket was used to excavate the trenches under direct archaeological supervision. The stratigraphy of the trenches was recorded using the Headland Archaeology Ltd standard method with all recording undertaken on *pro forma* record sheets. Colour print and black & white photographs were taken. The layout of the trenches and any features within them was recorded using a Leica TCRA 705 total station and tied into the national grid.

As part of the evaluation a further turf-covered mound, possibly a clearance cairn, on the north-most slope was investigated (Figure 1). A 0.50m wide hand-dug slot through the mound was excavated and recorded.

Watching Brief
A walkover survey of the area to be stripped along the hill-track was carried out prior to any stripping being undertaken to ensure that the excavation did not encroach on any upstanding archaeological remains. A tracked mechanical excavator with a 2m wide flat-bladed ditching bucket was used to excavate the required areas under direct archaeological supervision.

Survey of archaeological sites
The location of the three sites (102, 103 & 104) was determined and mapped by handheld GPS. The structures were recorded by one point at either end; linear features were traced using a series of GPS points.

All sites were photographed, given a brief description, accompanied by a sketch showing the structures in relation to each other and landmarks such as fence lines and stream courses.

4. RESULTS

Trial Trench Evaluation

A walkover survey of the area was carried out prior to any trial trenching being undertaken to ensure that the evaluation did not encroach on any upstanding earthwork remains. There was no visible evidence of any field monuments within the study area; however small variations in the topography were noted and accordingly incorporated within the trenching plan. After consultation with the site ecologist we were advised not to place trenches in the wetter areas at the base of the slope or towards the north-eastern margins of the development area. This would ensure that springs in the area were avoided and with the spoil deposited upslope, runoff into the Allt Clais á Chait would be minimal. As a result of the wetter areas being left unexcavated some 105m of linear trenching out of the previously agreed 625m or 5% sample was not utilised.

Sixteen trenches of varying length were excavated. In summary two clearance cairns were recorded in two separate trenches. The trenches were excavated through differing depths of peat, varying between 0.25m on the drier upper slope and 1.15m in the lower wetter ground. All came down onto a yellow-brown mineral soil and an intermittent iron-pan over an orange-brown sandy silt with frequent boulders protruding from the bedrock. The bedrock was found at a shallow depth along the upper south-eastern slope.

The following summarises the results of the trenching. Further descriptions of trenches and features can be found in Appendix 1.

Trench 1

Orientated N-S, the trench had a length of 50m and an average peat depth of 0.65m.
A clearance cairn [002] was recorded extending into both the east and west edges of the trench. Slightly rounded, the cairn lies beneath 0.25m of peat and has a remaining length within the trench of 1.6m and a width of 1m. It is made up of frequent small to medium sub-angular stones and stone fragments with larger stones concentrated to the eastern edge of the cairn. The largest stone measures 0.75 by 0.40m by 0.20m.

Trench 2

Orientated NE-SW, the trench had a length of 40m and an average peat depth of 0.65m. The trench was excavated over a slight rise where the bedrock was found at a depth of 0.30m. No archaeological finds or features were recovered.

Trench 3

Orientated N-S, the trench had a length of 30m and an average peat depth of 0.65m. The trench was excavated along the margins of the drier ground. Towards the northern edge of the trench it extended into the wetter ground and here the peat reached a depth of 1.15m. No archaeological finds or features were recovered.

Trench 4

Orientated NE-SW, the trench had a length of 30m and an average peat depth of 0.40m. No archaeological finds or features were recovered.

Trench 5

Orientated NW-SE, the trench had a length of 30m and an average peat depth of 0.45m. No archaeological finds or features were recovered.

Trench 6
Orientated NNE-SSW, the trench had a length of 35m and an average peat depth of 0.35m. No archaeological finds or features were recovered.

Trench 7
Orientated NE-SW, the trench had a length of 30m and an average peat depth of 0.35m. At the SW end of the trench, the subsoil is a bright orange-brown sandy silt with the bedrock protruding at a depth of 0.25m whereas at the NE end there is a marked change to a lighter yellow-brown silt with few stones. No archaeological finds or features were recovered.

