



Highland Archaeology Services Ltd

Bringing the Past and Future Together

Beauly to Mossford 132Kv Line Replacement



Archaeological Mitigation: Overview and Final Report

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Summary

Highland Archaeology Services Ltd, acting on behalf of Scottish and Southern Energy (SSE) commissioned Peter Higgins of Archaeology North Ltd to undertake archaeological survey and mitigation during the replacement of the Beauly-Mossford 132Kv overhead electricity supply line. The work included initial desk-based assessment and walk-over survey, followed by watching briefs and rescue recording in selected areas. This is the final report on this work.

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Acknowledgements and Copyright

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Location

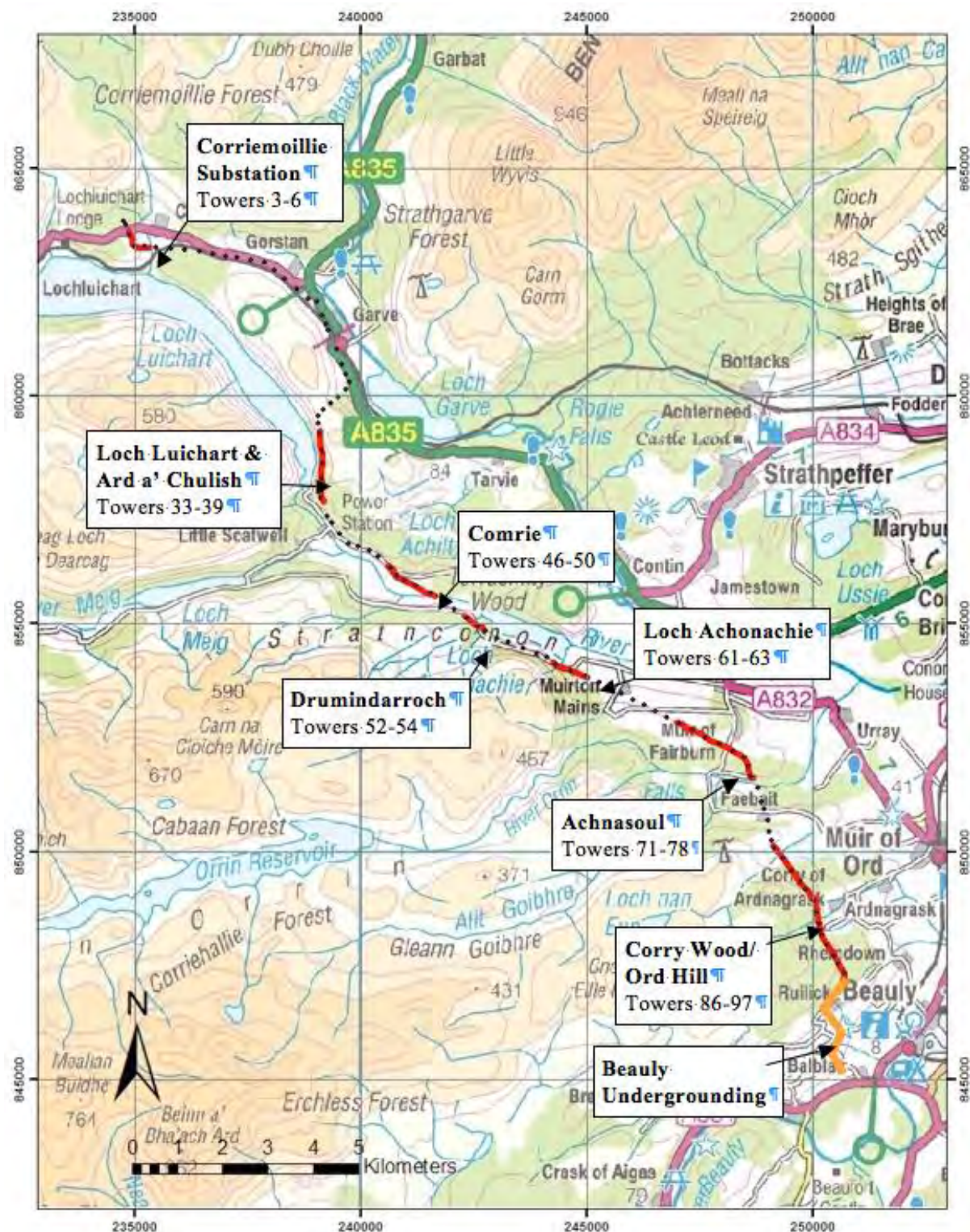


Figure 1: Project location; overview of Beauly-Mossford OHL mitigation areas



Figure 2 General location

The project area as a whole covered the replacement of a section of the Beauly to Mossford electricity transmission line northwest of Inverness from Corriemoillie (Tower 3) at approximate Grid Reference NH 3565 6335 to Beauly substation at approximate Grid Reference NH 5031 4629 (see Figure 1). The line runs overhead as far as Tower 97 (approx. NH 5010 4850), and is undergrounded between that point and Beauly.

Introduction

The replacement of the Beauly to Mossford overhead electricity power line required mitigation of the effects of the works on the cultural heritage. A two-stage assessment was made of the possible impacts^{1,2}. A programme of works³ was then formulated, and included provision for watching briefs in selected areas to cover the creation or upgrading of selected access tracks. These mitigation areas are set out in Figure 2, and have been divided into sub-projects with separate reports as set out below:

Corriemoillie – Towers 3-6
 Loch Luichart and Ard a' Chulish – Towers 33-39
 Comrie – Towers 46-50
 Drumindarroch – Towers 53-54
 Loch Achonachie – Towers 61-63
 Achnasoul – Towers 71-78
 Corry Wood/Ord Hill – Towers 86-97
 Beauly Undergrounding - Tower 98- Substation
Overview and Final Report (This one)

Report: HAS140104A
 Report: HAS140902
 Report: HAS140807
 Report: HAS140903
 Report: HAS140904
 Report: HAS140905
 Report: HAS140906
 Report: HAS150304
Report: HAS 150907

¹ W A Archaeology Ltd, Feb 2012 *Beauly Mossford 132kV Transmission Line Replacement Environmental Statement 12 Archaeology and cultural heritage*

² Higgins P 2013, *Beauly Mossford OHL Replacement Archaeological Walkover Survey Report* Highland Archaeology Services Ltd

³; Scottish Hydro Electric Transmission Limited Construction, 2012 *Environmental Management Document Beauly Mossford*, Appendix 11, Archaeology Programme of Works

The interim reports should be consulted for details of the work in these areas; this overview and final report briefly summarises the above and presents results of watching briefs undertaken on the excavations for a number of individual tower bases and other additional works which could not be included in previous reports.

