

Scotia Archaeology

**REPORT
TO
ASH DESIGN+ASSESSMENT**

**BENMORE
HYDRO-ELECTRIC SCHEME
GLEN DOCHART**

**Desk study
and
walk-over survey
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*Lismore
Dollerie Terrace
Crieff, Perthshire
PH7 3EG
Tel: 01764-652638
email: scotarc@btinternet.com*

INTRODUCTION

This report describes the results of a desk study of archaeological sites and monuments and a walk-over survey along the route of a proposed 400kw, run-of-river hydro-electric scheme at Benmore, Glen Dochart, Stirlingshire. The survey was carried out by Scotia Archaeology at the request of ASH Design+Assessment who supplied a map showing an indicative route for the scheme. The map was procured under Ordnance Survey (OS) licence number 100052192.

THE SITE

The route of the proposed hydro scheme runs southwards from Benmore Farm which stands on the south side of the A85 road, some 3km east of Crianlarich. The intake point will be on the Benmore Burn at approximately NN 41770 25029 from where the penstock will run northwards to the powerhouse at Benmore Farm, at NN 41345 25784. The outfall will debouch back into the Benmore Burn a short distance from the powerhouse, at NN 41310 25779.

An access track for plant and other vehicles will run directly adjacent to the penstock while lay-down areas will be within the existing farmyard at Benmore. The locations of two possible borrow pits are shown on the developer's map, one of them adjacent to the penstock and one a short distance south of Benmore.

THE DESK STUDY

A desk study of readily available source material was undertaken prior to the commencement of field work. It comprises short descriptions of those sites located within the near vicinity of the proposed penstock.

The sites are listed according to the numbers allocated by the Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS) and by the West of Scotland Archaeology Service (WoSAS), archaeological advisors to the Loch Lomond and Trossachs National Park Authority within whose jurisdiction the site lies.

RCAHMS NN42NW 14/WoSAS Pin66247 Crianlarich Fundamental Bench Mark

At NN 41303 25761, just south of Benmore Farm, and at a height of 171.55m above Ordnance Datum is an OS Fundamental Bench Mark.

RCAHMS NN42NW 12 Benmore: limekiln

The first edition OS 6-inch map (Perthshire, sheet 90), surveyed in 1864 and published in 1867, depicts an 'old limekiln' in a field to the north of Benmore farmstead. The map clearly shows the kiln on the east bank of the Benmore Burn although it is described as being on the west bank by RCAHMS. This structure appears to have been divorced from the small settlement of Portnellan which stood on the opposite bank and may have predated it. It certainly appears to have been defunct by 1864.

William Roy's military survey of the Scotland Highlands, undertaken between 1747 and 1752, shows two structures in the approximate vicinity of Benmore Farm, suggesting that this particular site was occupied more than a century before the first OS map was produced.

Some 800m to the west of Benmore, an island in Loch Dochart, is Loch Dochart Castle which dates from the late 16th/early 17th century. It is now a Scheduled Ancient Monument but is located some distance from Benmore and is unlikely to have any direct bearing on the development area.

THE WALK-OVER SURVEY

The walk-over survey was undertaken by John Lewis on 28 August 2013, on a overcast day with mist over higher ground although visibility was adequate for the survey.

From Benmore Farm, now holiday accommodation, the penstock will run southwards close to the east bank of the Benmore Burn, over moderately steep ground overlain in places with glacial debris although outcrops of bedrock are also very common. The vegetation cover of coarse grass gives way to reeds towards the burn where the ground was quite waterlogged during the survey. Along most of its course the burn runs directly over bedrock although a few patches of fluvio-glacial debris, mainly water-washed boulders, are visible in places.

The only previously recorded site of archaeological or historical significance that might be affected by the proposed development is the OS Fundamental Bench Mark by Benmore Farm. This feature, which is located a short distance from the intended site of the powerhouse, is shown in photograph 17. Other features identified during the field survey consisted of the possible remains of a small structure and two field boundaries. These are described below and their locations shown on the accompanying map which is based on one supplied by ASH Design+Assessment.

Site 1 Possible shieling hut

At NN 41734 25157, on the east bank of the burn approximately 130m north of the intake point, is a collection of large and medium-sized boulders, the result of fluvio-glacial activity. Among these stones are a few that form what might be the surviving remnants of a small structure, perhaps a shieling hut (see photographs 4-6). The evidence is far from conclusive and the arrangement of stones might well be fortuitous. If this does represent the remains of a building, it would have measured approximately 2m across internally, just large enough to have provided temporary accommodation or perhaps storage.

This putative site lies on the very edge of the river bank, sufficiently far downstream to be at too low a level to be affected by the construction of the penstock. However, the developer should be aware of its presence to ensure that it is not disturbed.

Site 2 Drystone field wall

On the evidence of the map supplied by the developer, the penstock will cut through a drystone field wall at approximately NN 41540 25500. The wall, which still stands to its full height over much of its length, runs north-east/south-west at this point (see photographs 10, 11, 13 and 16). It is shown on the first edition OS 6-inch map as well as on the current 1:10,000 map and was probably the head dyke for the farmstead of Portnellan during the 19th century.