Trench 8
Orientated N-S, the trench had a length of 50m and an average peat depth of 0.30m. A clearance cairn [003] was recorded extending from the eastern trench edge. Sub-rounded in plan, the centre of the cairn lies beneath 0.14m of peat, while the outer edges of the cairn lie beneath 0.35m of peat. It has a length of 3m, a width within the trench of 1.6m and a remaining height of 0.34m. It is made up of frequent small to large sub-angular stones, with one very large stone located along the northern extent.

Trench 9
Orientated NW-SE, the trench had a length of 35m and an average peat depth of 0.40m. The trench was excavated over a slight rise, and here the peat reached a depth of 0.86m. No archaeological finds or features were recovered.

Trench 10
Orientated NW-SE, the trench had a length of 15m and an average peat depth of 0.35m. No archaeological finds or features were recovered.

Trench 11
Orientated E-W, the trench had a length of 15m and an average peat depth of 0.50m. No archaeological finds or features were recovered.

Trench 12
Orientated N-S, the trench had a length of 50m and an average peat depth of 0.30m. In some places an iron-pan is visible over the orange-brown sand forming a very compact surface. No archaeological finds or features were recovered.

Trench 13
Orientated NE-SW, the trench had a length of 20m and an average peat depth of 0.35m. No archaeological finds or features were recovered.

Trench 14
Orientated NW-SE, the trench had a length of 30m and an average peat depth of 0.35m. The trench was excavated along a ridge sloping down to boggy ground at the NW edge. Here the peat reached a depth of 0.70m. No archaeological finds or features were recovered.

Trench 15
Orientated E-W, the trench had a length of 30m and an average peat depth of 0.35m. No archaeological finds or features were recovered.

Trench 16
Orientated NE-SW, the trench had a length of 30m and an average peat depth of 0.35m. The trench was excavated over a slight rise towards the SW end where the bedrock was found at a depth of 0.25m. No archaeological finds or features were recovered.

Possible clearance cairn
The hand-dug slot through the possible clearance cairn identified a group of six medium to large sub-angular stones clustered around a small rocky outcrop. The larger stones lay beneath a very shallow depth of peat which varied between 0.05 and 0.10m.

Watching Brief
The stripping of the bank to the west of the existing hill-track was carried out in a north-south direction, extending from the burn towards the main Golspie Road. The area stripped had a length of 100m and a width of 40m. The peat was removed and came straight down onto the natural subsoil. On average the peat was 0.30m deep though towards the burn at the northern end the peat reached a depth of 0.80m. The subsoil was a yellow-orange sandy silt with frequent large boulders and shattered bedrock fragments. No archaeological finds or features were recovered.

Survey of archaeological sites
The location of all three new sites and their relationship to other cultural heritage sites within the windfarm area is shown in Figures 3 & 4. A description of each site is found below.

Site 102
A group of nine heather-covered mounds, typically 3m across and 0.4m high, are located either side of the post-and-wire fence at site centre NC 7780 0705 (Figure 2). The line of the present site access track (used for the earlier site investigations work) lies a few metres to the north. The line of the final access track – as intended for the windfarm itself – lies a few metres to the south.

No exposed stone is visible in any of the mounds and it is possible that they may be entirely natural or the result of relatively recent disturbance. There is no sign, for example, of contemporary settlement remains and nearest hut circle lies roughly 200m to the west at Site 5B.

Site 103
Situated at the base of a fairly steep knoll, the remains of a stone and turf dyke survive either side of the access track in a modern forestry plantation (Figure 3). Running in a general NE-SW direction, the dyke curves slightly towards the north-west around the knoll on the western side of the access track. On the eastern side of the access track the dyke can be seen extending in a north-easterly direction up a fairly steep slope towards a burn. In places the drainage ditches for the trees cut through the remains of the dyke. Where it is best preserved the dyke spreads to 2m wide at the base and 0.60m wide at the top and has an average height of 0.80m. There may be a possible entrance along the north-western extent where two arms of the dyke meet, though the remains are very fragmented here, having been disturbed by the forestry plantation. The dyke is overtopped by long heather and rushes.