Photograph numbers

Each area was treated as a separate project, and was assigned its own project number. Context and photograph numbers have therefore been prefixed with the relevant area number – as for example where photographs appear in this report:

<i>Area</i>	<i>Area number</i>	<i>Photographs</i>
Corriemoillie	38	38/1 to 38/16
Loch Luichart and Ard a' Chulish	50	50/1 to 50/35
Comrie	44	44/1 to 44/31
Drumindarroch	49	49/1 to 49/47
Loch Achonachie	46	46/1 to 46/32
Achnasoul	47	47/1 to 47/45
Corry Wood/Ord Hill	43	43/1 to 43/132
Beaulay Undergrounding	42	42/1 to 42/96

Aims and Objectives

The objectives of the work were to:

- Monitor ground breaking works in agreed areas.
- To determine as far as possible the character, extent, condition, date and significance of any archaeologically significant remains; and to record these where necessary in line with national and local policies and standards.
- To minimise any possible delay or cost to the development by anticipating archaeological requirements as far as possible, timetabling and integrating archaeological recording work with the project, and dealing with any issues arising quickly and dealing with any issues arising quickly and efficiently.

Legislation and Policy

The common principles underlying international conventions, national legislation and local authority planning policies are that cultural heritage assets should be identified in advance of development and safeguarded where practicable; if disturbance is unavoidable appropriate recording of features and recovery of portable artefacts should take place. These have been set out in international and European Union agreements, and UK and Scottish legislation, as well as national and local planning policies⁴.

⁴ A summary of relevant international, EU, UK and Scottish legislation and policies is available from the HAS office on request.

Professional standards during the present project were secured by adherence to the *Codes of Conduct and Approved Practice and Standards* of the Chartered Institute for Archaeologists (CIfA) and the Highland Council's *Standards for Archaeological Work*.

Overhead Line (Towers 3 – 97): Access tracks

Corriemoillie (Towers 3-6)

At Corriemoillie no archaeological features were found to be directly affected. Redeposited material in the north of the area was interpreted as associated with a borrow pit used during the construction of the modern road immediately to the north, the A832. The borrow pit was subsequently filled and roughly levelled. The A832 more or less follows the line of the earlier military road, and a length of bank associated with that road was observed c.45m to the northwest of the splay excavations, in the garden of a new dwelling. Further details can be found in report no. HAS140104A.

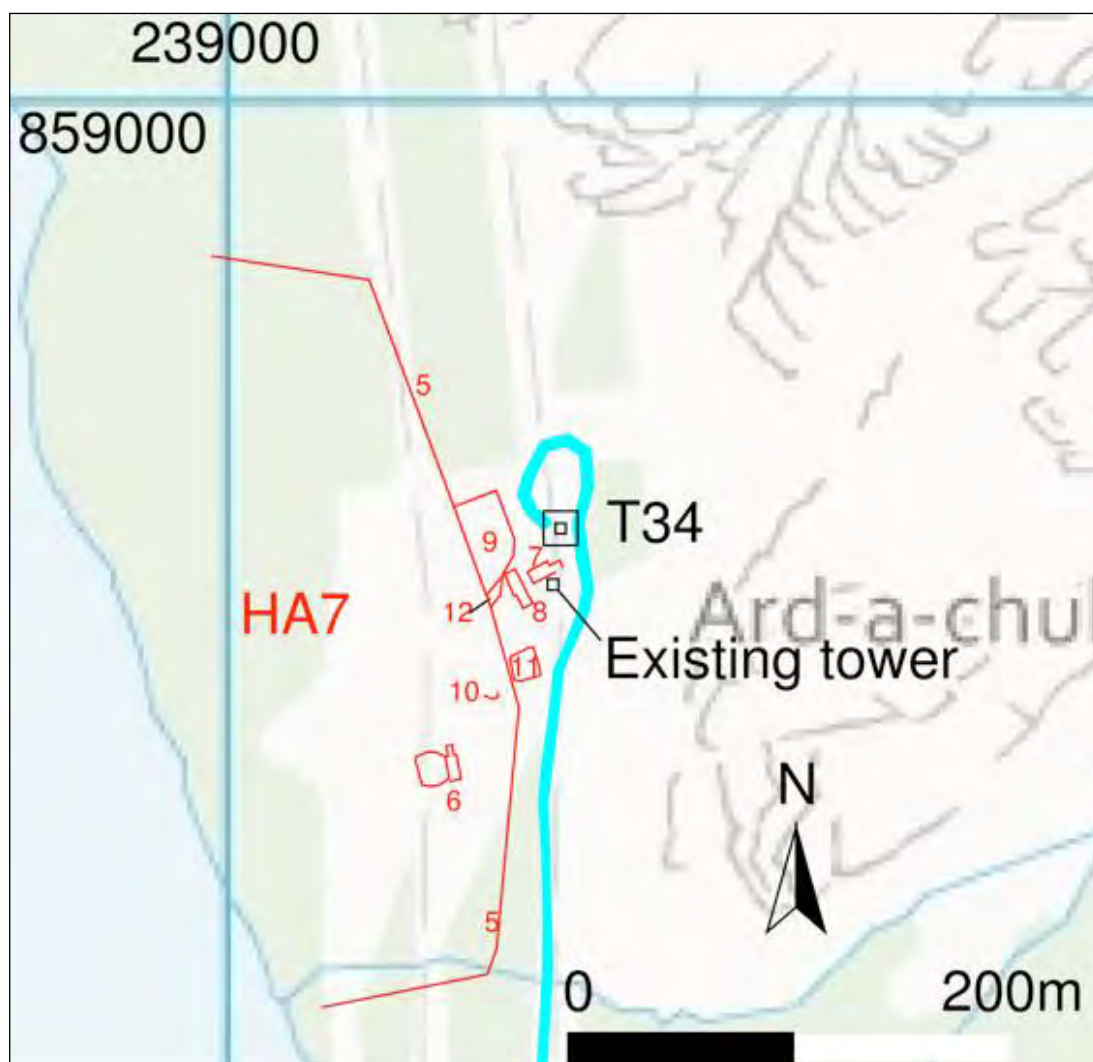


Figure 3 Archaeology (in red) and access track (blue) at Tower 34, Loch Luichart and Ard a' Chulish report

Loch Luichart and Ard a' Chulish (Towers 33-39)

A settlement at Ard a' Chulish, next to Tower 34, comprises three buildings with associated enclosures, probably dating to the mid to late 19th century, although traces of a curved dyke, F12, may indicate an earlier phase. A cup-marked stone lies to the east of the track, at 239191, 857164.

