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# BALA GAUGING STATION

## ARCHAEOLOGICAL ASSESSMENT

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**Report No. 517**



View of the weir and weir house and flooded old river meanders, showing the line of the possible Roman road., from the south-east.

Prepared for  
Halcrow Group Ltd

February 2004

By

G.H. Smith



**Ymddiriedolaeth Archaeolegol Gwynedd**  
**Gwynedd Archaeological Trust**

☎ 01248 352535    ✉ 01248 370925    email : [gat@heneb.co.uk](mailto:gat@heneb.co.uk)



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**GAT Project No. G1819**

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# **BALA GAUGING STATION**

## **ARCHAEOLOGICAL ASSESSMENT**

**Project No. G1819**

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### **FIGURES**

1. Location of the development and of main historic features.
2. Plot of crop-marks on aerial photographs showing the Roman fort at Llanfor and nearby features (RCAHMW).
3. Ordnance Survey 1<sup>st</sup> ed. 6 inch map showing the position of former river channels compared to the modern channel and the position of the Roman fort and possible Roman road.
4. View of the weir and weir house and flooded old river meanders, showing the line of the possible Roman road.
5. The flood bank alongside the modern river channel at the south side of the weir.
6. The line of the proposed new trackway along the modern river channel and flood bank .
7. The existing weir house on the flood bank.

### **1. INTRODUCTION**

Gwynedd Archaeological Trust was asked by Halcrow Ltd to carry out an archaeological assessment in advance of proposed remedial works to the Bala gauging station on the Afon Dyfrdwy (at NGR SH94103570) (Fig. 1).

The area lies just outside the Snowdonia National Park. The area immediately around Bala and Llyn Tegid, including the area of the present site, is recorded as a Landscape of Historic Interest in Wales (No. HLW (Gw) 16, Cadw 2001), partly for the existence of extensive Roman remains south of Llanfor and only 400m from the present site.

### **2. SPECIFICATION**

The brief was for a walkover field survey and short report indicating any necessary mitigation.

### **3. METHODS AND TECHNIQUES**

#### **3.1 Desk-top study**

The Gwynedd SMR was consulted for information on relevant sites in the vicinity and such books, maps and other information as available. This included copies of aerial photograph plots and of geophysical surveys of the Llanfor Roman remains.

### **3.2 Field search**

The area was visited on 6<sup>th</sup> February 2004 with the permission of the landowners. The south side of the river was walked from Berth-lafar to the weir. The north side was walked from the sewage works at Bryn Llysg to the weir.

### **3.3 Report**

A brief description is made of the archaeological and historical background, followed by a description of the surface features together with a discussion of their possible impact and relevance. Finally there is a brief summary of the recommendations for mitigation.

## **4. TOPOGRAPHIC DESCRIPTION**

The weir is situated on a modern river channel, cut to straighten the river Dyfrdwy, allowing drainage and improvement of the land to the north. At the same time a new channel was cut for the Afon Tryweryn, removing several meanders of that river too. When the new channels were built the excavated material must have been used to fill in the old channels and level the fields, in which the old river meanders are still visible during times of flood. The area around the weir has therefore been heavily landscaped, reducing the potential for survival of any archaeological evidence of whatever period.

## **5. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND**

There are no archaeological or historic features recorded in the Gwynedd SMR within or immediately adjacent to the development area. The main features of interest within 1km are shown on Fig. 1 and are as follows.

1. A complex of Roman forts with attendant external civilian settlement south of Llanfor and about 400m north of the site of the weir.
2. A probable early medieval settlement, early castle mound and political centre at Llanfor about 1.5km north of the site of the weir.
3. Two medieval castle mounds at Bala (Tomen-y-Bala) and at Pont Mwnwgl-y-llyn (Castell Gronw) at the south-east edge of Llyn Tegid both about 1.5km from the site of the weir.
4. The line of the abandoned railway 100m south of the weir. This was originally the Bala and Dolgelly Railway, which opened 1<sup>st</sup> April 1868. Its continuation as a modern line came to an end after flooding in Dec. 1964 and was not subsequently re-opened due to the Beeching cuts. The track was lifted probably in 1968 (Baughan 1980, 143).

Of these only the first is likely to have had any impact on the area of the proposed development. The medieval settlement at Llanfor is distant and the river crossings were probably those that are still in use today. The two castle mottes are unusual in being so close together. The reason is that at Bala there were two rivers and two river crossings and each castle was controlling a crossing. However, the castle mottes are also at some distance from the proposed development and unlikely to have any relevance. The railway passes close to the weir on an embankment but seems to have had no impact on the area beyond the actual line of construction.