Site 104
A large stone-walled enclosure is situated on a gentle SE facing slope above a tributary of the Golspie Burn (Figure 3). It consists of a rectangular building with a large square pen attached to its north-facing walls. The rectangular building measures 30m by 5m, with a possible entrance located along its south-facing wall, and a further entrance along its north-facing wall leading into the pen. The pen measures 32m by 16m and has an entrance located in the south-east corner between the two buildings. The walls are made up of large irregular boulders, though the cornerstones, or quoins are larger and better finished. The drystone walls are 0.70m wide and survive to a height of 0.60m. The interior ground is characterised by tufted grasses, and hummocks of mosses and the exterior ground by long, leggy heather. The walls are overtopped by rushes and sedges.

5. CONCLUSIONS

The trial trench evaluation identified the remains of two clearance cairns in two separate trenches on the upper north-eastern slope. The clearance cairns were found lying on top of the gleyed mineral soil horizon and were sealed beneath 0.15 to 0.25m of peat. Given their location, it is clear that the early field system, Site 5, situated to the east of the borrow-pit area extends further west into the development area.

The watching brief identified no archaeological finds or features.

6.REFERENCES

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7.ACKNOWLEDGMENTS

Headland would like to thank Site Ecologists Paul Young and Alan MacKintosh, for their assistance throughout the project.

APPENDIX 1: SITE REGISTERS

1.1 Trench Register

Trench No.	Description	Length (m)	Av. Depth (m)	Max. Depth (m)
1	A clearance cairn [002] extends into both edges of the trench. Slightly rounded, the cairn lies beneath 0.25m of peat and has a remaining width of 1m. It is made up of frequent small to medium sub-angular stones and stone fragments with larger stones rallied to the eastern edge. The largest stone measures 0.75 by 0.40m by 0.20m.	50	0.65	0.70m
2	No archaeological finds or features were recovered.	40	0.65	0.70
3	No archaeological finds or features were recovered.	30	0.65	1.10
4	No archaeological finds or features were recovered.	30	0.40	0.50
5	No archaeological finds or features were recovered.	30	0.45	0.50
6	No archaeological finds or features were recovered.	35	0.32	0.40
7	No archaeological finds or features were recovered.	30	0.35	0.35
8	A clearance cairn [003] extends from the eastern trench edge. Sub-rounded in plan, the centre of the cairn lies beneath 0.14m of peat, while the outer edges of the cairn lie beneath 0.35m of peat. It has a length of 3m, a width within the trench of 1.6m and a remaining height of 0.34m. It is made up of frequent small to large sub-angular stones, with one very large stone located along the northern extent.	50	0.30	0.65
9	No archaeological finds or features were recovered.	35	0.40	0.86
10	No archaeological finds or features were recovered.	15	0.35	0.40
11	No archaeological finds or features were recovered.	15	0.40	0.50
12	No archaeological finds or features were recovered.	50	0.30	0.35
13	No archaeological finds or features were recovered.	20	0.35	0.50
14	No archaeological finds or features were recovered.	30	0.35	0.70
15	No archaeological finds or features were recovered.	30	0.35	0.40
16	No archaeological finds or features were recovered.	30	0.30	0.50

1.2 Context Register

Context No.	Area	Description
001	All	Peat
002	Trench 1	Clearance Cairn
003	Trench 8	Clearance Cairn

1.3 Drawing Register

Drawing No.	Context No.	Description
1	002	Plan of clearance cairn [002] within Trench 1
2	003	Plan of clearance cairn [003] within Trench 8

1.4 Photographic Register

Colour Print & Black and White

Shot No.	Direction Facing	Description
1	/	Identity shot
2	SW	General view of Evaluation Trench 1
3	E	Close view of clearance cairn [002] within Evaluation Trench 1
4	W	Working shot showing clearance cairn [002] in its landscape setting
5	NW	General view of Evaluation Trench 2
6	W	General view of Evaluation Trench 3
7	E	General view of Evaluation Trench 4
8	NW	General view of Evaluation Trench 5
9	SW	General view of Evaluation Trench 6
10	NE	General view of Evaluation Trench 7
11	S	General view of Evaluation Trench 8
12	E	General view of Evaluation Trench 9
13	S	General view of Evaluation Trench 10
14	E	General view of Evaluation Trench 11
15	SW	General view of Evaluation Trench 12
16	NE	General view of Evaluation Trench 13
17	SE	Working shot showing the cleaning of clearance cairn [003]
18	NE	General view of Evaluation Trench 14
19	N	General view of Evaluation Trench 15
20	N	Close view of clearance cairn [003] within Evaluation Trench 8
21	S	Close view of clearance cairn [003] within Evaluation Trench 8
22	E	Close view of clearance cairn [003] within Evaluation Trench 8
23	NE	General view of Evaluation Trench 16
24	SE	Close view of slot through possible clearance cairn on north slope
25	NW	Close view of slot through possible clearance cairn on north slope
26	NE	Close view of slot through possible clearance cairn on north slope
27	NE	SW Facing Section through possible clearance cairn on north slope
28	NE	SW Facing Section through possible clearance cairn on north slope
29	E	Close view of slot through possible clearance cairn on north slope
30	S	General view of area stripped for the access road
31	SE	General view of area stripped for the access road