No archaeological features were directly affected by construction of the access track. Micro-siting effectively avoided buffer zones around the elements comprising the settlement at Ard a' Chulish.

Towers 38 and 39 required considerable ground levelling, which was recorded as part of the watching brief. No archaeological features were found.

Further details can be found in report no. HAS140902

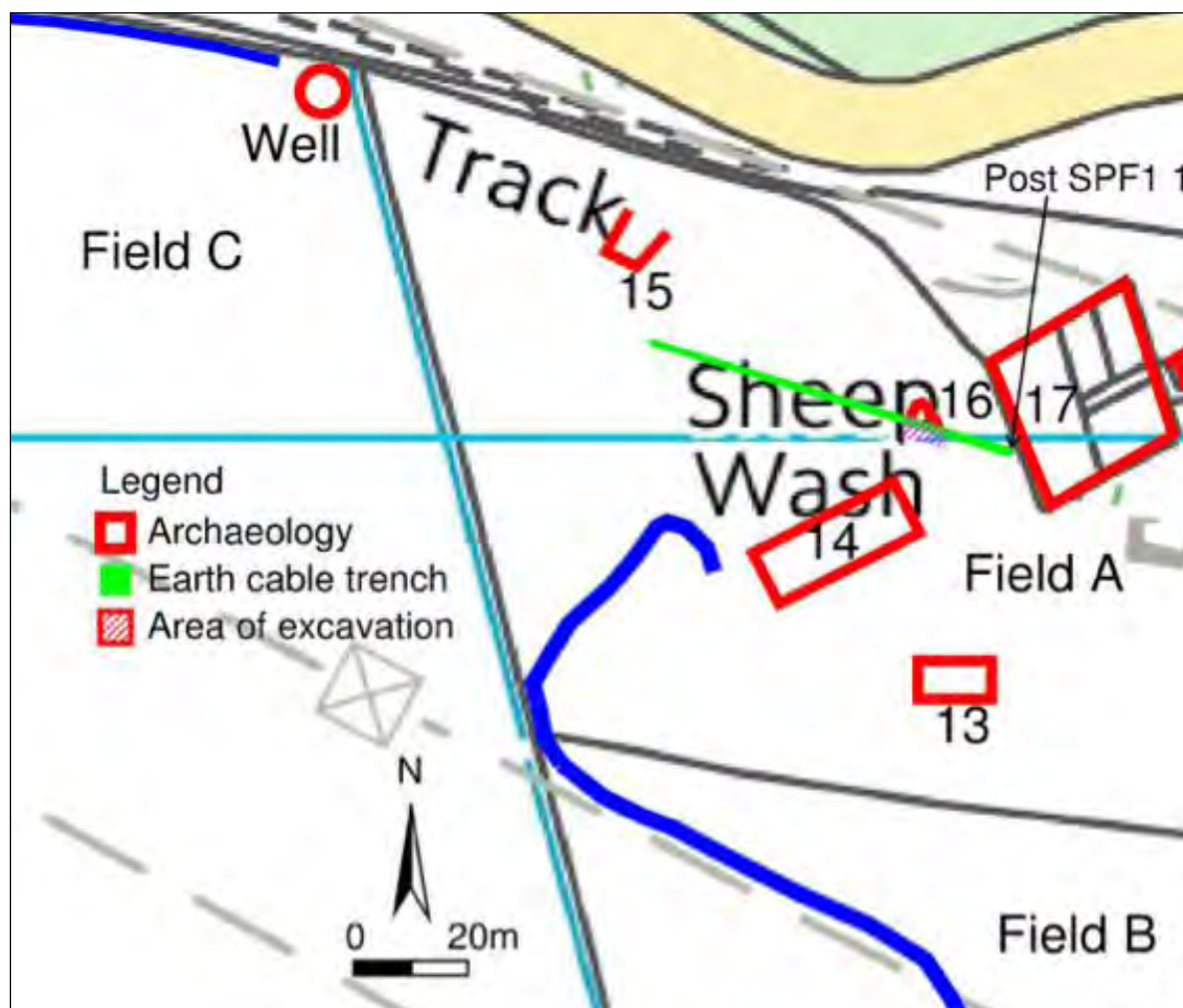


Figure 4 Fieldwork near Tower 49. Comrie report
Blue and green – undergrounded cable; Red – archaeology; Hatched – remedial excavation

Comrie (Towers 46-50)

A watching brief on the creation of an access track was followed by remedial recording where an undergrounding cable trench inadvertently cut through a building that had been recorded during the walkover survey.

Results from observations in the flood plain and on the route of the access track to tower 50 were negative, although the possibility of buried archaeology below the alluvium in the flood plain should not be discounted. A cluster of features noted in the west of Comrie were interpreted as probably from a township that existed over a long period although the only datable evidence found was from the 19th or early 20th centuries. The building investigated by the remedial intervention formed part of that cluster, is of uncertain purpose but appears to have been occupied.

Further details can be found in report no. HAS140807.