The Roman remains consist of a series of superimposed forts on the low ground south of Llanfor. They have been totally levelled over the centuries and their true extent was only identified from crop-marks on aerial photographs (Fig. 2). The earliest, on the north (A), was a large temporary camp with a single rampart. The next, on the west (B), was smaller but better defended fort of polygonal plan. Finally, at the south of the complex, there was a square fort of classic design with triple ditches (C). Geophysical survey in recent years has shown the complete layout of the fort with its buildings set symmetrically around four streets leading to entrances at north, south, east and west. The geophysical survey outside the north and east sides shows that there were substantial buildings there, probably part of an attendant civilian settlement. There would have been, for instance, smithies, shops, craft workshops and taverns. Further along the roads there might have been temples and cemeteries.

The fort was built within a natural meander of a small stream, the Afon Merddwr (which means ‘stagnant water’) which itself occupied an old meander of the Afon Tryweryn and would have been marshy. It is even possible that the Trywryn itself flowed along this route at the time the fort was in use. The fort was therefore protected to some extent by the difficult approaches from the south and west. The entrances on these sides may have been used only rarely, perhaps during summer when the marshes may have been passable. The entrance on the west side aligns with a narrow double-hedged strip that existed at the time of the 1890 OS map and which seems to serve no purpose as a field or trackway. This may be a remnant of a Roman road out of the west side of the fort, which would then have turned south towards a probable bridge where Pont Mwnwgl-y-llyn is now. The south entrance may therefore have been redundant. However, it aligns on a sharp meander of the Dyfrdwy, which at this point looped very close to the fort, as seen on the OS map of 1890-91, before the modern canalisation of the river (Fig. 3). A route along this line would have provided a short crossing of the river so it is possible that there was road here crossing a ford and continuing along the river promontory very close to the weir on the modern channel of the Dyfrdwy. The approximate line of the possible road was taken by a field boundary in 1890 (Fig. 3) and by a fence-line today, at the south end of which is the existing weir building (Fig. 4). If such a road existed it might be found by study of aerial photographs or by geophysics in the field north of the modern river channel.

## **6. THE SURVEY**

No new archaeological or historic features were located during the survey.

The south side of the canalised river Dyfrdwy has a modern flood bank 0.5-1.0m high bordering it from the position of the weir and upstream (Fig. 5). A field boundary existed on the south side in 1890 (Fig. 3) but this was mostly removed during the river construction, the remainder now is visible only as a very slight bank and ditch.

On the north side of the river there is also a flood bank 0.5-1.0m high from the weir and upstream. The proposed access track will run along the top of this bank (Fig. 6) and so will only affect modern deposits. The north end of the track will run through the conifer plantation around the sewage works and pass across an old meander of the Afon Tryweryn, which was infilled in the 20<sup>th</sup> century. None of the trackway will intrude on or expose any deposits of archaeological or historic interest.

The area adjoining the weir itself and upstream has been greatly altered by the construction of the river channel and flood banks and by the presumed spreading of excavated material over the surrounding land, particularly infilling the old river channel. It is possible that there may be some remains downstream, where the new weir building is to be constructed and where there is no flood bank. The present gauging station building is situated on the flood bank (Fig. 7) but the proposed new building will be situated 10m to the south, off the flood bank and therefore may cut into early ground levels, which could have archaeological interest. The construction of the new weir house in stone will necessitate excavation of footing trenches. There should be an opportunity to watch the excavation of these and to carry out basic or detailed recording as necessary if any remains of a former Roman road are found.

## **7. RECOMMENDATIONS FOR MITIGATORY MEASURES**

1. Trackway construction – None

2. Weir re-construction – None.

River bed work – None.

Weir house construction – Archaeological watching brief and basic or detailed recording if necessary.

## **8. DOCUMENTARY SOURCES**

Baughan, P.E. 1980. *A regional history of the railways of Great Britain. Vol. XI North and Mid Wales*, David and Charles.

Beverley Smith, J. 2001. The Age of the Princes. In Beverley Smith, J. and Beverley Smith, L. eds 2001. *History of Merioneth Vol. II, The Middle Ages*, Merioneth Historical and Record Society, Univ. of Wales Press, Cardiff, 1-59.

Bowen, E.G. and Gresham, C.A. 1967. *History of Merioneth, Vol. 1*, Merioneth Historical and Record Society, Dolgellau.

Cadw 2001. *Register of Landscapes of Historic Interest in Wales: Vol. 2.2 Landscapes of special historic interest*, Cadw, Cardiff.

### **Gwynedd SMR**

Hopewell, D. 2003. *Roman Fort Environs, 2002-2003*, GAT Report No. 479.  
RCAHMS aerial photographic plots, Llanfor Roman Fort.