32	SE	General view of area stripped for the access road
33	SE	General view of area stripped for the access road
34	W	Working shot, showing machine stripping of access road
35	N	General view of area stripped for the access road
36	SW	General view of Site 103, showing the south-western length of the dyke
37	NE	General view of Site 103, showing the eastern edge of the dyke
38	W	General view of Site 103, showing the southern bank of the dyke
39	N	General view of Site 103, showing the western length of the dyke
40	NW	General view of Site 103, showing the western length of the dyke
41	NW	Close view of Site 103, showing the southern bank of the dyke
42	NE	General view of Site 103, showing the north-eastern length of the dyke
43	SW	Close view of Site 104, showing the southern rectangular building
44	E	Close view of Site 104, showing the southern rectangular building
45	W	Close view of Site 104, showing the southern rectangular building
46	W	Close view of Site 104, showing the southern rectangular building
47	W	Close view of Site 104, showing the pen extending from the north-facing wall
48	W	Close view of Site 104, showing the pen extending from the north-facing wall
49	SE	General view of Site 104 from the eastern extent to the western extent
50	SE	General view of Site 104 from the eastern extent to the western extent
51	SE	General view of Site 104 from the eastern extent to the western extent
52	SW	General view of Site 104 in its landscape setting

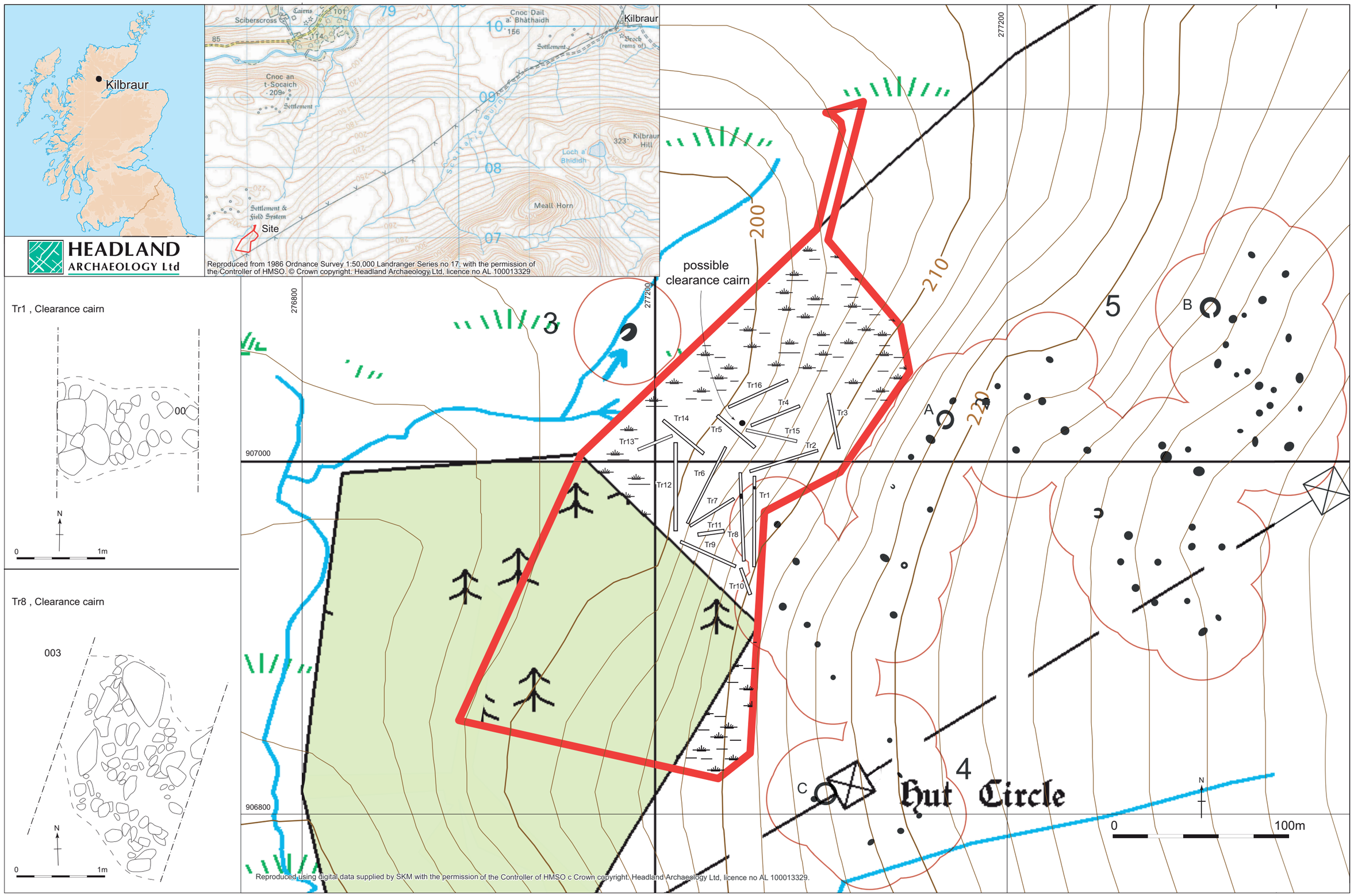

Figure 1 - Kilbraur Windfarm, site location showing trench plan and detail of clearance cairns 002 and 003