Drumindarroch (Towers 52-54)

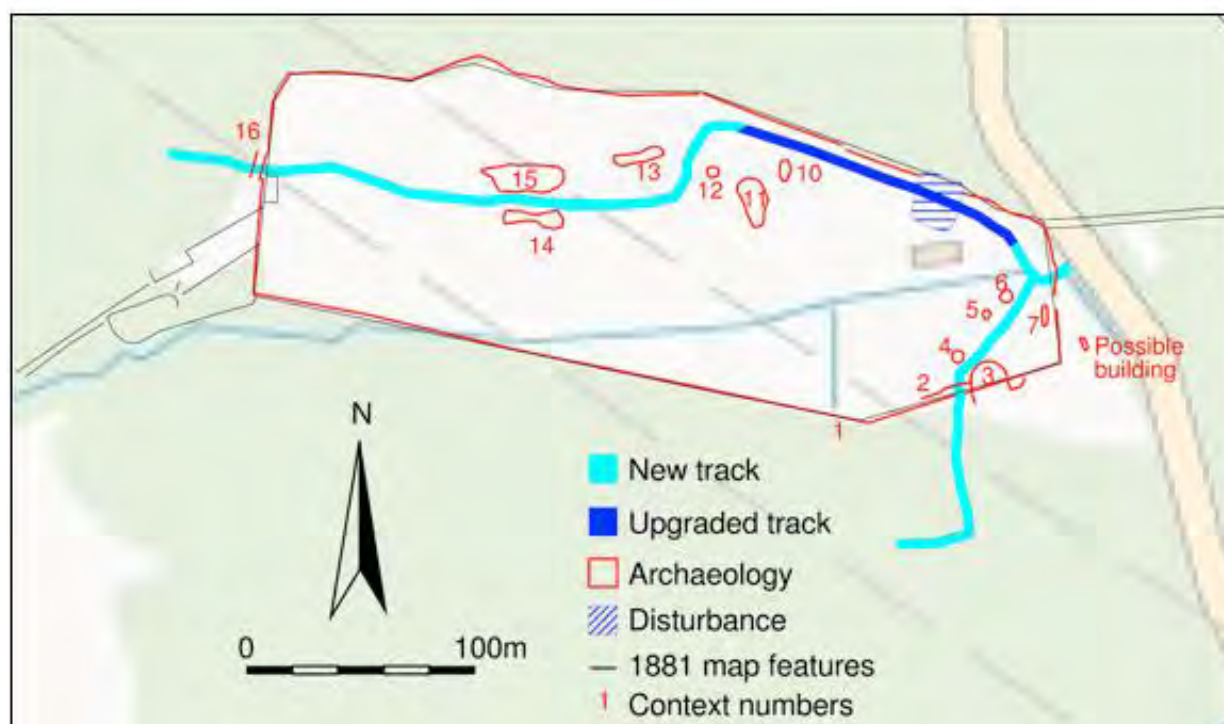


Figure 5 Features and access track near Towers 52-3. Drumindarroch report

The following features were recorded:

Enclosure wall (F1)

Along the northern margin this was poorly constructed of large boulders with smaller stone infilling, but was well built along the rest of the circuit, so at least two phases of construction are assumed. Farm access tracks have breached the wall in the west and south, and part of the eastern end has been demolished, probably also by farm activity.

Clearance cairns and scatters (F4.5.6, 7)

Three clearance cairns, F4, F5, and F6, were recorded lying to the NE of the track to Tower 53; all were sub-circular in plan and were grassed over. A more elongated mound of clearance stones, F7, lay to the SE of the same track; its shape and the presence of a conical mound of stones at its N end may indicate a buried or demolished structure.

Field Clearance (F10, 12, 14)

Lying either side of the route of the track to Tower 52 were two sub-circular mounds, F10 and F12; an elongated mound of stones, F14 - which may be a conglomerate of a series of originally separate mounds - and two ill-defined features, F134 and F15, both lying at the summits of rocky knolls and comprising scatters of stones among and over larger boulders and interpreted as scatters of clearance stones.

Linear features (F2, 11)

A low linear feature, F2, running parallel to and just inside the enclosure wall, F1, and crossed by the route of the T53 track was interpreted as the remnant of a turf bank, either an earlier version of F1, or part of the farmstead complex. The feature is preserved below the new access track.

Also near the track to T52 is a curved line of boulders, F11, around a boggy area from which a small watercourse issues in wet weather. It is unclear whether this is the remnant of a dyke or simply clearance of boulders from around or within the boggy area. The course of the main burn running through the site is also partly marked by boulders.

Hollow area (F3)

To the E of where the track to T53 passes through the enclosure wall lies a depression, F3, surrounded by a low grass-grown bank with boulders; this forms a rough semi-circle with a linear extension to the E.

Possible buildings

Several grass-grown boulders and smaller stones appear to form a rectilinear pattern just E of the main enclosure and may be the remains of a building.

Although the track to T52 passed close to its location, no trace was found of the building shown on the 1881 OS map at the W end of the main enclosure. The enclosure wall had been demolished in that area to make access for farm vehicles, and it is probable the building was demolished at the same time.

Further north of the site, near T51, the cairn, HA10⁵, E of Obiri cottage, comprises a very large erratic boulder with somewhat smaller (but still large) stones loosely piled around and above. It lies next to an access track cut for the installation of the previous overhead power line, at the bottom of a steep slope littered with stones of similar size to most of those in the cairn. It is suggested that this is likely to be a heap of stones moved by machine during construction of that track.

Further details can be found in report no. HAS140903

Loch Achonachie (Towers 61-63)

The walkover survey and watching brief identified the remains of a number of previously unknown structures of uncertain purpose, together with two longhouses and a remnants of a field system, all together possibly comprising a previously unrecorded settlement.

⁵ HER number MHG38296

The diversion of the access track to T63 to avoid these features was successful in limiting the impact of the construction to widening of an existing breach in dyke 26 and a new breach in the line of dyke 33. The remains of the latter were so sparse at the track crossing, consisting of no more than a few moss-covered boulders on the alignment of the dyke, that no section could be found to record. The track to T63 passed very close to enclosure 34, but careful placing of spoil and the full co-operation of the ground works team ensured it was not encroached upon.



Figure 6 Features and access track near Tower 63. Loch Achonachie report.

Given the waterlogged nature of much of the site and difficulties of observation through vegetation cover, it is possible that further remains lie undetected at or just below ground level, and it is recommended that future ground breaking operations be preceded by a thorough geophysical, Lidar or walkover survey (the latter when vegetation cover is low), followed if necessary by a field evaluation or excavation as appropriate.

Further details can be found in report no. HAS140904

Achnasoul (Towers 71-78)

Dykes

Three dykes (F3, F4, and F7) were noted, all double walls of field stones, with rubble infill, and capstones where the full height of the dykes survived. F7 had occasional large boulders at the base. All appeared on the 1st edition OS map (Ross-shire and Cromartyshire 1876-81, sheet xcvi), and are assumed to be roughly contemporary with the development of the Fairburn Estate.

