

A5 PONT PADOG APPROACHES
ARCHAEOLOGICAL ASSESSMENT

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REPORT NO. 126

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Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

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ARCHAEOLOGICAL ASSESSMENT

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Gwynedd Archaeological Trust Report No. 126

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INITIAL REPORT

1. INTRODUCTION

As part of its improvements to the A5 London/Holyhead Trunk Road, the Welsh Office is proposing to re-route the present road across farmland south of Padog. The proposed route starts to the west of Pentrefoelas at SH84905128, and continues west for 2.2km, linking up with the present road again near Glan Conway at SH83205205.

The route crosses mainly agricultural land, currently laid down for permanent pasture, and will bridge the River Conwy at SH83245195 and the River Eidda at SH83845134.

The extent of the area of interest is a strip 200 m wide centred on the proposed route, but expanding to include slip roads, and alterations to existing roads.

The proposals are to be accompanied by an Environmental Assessment, which is being prepared by Richards, Moorhead and Laing for Sir Owen Williams and Partners, Engineering Consultants. Gwynedd Archaeological Trust was contracted to undertake the archaeological assessment of the route, to be presented as part of the Environmental Statement.

2. ASSESSMENT BRIEF

An initial report was requested from Gwynedd Archaeological Trust, assessing the likely archaeological impact of the plans and suggesting mitigatory measures. A Suggested Project Design was produced by Cadw: Welsh Historic Monuments. Slight modifications were made to the Project Design, and agreed with Cadw, following the publication of the 'Design Manual for Roads and Bridges' - Volume 11, Environmental Assessment. The work carried out has therefore followed the original project design but with the modifications needed (notably to the categories, see section 3.4 below) to take into account the procedures outlined in Section 3, Part 2 of Volume 11.

The basic requirement was for a desk-top survey and field search of the corridor of interest in order to assess the impact of the proposals on the archaeological and heritage features within the road corridor and close enough to it to be affected. The importance and condition of known archaeological remains, including the existing length of Telford's road which is to be by-passed, were to be assessed and areas of archaeological potential and new sites to be identified. Measures to mitigate the effects of the road scheme on the archaeological resource were to be suggested.

Gwynedd Archaeological Trust's proposals for fulfilling these requirements were, briefly, as follows:

- a) to identify and record the cultural heritage of the area to be affected by the proposals;
- b) to evaluate the importance of what was identified (both as a cultural landscape and as the individual items which make up that landscape); and
- c) to recommend ways in which damage to the cultural heritage can be avoided or minimised.

This report covers the work done under the first two stages of assessment, documentary research and walking the route, and includes recommendations for later stages.

N.B. Full details of ancillary areas likely to be affected by the road works, such as vehicle parking and turning areas, materials storage areas etc., have not yet been supplied. Experience shows that these areas are as likely to suffer damage as the actual landtake for the road. If all such areas fall within the corridor of interest, they will have been covered, but in order that all areas affected may be subjected to the same level of survey, any information relating to areas affected outside the 200 m corridor should be notified to the Trust as soon as possible.

3.0 METHODS AND TECHNIQUES

3.1 Desk-top Study

Consultation of maps, computer records, written records and reference works, which make up the Sites and Monuments Record, was undertaken at Gwynedd Archaeological Trust. Records (including early Ordnance Survey maps, early road maps, papers and reference works - see bibliography) were consulted in the library and the archives of the University College of North Wales, Bangor, and the County archives at Caernarfon. Aerial photographs, provided by Sir Owen Williams and Partners, were inspected.

3.2 Field Search

This was undertaken on 10 January 1994 by two members of Trust staff. The whole length of the proposed route was walked. Conditions were quite good for fieldwork, the weather was bright and dry, with good light for photography. Several landowners were spoken to along the route; all were helpful but none were able to contribute information of material value.