North west facing view of site 102

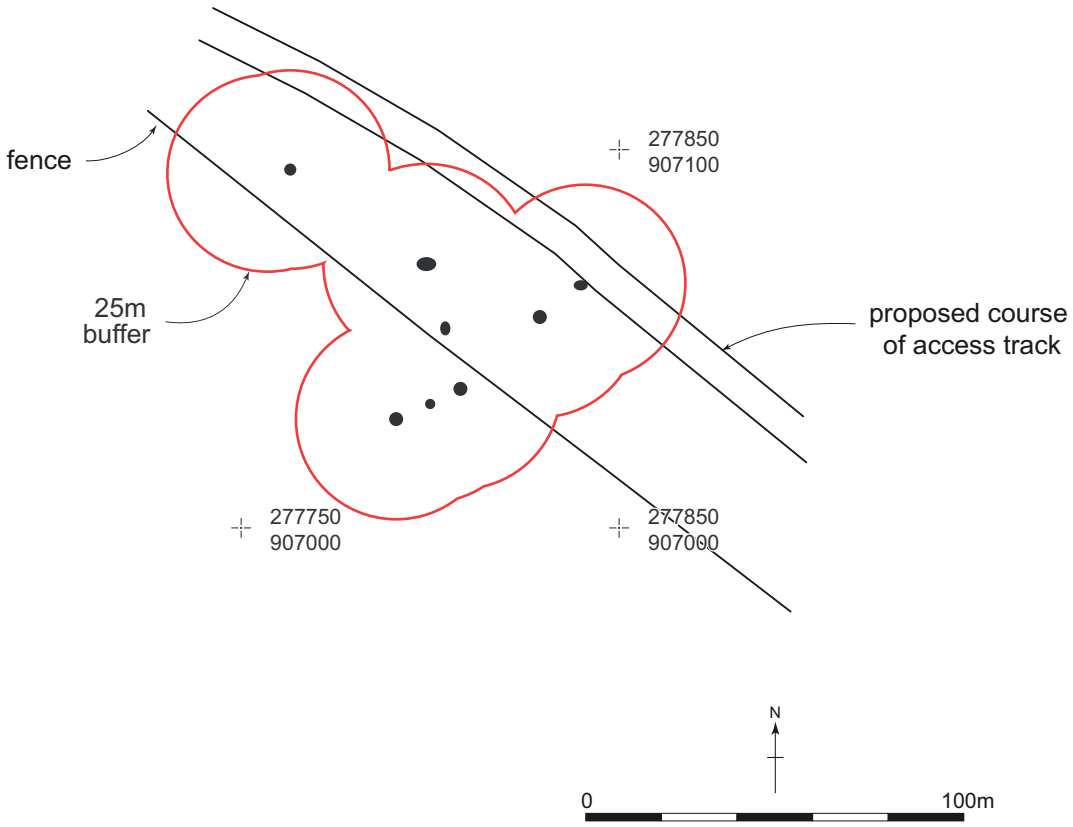

Figure 2: Sketch survey plan