### **Maps**

Ordnance Survey 1<sup>st</sup> ed. 1890-91, 6 inch maps.  
Ordnance Survey 2<sup>nd</sup> ed. 25 inch maps.

### **Aerial photographs**

[www.multimap.com](http://www.multimap.com)



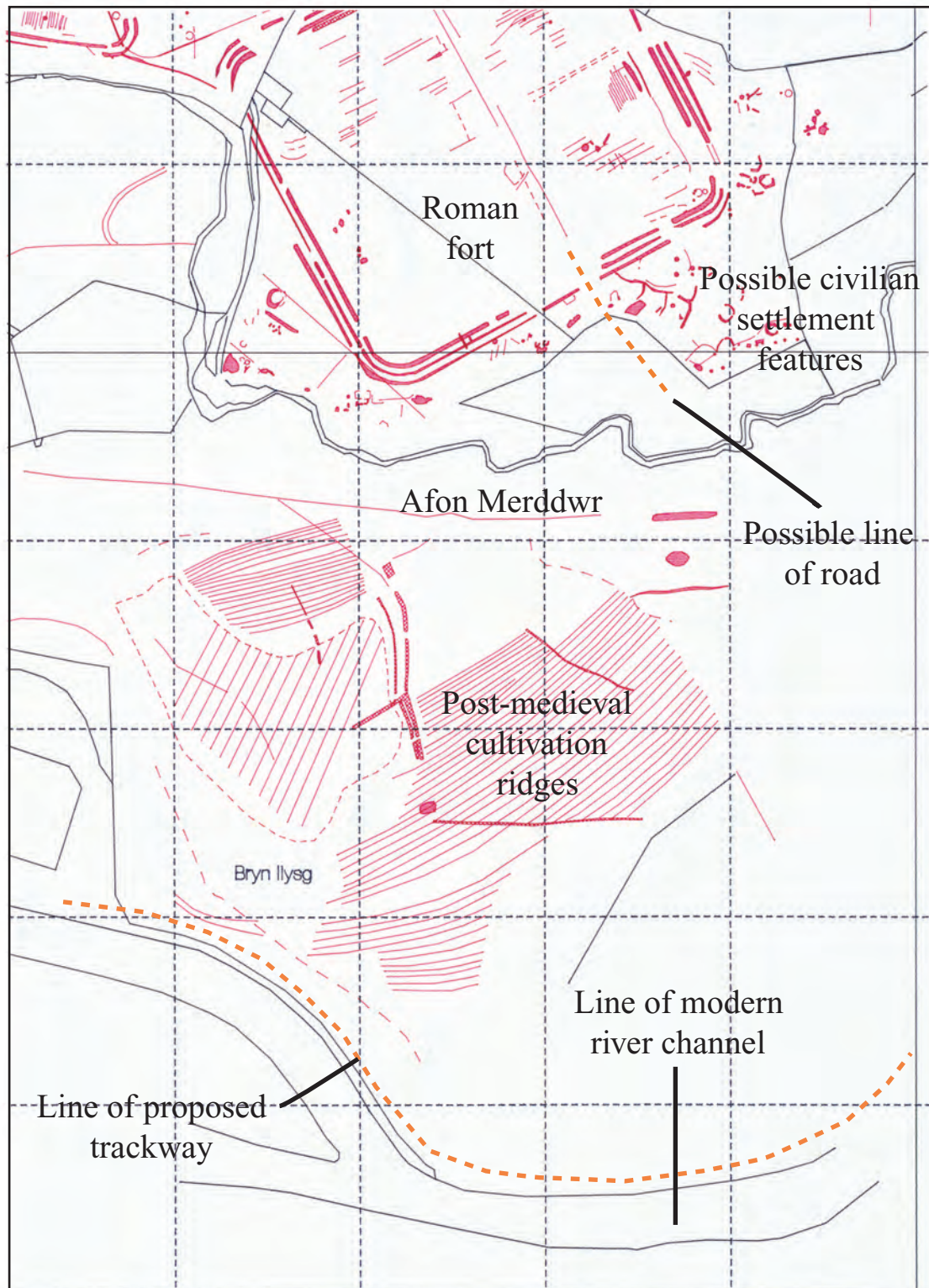


Fig. 2 Bala gauging station: Plot of crop marks on aerial photographs showing Roman fort at Llanfor and nearby features (RCAHMW)