Dykes F3 and F4 were breached by the access track to towers 73, 74 and 75. The exposed ends were rebuilt.

Modern dump

A dump of modern material (empty cans of proprietary veterinary medicines, shoes with plastic uppers, etc.) was found immediately W of dyke F4; its location and nature were noted but it was not recorded further.

Possible river management feature

A possible river management feature, F9, was noted at Orrinside.

No archaeological features or deposits were found along the route of the access tracks to towers 76 to 78, and since cartographic evidence shows historic use of this area for forestry the likelihood of such deposits surviving here is limited.

The access works had little impact on the archaeological resource, as previously identified features were marked out and avoided, and dry stone dykes that were cut as part of the development were fitted with appropriately rebuilt terminals using original stones. No new features of archaeological significance were found during the works.

Towers 71 – 74 are reported on under Tower Bases, below.

Further details can be found in report no. HAS140905

Corry Wood/Ord Hill (Towers 86-97)

Archaeological features and deposits probably survive throughout this section of the overhead line route. The archaeological features and deposits recorded during the watching brief are consistent with agricultural activity during the last few centuries.

Features shown on the 1st edition OS 1:10560 mapping (1879-81) were noted on the ground, together with several field clearance cairns. The land use depicted on the map is of marginal agriculture, with enclosures clustered around farmsteads separated by tracts of woodland and moorland. This has been succeeded in the Corry and Dunmore areas by forestry, although much of the Allt Fionnaidh area continues to be used for grazing.

Podzol formation is usually a result of human management of heathlands, often by muirburn. Although generally poor for agriculture some grazing land can be generated on podzols, and this may well be the origin of a podzol preserved beneath a turf and stone bank next to the Allt Fionnaidh farmstead.

The presence beside the Allt Fionnaidh farmstead of two parallel boundaries, F26 and F37, the latter apparently succeeding the former, may be taken to indicate a phase of field formation predating the mapping

in 1879-81; this is supported by the recording of an un-mapped dyke (F29) and un-mapped buildings (F28 and F35).

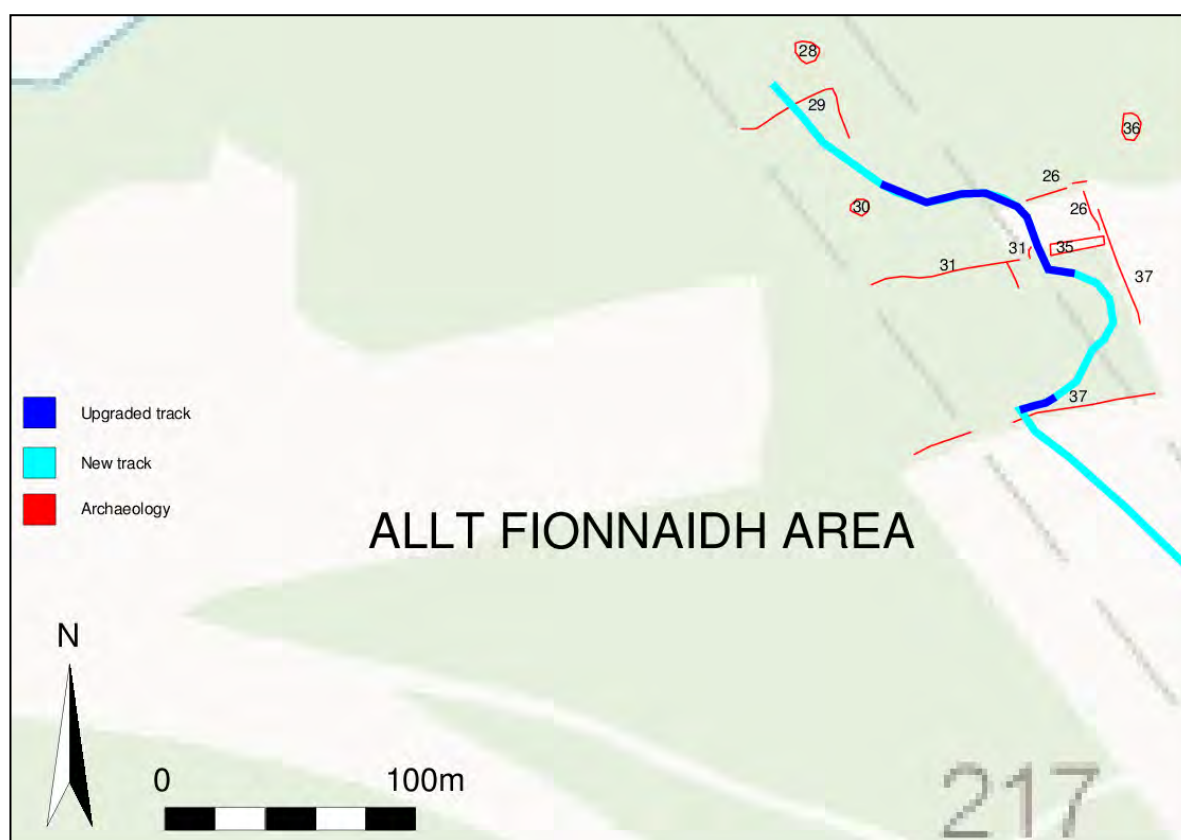


Figure 7 Features and access track near Tower 87. Corry Wood/Ord Hill report.

Survival of other features mapped in 1879-81 in the Corry and Dunmore areas is fragmentary. The extensive disruptions associated with forestry operations, and possibly with overhead line construction, have resulted in truncation of the podzol and destruction of the whole or parts buildings and enclosures. However, four land drains (F9, F11, F15, and F17) survived below the topsoil as did three rather battered clearance cairns (F3, F8, and F32) and a corner of an enclosure wall (F20) partly within it, so it is likely that further features survive elsewhere.