and plate showing site 102

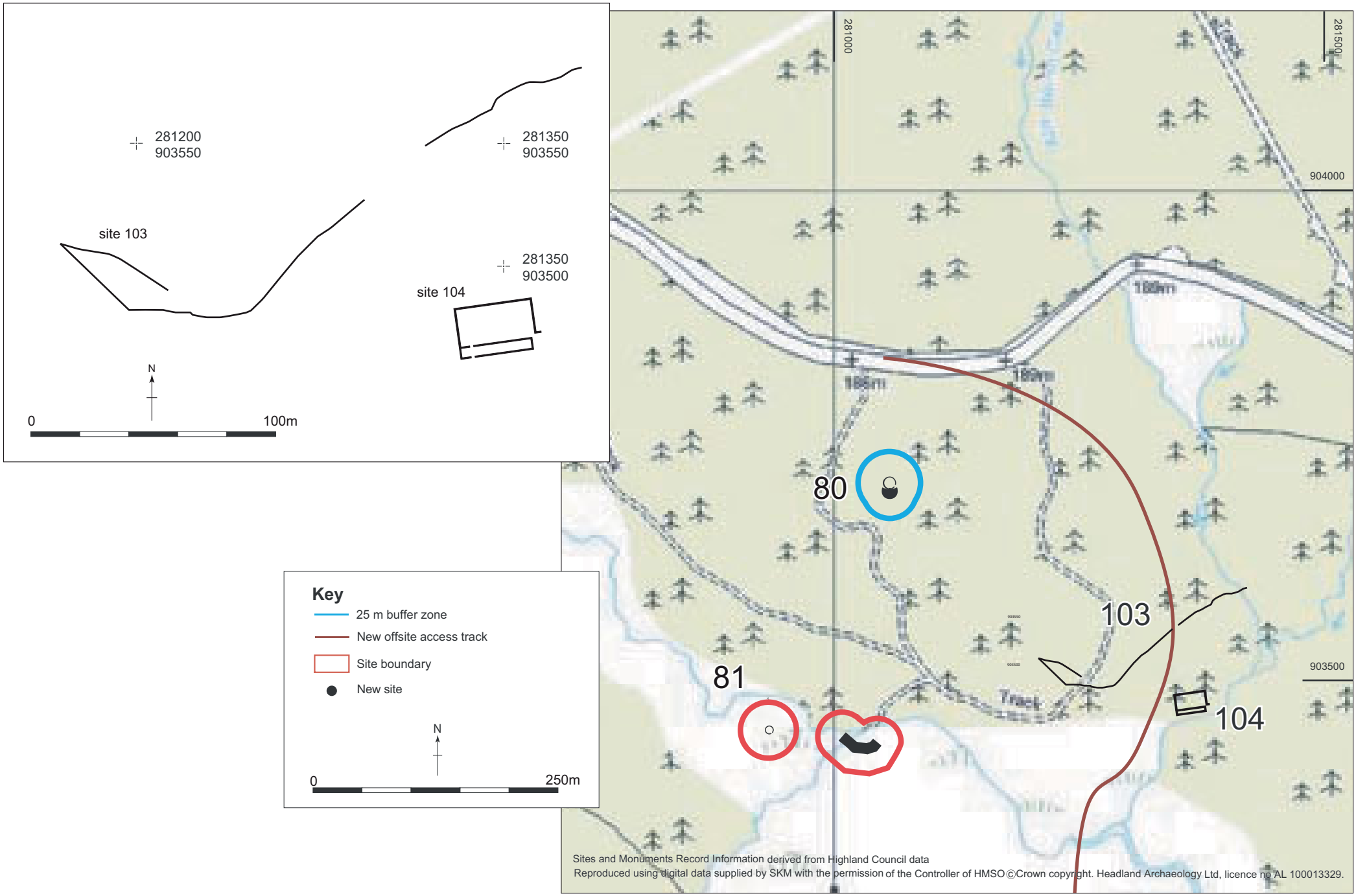

Figure 3: Survey plan showing sites 103 and 104