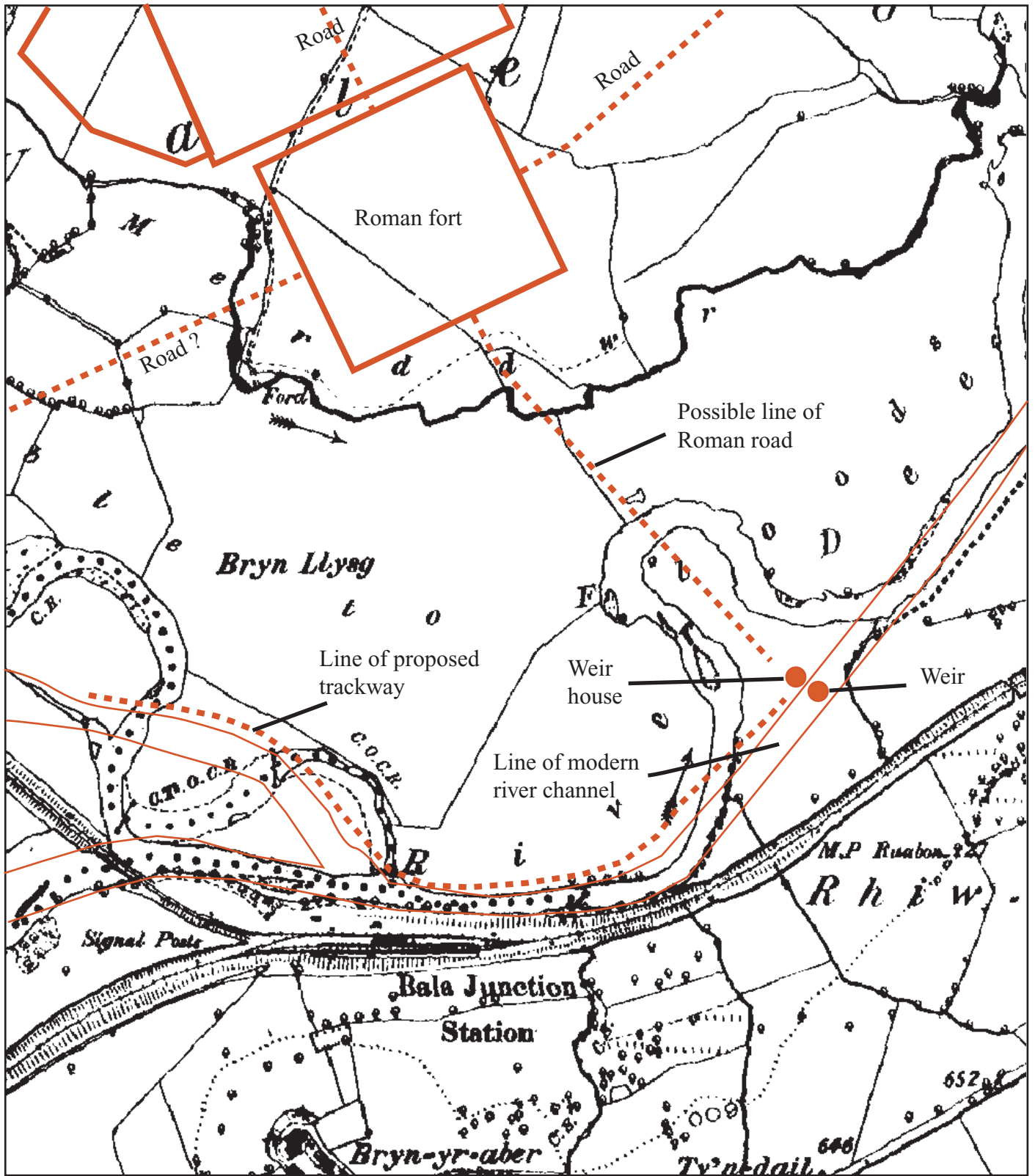


Fig. 3 Bala gauging station: OS 1st edition 6 inch map 1890, showing position of former river channels compared to the modern river channel and the position of the Roman fort and possible Roman road line.



Fig. 4 Bala gauging station: View of the weir and weir house and flooded old river meanders, showing the line of the possible Roman road. From the south-east.



Fig. 5 Bala gauging station: The flood bank alongside the modern river channel at the south side of the weir, from the north-east. 1m scale.



Fig. 6 Bala gauging station: The line of the proposed new trackway along the modern river channel and flood bank, from the north-west. 1m scale.



Fig. 7 Bala gauging station: The existing weir house on the flood bank, from the north. 1m scale







Ymddiriedolaeth Archaeolegol Gwynedd  
Gwynedd Archaeological Trust

Craig Beuno, Ffordd y Garth, Bangor, Gwynedd LL57 2RT Ffon/Tel 01248 352535 Ffacs/Fax 01248 370925  
e-mail: [gat@heneb.co.uk](mailto:gat@heneb.co.uk) web site: [www.heneb.co.uk](http://www.heneb.co.uk)