Further details can be found in report no. HAS140906

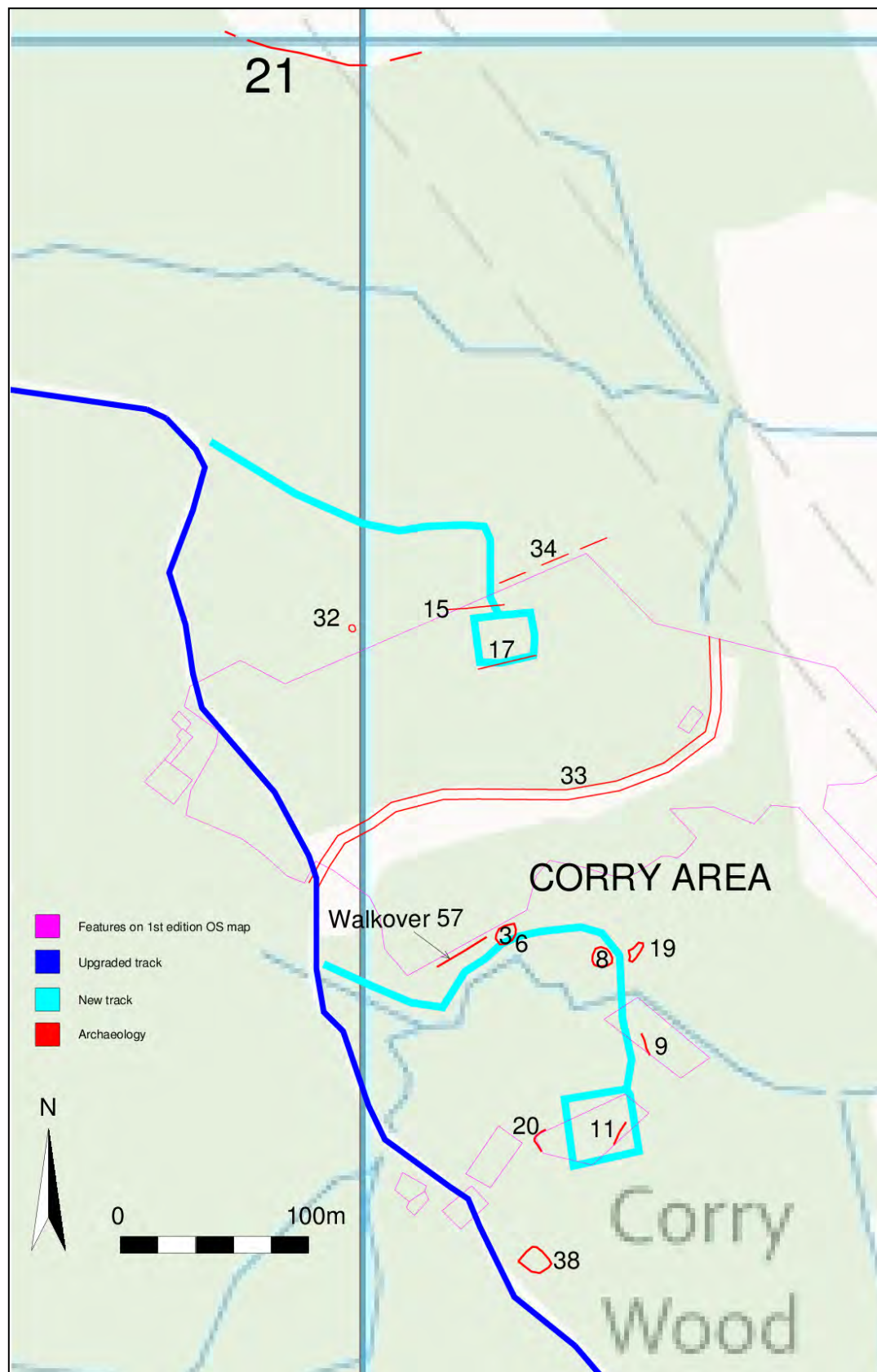


Figure 8 Features and access tracks near Towers 91-2. Corry Wood/Ord Hill report.