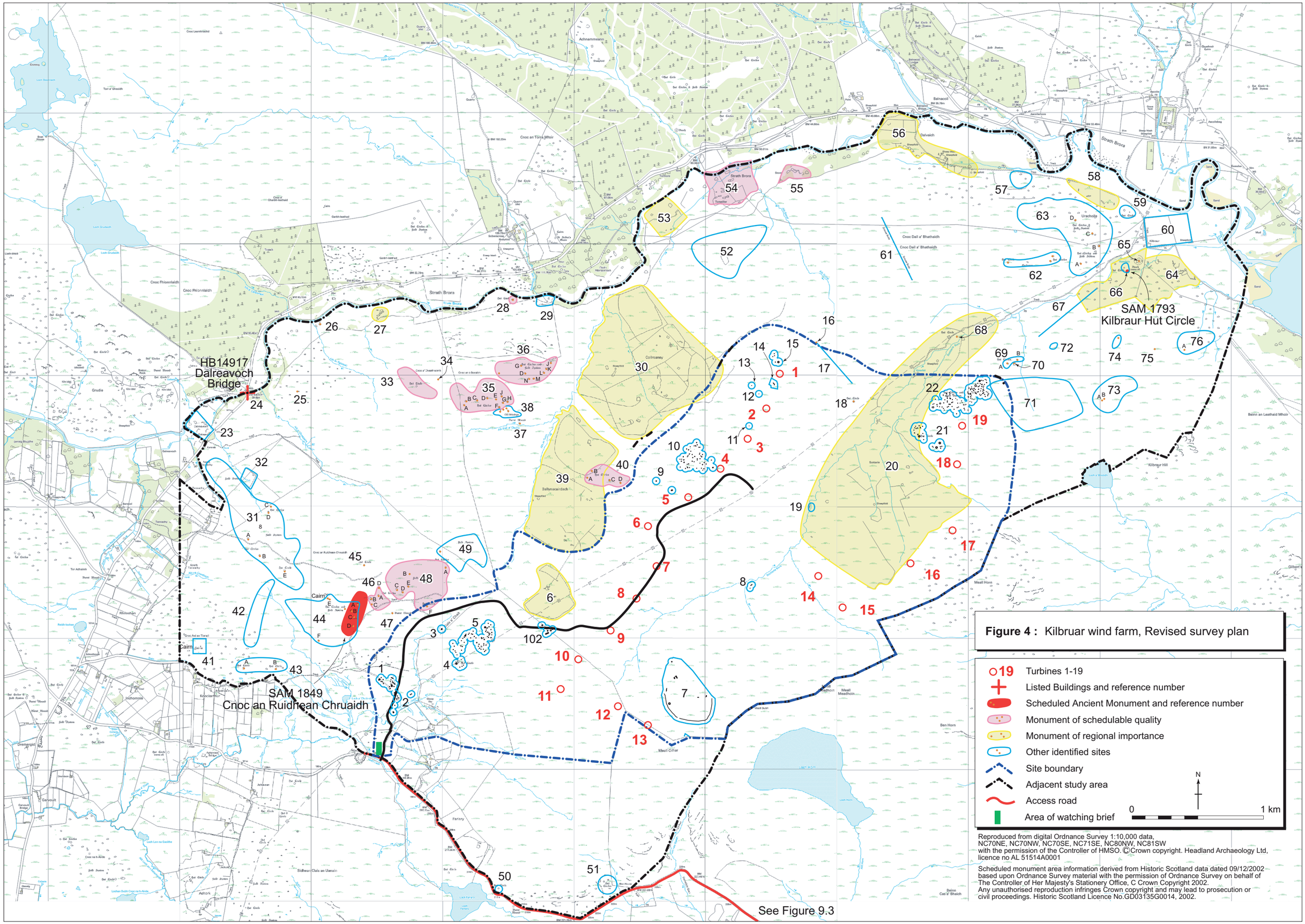

Figure 4 : Kilbruar wind farm, Revised survey plan