Sites identified were marked on copies of 1:2,500 OS maps supplied by Sir Owen Williams and Partners Limited, Consulting Engineers, as accurately as possible without surveying. Forms were filled in assessing each site, and detailed notes made of the more important. Photographs were taken of all potential sites identified.

3.3 Report

All available information was collated, and transferred onto a single set of maps at a scale of 1:2,500 for convenience. The sites were then assessed and allocated to the categories listed below. These are intended to give an idea of the importance of the site and the level of response likely to be required. Descriptions of the sites and specific recommendations for further evaluation or mitigatory measures, as appropriate, are given in the relevant sections of this report.

In some cases, further investigation may result in sites being moved into different categories. The criteria used for allocating sites to categories are based on those used by the Secretary of State when considering ancient monuments for scheduling; these are set out in Annex 3 to Planning Policy Guidance 16 (Wales): Archaeology and Planning.

3.4 Categories

The categories listed below follow the guidelines given in the 'Design Manual for Roads and Bridges' Volume 11, Section 3, Part 2, Paragraph 3.4, and allocation of a site to a category defines the importance of the archaeological resource of that site.

Category A - Sites of national importance.

Scheduled Ancient Monuments, Listed Buildings and sites of schedulable or listable quality, i.e. those which would meet the requirements for scheduling (ancient monuments) or listing (buildings) or both.

Sites which are scheduled or listed have legal protection, and it is recommended that all Category A sites remain preserved and protected *in situ*.

Category B - Sites of regional or county importance.

Sites which would not fulfil the criteria for scheduling or listing, but which are nevertheless of particular importance within the region.

Preservation *in situ* is the preferred option for Category B sites, but if damage or destruction cannot be avoided, appropriate detailed recording might be an acceptable alternative.

Category C - Sites of district or local importance.

Sites which are not of sufficient importance to justify a recommendation for preservation if threatened.

Category C sites nevertheless merit adequate recording in advance of damage or destruction.

Category D - Minor and damaged sites.

Sites which are of minor importance or so badly damaged that too little remains to justify their inclusion in a higher category.

For Category D sites, rapid recording, either in advance or during destruction, should be sufficient.

Category E - Sites needing further investigation.

Sites whose importance is as yet undetermined and which will require further work before they can be allocated to categories A - D are temporarily placed in this category, with specific recommendations for further evaluation. By the end of the assessment there should be no sites remaining in this category.

4.0 ARCHAEOLOGICAL RESULTS AND RECOMMENDATIONS

4.1 Introduction

Archive material consulted during the desk-top study provided dating evidence for known sites, and maps of successive dates allowed an appreciation of the development of the landscape, in particular the impact of the roads. Estate maps, papers and Ordnance Survey maps were mostly of relatively recent date, unfortunately there was no tithe map for this parish. Documentation in the form of a series of reports dating from 1777- 1843 provided information on the London-Holyhead road, and limited information on the earlier turnpike road system.

Lists supplied by Cadw: Welsh Historic Monuments gave information about listed buildings. Aerial photographs confirmed the positions of known sites, but no new sites were identified.

Most of the fields walked in the course of the fieldwork had been repeatedly ploughed over many years, so removing much potential evidence. Nonetheless, certain features (such as the trackway south of Pant Glas) still showed up quite clearly, and a number of previously unrecorded sites were identified. These are included, with the rest of the sites (giving a total of ten), in the gazetteer.

4.2 The Archaeological Background

This section describes the archaeology and history of the area around the proposed development.

4.2.1 Prehistoric

Within the narrow corridor of interest there are no known recorded prehistoric sites or find spots. However to the west of the route, two Bronze age spearheads were found at Dol Trebeddau in 1882 and at Ysgubor Newydd, a circular crop mark on aerial photographs may indicate a Prehistoric round barrow. A number of Prehistoric sites, including Neolithic cairns, Bronze Age round barrows and Late Prehistoric settlements lie within a 5 Km radius of Pont Padog.