Tower Bases not included above

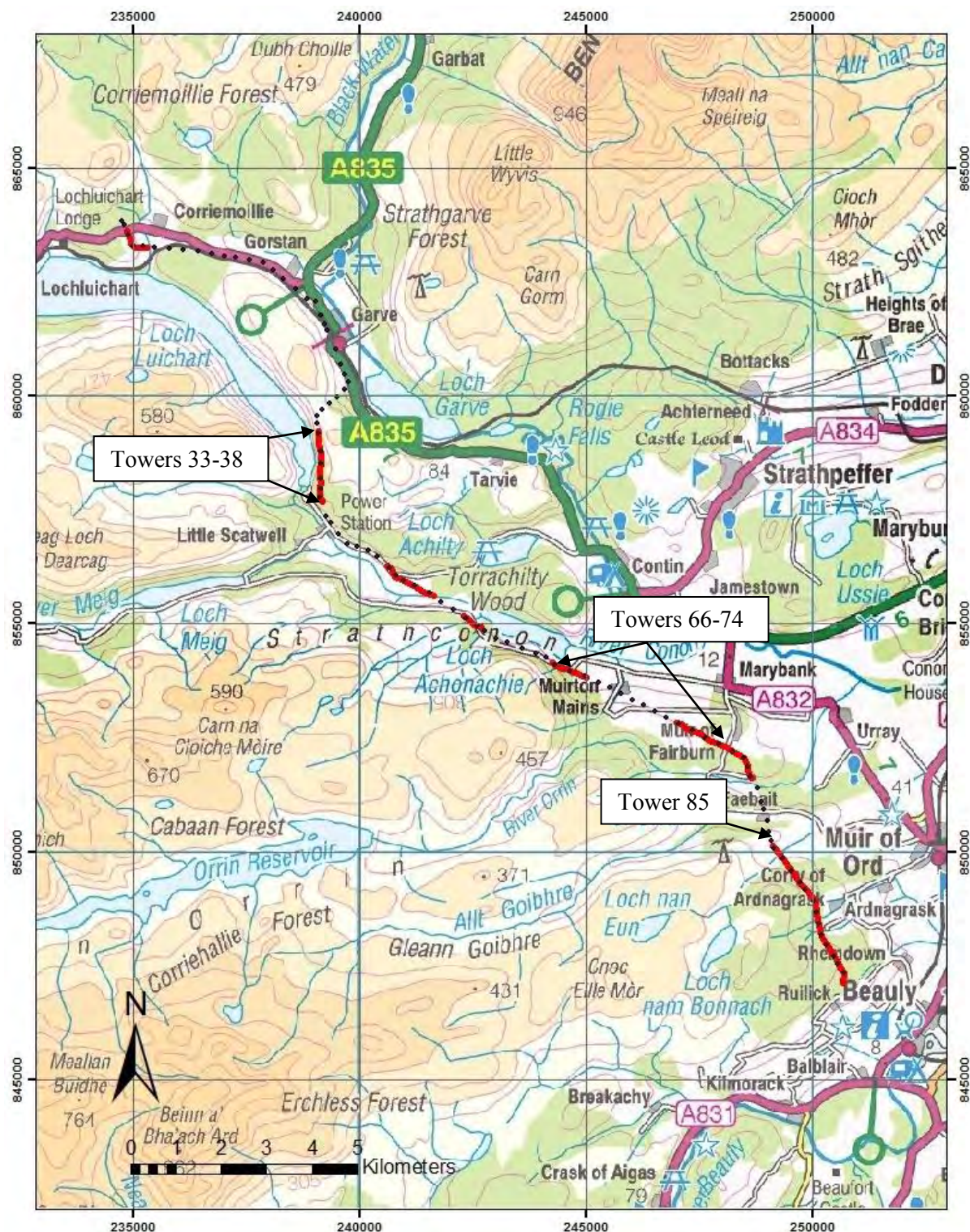


Figure 9 Locations of watching briefs on tower bases

Several tower bases lay within the agreed watching brief area but were accessed either by existing tracks or by temporary tracks of plastic panels laid on the ground surface. In these cases the watching brief was limited to the excavations necessary to construct the towers; in addition several tower required considerable ground levelling, and this was also observed.

These observations have not been reported on before, so figure 10 shows camera positions and the contexts described in Appendix 1.

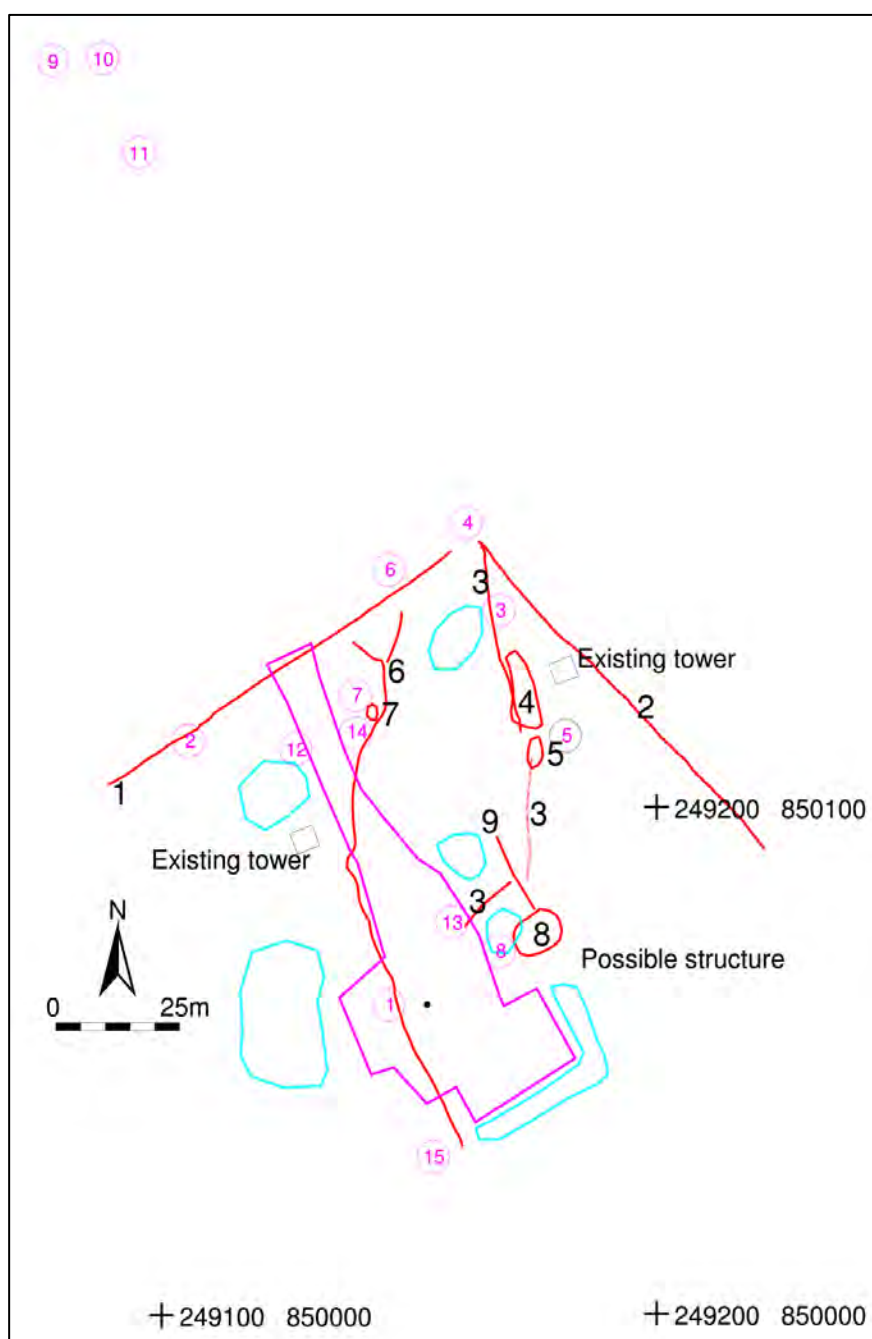


Figure 10 Tower 85 Archaeology and ground works

*Archaeology in red with black numbers; spoil dumps in blue; track and working area violet.
Camera positions circled*

The towers concerned were

T33-38	Ground levelling, mostly on upland slopes. No archaeological features found.
T66-74	Plastic tracks laid, all on improved pasture within a designed landscape (Fairburn Estate). No archaeological features found.
T84-85	Plastic tracks laid on improved pasture on the valley side opposite Allt Fionnaidh farmstead. T85 was built across a dyke, stone from which was dumped near T85, in an area already strewn with stone from modern field clearance and tumble from collapsed dykes. One possible building and several dykes and clearance cairns were recorded in that area. Laying the track required some clearance of stones and demolition of short lengths of dyke. Successful buffer zone established around possible building.

With the exception of Towers 84 and 85, no archaeological features were found.

Project overview

This section contains an overview of the archaeological evidence found and a reflection on the effectiveness of mitigation of the impact of the project on the cultural heritage resource.