Site 3 Earth and stone wall

Some 400m north of the drystone wall of Site 2 are the scant remains of another boundary wall. It runs eastwards from the burn and was traced as far as NN 41408 25661, over a distance of some 50m, beyond which it was no longer evident. The westernmost part of the wall was built entirely of field boulders and stood to a maximum height of 0.6m whereas further east it stood no more than 0.3m high and appeared to be constructed of earth and stone or even just of earth (see photographs 13-16).

This structure is not depicted on any OS map and was evidently demolished by the mid-19th century. The change in its construction suggests that the west section of the wall was rebuilt at some stage, perhaps because of the steepness of the ground upon which it was built. Quite probably it was replaced at a later date by the more substantial drystone wall of Site 2.

Site 4 Fundamental Bench Mark

The OS Fundamental Bench Mark was identified on the east bank of the Benmore Burn, a short distance south of Benmore Farm (see photograph 17).

Other features

At NN 41438 25603 was a drainage channel with associated upcast to its immediate north. The channel itself is now blocked and supports a luxuriant growth of sphagnum moss, the upcast being the most noticeable element of the feature. At first glance, the upcast resembled the scant surviving remains of a turf bank but closer examination revealed its true nature.

CONCLUSIONS AND RECOMMENDATIONS

The most obvious danger to archaeological structures and features during the construction of a hydro-electric scheme is the excavation of pipe trenches. However, other activities could also affect the survival of the archaeological record, particularly the deposition and retrieval of spoil, the temporary storage of pipes and other materials and the movement of machinery and other vehicles. However, in the case of the Benmore Burn scheme the potential damage is likely to be minimal.

Site 1 Possible shieling hut

This putative feature stands beside the burn, at a level well below that of the penstock, and is unlikely to be affected by the construction or operation of the hydro scheme.

Site 2 Drystone field wall

It will be all but impossible to avoid the drystone dyke at Site 2 which will have to be breached at some point. The developer's map shows the breach at approximately NN 41540 25500 although the route shown on the map is probably only indicative and it may be possible to cross the wall at another point. There is a small gate in the wall to the south-west of this point but, although the gap might be wide enough to accommodate the pipe trench, it may be too narrow to allow a mechanical excavator to pass through it.

If it proves impossible to avoid demolishing part of this wall, it is proposed that it should be fully reinstated following the completion of construction phase of the development.

Site 3 Earth and stone wall

Since the walk-over survey, part of the penstock route has been moved westwards and will now cut directly across this structure where formerly it would have run beyond its perceived eastern limit. It is recommended that, if possible, the pipeline should pass through any break there may be in this wall although it is not known whether this might be achievable. If the trench does cut through this feature, a case could be made for investigating the trench section. It is not known whether the pipe trench will pass through that part of the wall that seems to survive as a low bank or through the section rebuilt with stone at some stage. However, on the evidence of the attached map, the former seems the more likely.

Before and immediately after the agricultural improvements of the 18th and 19th centuries, field boundaries were built of a variety of materials in various combinations. A common device was to build a wall wholly of turf, either on a stone foundation or directly on the ground; another was to erect an earth bank faced on its upside by a single skin of field boulders. Whatever stones were used in the construction of the wall at Benmore appear to have been robbed, probably to help construct the stone field wall (Site 2) that replaced it, leaving a linear mound only 0.3m high along most of its length. On this evidence, it is thought unlikely that the surviving remains of this structure will shed much light on its method of construction.

Site 4 Fundamental Bench Mark

The OS Fundamental Bench Mark is located a short distance from the proposed route of the penstock and from the possible site of a borrow pit and, as a consequence, may need to be protected. It is a very important feature and all operatives associated with the construction and maintenance of the hydro scheme should be made aware of its location to ensure that it is avoided at all times. As a precaution, it is recommended that this bench mark is fenced off and the fence maintained throughout the development process.

With the obvious exception of the farmhouse and associated buildings at Benmore, there was little or no evidence of historic or prehistoric occupation on the lower slopes of Ben More. The only possible exception was the putative remains of a shieling hut (Site 1) although the evidence for this being a man-made structure is far from convincing.

Similarly, no trace of arable farming was identified during the walk-over survey. No trace of rig and furrow, field clearance cairns or small arable fields were visible on any part of the route. What appeared to be two phases of head dyke testify to these slopes being used for pasture from the 18th century or perhaps earlier. Sheep farming still continues in this area although much of the ground is now waterlogged and of poor quality as pasture.

PHOTOGRAPHIC RECORD

The photographs described below form part of the project archive and are not included in hard copies of this report.

- 1 View to the south from NN 41468 25121, a short distance north of the intake point
- 2-3 View to the north from NN 41468 25121, a short distance north of the intake point
- 4 Possible remains of a structure at NN 41734 25257, viewed from the north
- 5-6 Possible remains of a structure at NN 41734 25257, viewed from the south-east
- 7 View to the south from NN 41605 25328
- 8-9 Views to the north from NN 41605 25328
- 10-11 Views to the north from NN 41566 25397
- 12 Drainage gully and upcast at NN 41438 25603, viewed from the east
- 13 View to the south-east from NN 41391 25633, showing the remains of field boundary wall
- 14 View to the west from NN 41391 25633, showing the remains of field boundary wall
- 15 View to the north-west at the terminus of the field boundary wall at NN 41408 25631
- 16 View to the south-east at the terminus of the field boundary wall at NN 41408 25631
- 17 The Ordnance Survey Fundamental Bench Mark, viewed from the north