4.2.2 Roman and Early Medieval

There are no sites or finds from the Roman period within the corridor of interest, but a 5th/6th century cemetery was found at Dol Trebeddau during the construction of Telford's road in 1820. About forty rough stone cist graves were found, one of which was formed with an inscribed stone facing downwards. The latin inscription reads: BROHOMAGLI / IATTI (h)IC IACIT /ET VXOR EIVS CAVNE, (*The stone*) of *Brohomagus Iattus. He lies here, and his wife Caune.*

4.2.3 Medieval and later

The line of the proposed new road lies mainly in the parish of Eidda, a medieval township which was connected to the parish of Ysbytty Ifan (previously Tir Ifan). Tir Ifan was granted about the year 1190 to the Knights Hospitallers of the Order of St John, probably by Ifan ap Rhys of Trebrys. This grant included the present day parishes of Ysbytty Ifan and Eidda.

At the dissolution the Tir Ifan lands were granted to Ellis Pryse of Plas Iolyn, and the Eidda lands were leased to Thomas Vaughan of Pantglas. The Vaughan's of Pant Glas were an important Caernarfonshire family, particularly in the 16th and 17th centuries, and a large house used to stand close to the present farm of Pant Glas. This house is reputed to have fallen down between 1790 and 1800, and there are no visible remains of it left although a 19th century account suggests that there were elements of a medieval hall surrounded by a 16th or 17th century house of some size. In the late 18th century the Pant Glas estate was bought by the Mostyn family, and in the mid 19th century it was sold to the Pennants of Penrhyn. A number of farmhouses in the area are reputed to have obtained building materials from the old house, and perhaps this is the source of a medieval stone head currently residing by the front door of the house at Bryn Bras.

Of the remaining houses close to the route of the new road, Dylasai Uchaf dates back to at least the early 17th century, and Bryn Bras is mentioned in the Land Tax Assessment of 1747. The fine Georgian house at Glan Conway is a Grade II listed building. The small settlement at Padog almost undoubtedly came into existence after the building of the post road in the early 19th century.

4.3. Assessment of existing A5 road

4.3.1 Historical background

The general state of the roads in Caernarfonshire until the mid 17th century was extremely poor. Although the passing of the Highways Act in 1555 had laid the responsibility for maintaining roads in good condition firmly upon the parish through which they ran, it was not a success. An expanding economy and increasing industrialisation meant that traffic was increasing substantially, and the parishes could not afford the maintenance necessary to keep the roads in good order. Turnpike trusts, where the traveller had to contribute to the upkeep of the road, existed in embryo form from as early as 1663 in England, but they did not become common in N Wales until the end of the 18th century.

The first road which encouraged travellers to travel through Shrewsbury to Holyhead rather than through Chester to Conway and Holyhead, was built by Lord Penrhyn in 1791-9. He had already constructed a road from his quarries in Bethesda to Port Penrhyn, and now he extended that road along the west side of Nant Ffrancon to Capel Curig where he built a hotel (now Plas y Brenin). The Rev. W Davies says "It is probable that his Lordship, from the commencement of his improvement of these roads, had in view the substitution of this nearer route for the Irish mails; which has since taken place.". In 1799, Sir Richard Colt Hoare says "Wishing to vary my route [from Bangor] to Llanrwst I took a nearer and shorter road over the mountains A magnificent road is now forming between Llyn Ogwen and Capel Cerrig by Lord Penrhyn." He then proceeded to Corwen via Llanrwst. At this time there was still no road linking Bettws y Coed to Pentrefoelas directly along the Conway. However by 1810 Sir Richard is able to talk about "the new road from Shrewsbury to Capel Cerrig [which] joins the river and continues its track along the ... Denbighshire side".