Archaeology

The project covered a distance, from northwest to southeast, of more than 25km, crossing a variety of terrain types, including extensive areas of commercial forestry, moorland, rough grazing, and pasture, with a few areas of scrub. Archaeological remains survived best in the moorland and rough grazing areas, although it should be noted that despite commercial forestry operations in the Corry Wood/Ord Hill area (Towers 86 to 97) some elements of the former farmsteads there (HA 19; NGR 250037, 848372; HA20, NGR 250101, 848336; and HA21 NGR 250293, 848656) survived sufficiently well to be recognised through undergrowth and brash cover.

Evidence of prehistoric activity was limited to a single cup-marked stone at Allt a' Chulish (HA8; HER MHG51415; NGR 239191, 857964) which lay well to the east of the ground works, although the discontinuous podzol at Ord Hill and Allt Fionnaidh may also date from this period.

Apart from traces of works associated with the saw mill near Tower 63 and river management near Tower 77 the great preponderance of evidence relates to agricultural activity and settlement, and comprises farmsteads and townships (Ard a' Chulish, Tower 34; Comrie, Tower 49; Drumindarroch, Towers 52-3; Allt Fionnaidh, Towers 86-7; and Corry Wood (Towers 91-2), enclosures and dykes. Often these features are classed as post-medieval but could have an earlier origin, as for example at Comrie and Drumindarroch, both of which appear on early maps and show signs of several phases of construction. Other settlements may have been short-lived, as climate or economic necessity changed, and this may well be the case at Ard a' Chulish and Allt Fionnaidh, although even here there are traces of more than one phase.

Perhaps the most significant discovery was of the previously unrecorded features at Loch Achonachie (Towers 62-3). Two (F15 and F16) appear to be traditional longhouses, with associated dykes and enclosures, while some are almost certainly related to a 19th century woodmill; the others are of less certain origin and function. A detailed topographic or LIDAR survey of this area might yield good results.

Effectiveness of mitigation

Relations between archaeologists and contractors, often the key to implementing agreed mitigation measures, were greatly facilitated by Francis Williams, Environmental Advisor at SSE, and despite the extended timescale, communications were well maintained between all parties. The single exception, which necessitated remedial fieldwork at Comrie, was not helped by its lying in an area of poor mobile phone coverage. Prompt and regular two-week 'Look-aheads' were a valuable tool in managing the impact of the works on the cultural heritage resource, largely circumventing the all too familiar rush to respond to belated notices of start dates.

Of the mitigation strategies allowed for in the Archaeology Programme of Works⁶ the Stage 1 (CH2, Walkover Survey) was effective in identifying the areas of archaeological potential, in that no reports were received of archaeological discoveries in areas assessed as of low potential, although it could have been more focussed, reducing the areas assessed as of medium potential. Stage 2, using targeted geophysical survey and trial trench evaluation, was rendered largely unnecessary by the effectiveness of Stage 1; in any case, it is difficult to see how this option, with its often rather lengthy commissioning and implementation phases, could efficiently have been incorporated into the schedule.

Stage 3 (CH1, Micro-siting) was effective in several locations. It preserved intact the new discoveries at Towers 62-3, where the access track was re-routed; and it greatly reduced the impact of works at Tower 34 and Towers 52-3. In all cases, however, the procedure for implementing micro-siting was rather less formal than that stipulated, and while it worked well in this instance the lack of formal promulgation of informal decision-taking meant there was potential for misunderstanding or lack of clear instruction to ground works crews. That this did not occur is due largely to the strength of the relationships forged between the archaeologists and the crews.

Stage 4 (CH3, Watching Brief) was widely used and proved very effective at preservation by record. In addition a considerable amount of informal micro-siting was achieved through friendly understanding by the ground work staff.

Overall this was a very successful project, coupling excellent mitigation of impacts and conservation of the cultural heritage resource with efficient use of the archaeologist's time.

⁶ Scottish Hydro Electric Transmission Limited Construction, 2012; *Construction Environmental Management Document Beaully Mossford*, Appendix 11, Archaeology Programme of Works, Chapter 12

Appendices

Table 1 Tower 85 context table

Number	Type	Description	Dimensions (m)			Before	After	Interpretation
			Length	Width	Depth			
1	Feature	Boulders and smaller stones in linear alignment, marking a change from cultivation to the N, to rough grazing to S.	>100	2.4	0.8	-	-	Collapsed or demolished dyke. Appears on early OS maps. No obvious relationships with other contexts.
2	Layer	Standing, maintained dyke forming W boundary of field. Single boulder construction, with capstones. A few stretches of double wall with core fill.	>200	0.4	1.0	-	3	At least two phases of wall construction.
3	Feature	Line of boulders and smaller stones. Runs more or less N/S in N, and E/W in S. The connecting bit is not very clear.	c.50	3.1	0.7	4	2	Probably a former dyke
4	Feature	Heap of small stones beside and partly overlapping dyke 3.	15	4	0.3	-	3	Clearance cairn
5	Feature	Heap of small stones beside and partly overlapping dyke 3.	7	3.5	0.3	-	3	Clearance cairn
6	Feature	Low earth bank with line of small boulders and smaller stone; runs more or less NE/SW. M. May fork at N end.	>100	4.1	0.4	-	7	Soil/turf bank. May have small, tumbled dyke on top.
7	Feature	Small heap of small stones on top of 7. Unlike the other two mounds there is very little vegetation cover.	2.7	1.9	0.7	-	6	May be more recent than the other cairns.
8	Feature	Ill-defined rectilinear alignment of stones; fewer stones within the rectangle than without.	c.12	c.8	0.1	-	-	Possible structure or small enclosure.
9	Feature	E/W line of boulders and small stones, very difficult to discern except when viewed along its length.	>30	0.6	0.15	-	-	Probably a very tumbled dyke.

Selected photographs



Plate 1 Loch Luichart and Ard a' Chulish photograph 33. Buildings F7 and F8.



Plate 2. Comrie photograph 38. F16 during remedial excavation.



Plate 3 Drumindarroch photograph 3. Dyke F1 and bank F2.



Plate 4 Loch Achonachie photograph 28. Longhouse F15.



Plate 5 Tower 85 photograph 13. Dyke F3 and clearance cairn F4.



Plate 6 Tower 85 photograph 17. Possible structure F8.



Plate 7 Corry Wood/Ord Hill photograph 127. Allt Fionnaidh farmstead, F35.