This new road was the result of the efforts of the Capel Curig Turnpike Trust which, between 1802 and 1808, was responsible for building a new road from Bangor to Pentrefoelas. This road followed roughly the line which Telford's road was to take in ten years time. However, the quality of the road was not good, and although the General Post Office authorised the use of the Shrewsbury to Holyhead route in 1808 many complaints were made about its condition, and the London mail coaches were often unable to operate west of Shrewsbury. As a result of this, and because of the increase in traffic following the Act of Union with Ireland in 1810, Thomas Telford was asked to examine the route between Shrewsbury and Holyhead. However, although a Parliamentary Committee issued a report based on Telford's findings in 1811, nothing happened until 1815, when a Holyhead Road Commission was set up, and Telford was asked to carry out a detailed survey of the whole route from London to Holyhead.

4.3.2 Telford's Holyhead Road

Telford's recommendations for the road west of Shrewsbury were radical, suggesting that the Commissioners should buy out the seven Turnpike Trusts involved become directly responsible for the reconstruction of the road and its subsequent maintenance. Telford reported that the road west of Cerniog had been "injudiciously laid out and imperfectly constructed" and that the "working part" was no more than twelve feet across. "Even on that breadth", he wrote, "the stone or gravel repairs being constantly very superficial, and without a permanent bottoming, are mixed with the soft soil in a manner under the present surface of no sense whatsoever in the construction of a substantial road".

Telford believed all roads should have a solid foundation, and in this respect differed from his contemporary J L Macadam, who believed that the elasticity of the sub-soil helped bind the surface of the road, and lessen the affect a hard road would have on horses feet. According to Rolt (1958) Telford's method consisted of laying a solid course of large stones on the prepared and level bed of the road "in the form of a close neat pavement". Over this was laid a 6 in spread of hard broken stones, each as nearly cubical as possible, and on top of this again a 2 in layer of gravel. Great care was taken in laying the stone foundation and in applying the top surface of gravel, with its precisely specified 1 in 60 fall from the crown to the sides of the road. Telford's method was more expensive than Macadam's, and so found little favour with the Turnpike Trusts. As a result, the Holyhead roads from Shrewsbury and Chester are the only noteworthy examples of Telford's road building south of the Scottish Border.

The road between Rhyd Llanfair and Glan Conway was one of the first stretches of the road west of Shrewsbury to be improved, and in November 1815 the contractors Straphen and Stanton were paid £729.12.00 for the length of road situated in the narrow valley immediately below Glan Conway. It was 946 yds in length, and involved widening and metalling the existing road, building protecting walls along the side of the R Conway and rock cutting. In 1817 Telford was able to report to the Commissioners "from thence [Rhydlanfair] under Glynconway, the road has been wholly improved, partly by variation and partly by widening and rendering more substantial the present line of road; the inclinations upon this part are

about one in thirty-six, which is the inclination necessary to carry off the water. In passing up the narrow valley, under Glynconway, where the road is confined between steep rocks and a rapid river, it is protected by bulwarks and parapets, and part of the rocks have been cut away; at the termination of this improvement, the bridge over the Conway is in an imperfect state; it ought to be rebuilt, and raised about ten feet, not only to insure a safe passage across the river, but to ease the steep hill which is immediately beyond it. From this bridge to Cernioge the road has some inconveniently steep inclinations, and is also too narrow, being in many places not twenty feet between the fences, and this including the side drains; the road is also very imperfectly made, having no bottoming; being generally constructed of slaty rock, which decomposes with the water or the least pressure of carriage wheels, and it has not a sufficient number of drains."

In 1819 Thomas Evans was contracted to improve the road between Padog and Hendreisaf, when he was paid £2,803.6.4 for 1 mile 110 yds of road. At about this time the present bridge with its high causeway was constructed, replacing the earlier one so disliked by Telford.

In 1819 a Bill was put through Parliament by Parnell which, as recommended by Telford, amalgamated the six Turnpike Trusts that had controlled the old road from Shrewsbury to Bangor ferry and responsibility for the road was given to a Parliamentary Turnpike Commission.

In addition to the road itself mention should be given to features peculiar to Telford roads: all the milestones along the London - Holyhead road are Telford designs, they are made of Anglesey limestone, stand 4ft 6ins high and have a metal plate with the town names and distances, set into the stone. Also included at set distances are compounds at the side of the road for storing hardcore for road maintenance. Telford was particularly concerned about the side walls, and often recommended raising them higher, and mortaring those which were of dry-stone construction.

4.3.3 Present state of Telford's Holyhead road at Padog

The road still follows the same alignment as laid down by Telford from Hendre Isaf turnpike, over Pont Padog, and as far as the bend below Glan Conway house. In the late 1960's a new stretch of road was built from this bend west, replacing the original bridge over the Afon Gwrysgog at the start of the drive to Glan Conway, with a new one. The original bridge, widened on the downstream side, is now used to carry the drive-way to Glan Conway. The remainder of the disused road is visible under grass in the field north of the existing road.

The road between Glan Conway and Pont Padog runs parallel to the river in a series of bends, and just before the bridge had to be cut into the steep valley side. On the upper side it has been necessary to blast away part of the rock outcrops, and on the lower side there are massive retaining walls. These latter, although following Telford's original line have been regularly re-built by successive highway authorities, and the original stone culverts have been replaced by plastic pipe.

The bridge at Pont Padog, although still essentially that built by Telford, has been partly re-built, re-pointed and strengthened with steel tie-bars running through the masonry.

The road east of Pont Padog is constructed in a similar way to the west section: supported on the lower side by retaining walls and cut into rock along parts of the upper side. Repair work to the retaining walls along this section has been carried out, but less than on the west section, and some stone culverts remain.

The storage compounds are still visible along the full length of the route, and the stone walls lining much of the length of the road, although re-built in places, appear largely original. There are two original mileposts, one by Pant Glas and the other below Glan Conway, but both have their cast plate missing.

Telford's Holyhead road required a route combining the necessary width and stability, with the minimum of gradient and as direct a line as possible between two points. Although not as spectacular as the route up the Nant Ffrancon pass, the route across Pont Padog following the Conway achieved these aims and is a good example of the way Telford overcame physical difficulties of road construction on a scale not previously reached by the Turnpike Trusts.

4.4 Gazetteer of archaeological sites

The sites included in the gazetteer are those elements of the cultural landscape noted during the assessment which are within the corridor of interest. They are described in numerical sequence, numbered from east to west. Each description is followed by recommendations for work **if the site is to be affected by the construction of the new road**. Where the remains require evaluation before full mitigatory measures can be decided upon, the recommendations are for further assessment, the results of which will allow appropriate mitigation measures to be recommended. Where the information is considered sufficient, mitigatory measures are suggested. A summary at the end of the Gazetteer lists the sites according to their allocated category.

The principal site within the area of study is Telford's Holyhead road. The very high standards applied to the construction of this road make it one of the best survivors of 19th century road building in England and Wales, and the Padog area is a good representative example. It has therefore been placed in category 'A' as a site of national importance.

The majority of the remaining sites identified within the corridor are of local interest only, but nonetheless form an intrinsic part of the cultural landscape. It is recommended that these sites are recorded at a level sufficient to allow future students of the landscape to be aware of the existence and nature of the features concerned.

1. Telfords London - Holyhead road (A5) *Category A*

This section of the route i.e Betws - y - coed to Pentrefoelas, was built between 1816 and 1824. It was documented in the reports produced at the time as being the most difficult part of the entire route. There are a number of contemporary features associated with the original road: milestones, compounds, walls, culverts, etc. The most significant are listed below:

- 1.1 Small culvert near Pant Glas track SH84925127
- 1.2 Original Telford design milestone (faceplate missing) SH84855130
- 1.3 Small compound SH84865128
- 1.4 Small compound SH84765127
- 1.5 Entrance to old track (disused) SH84725130
- 1.6 Small compound SH84675132
- 1.7 Small compound SH84545141
- 1.8 Voelas Estate wall from SH84925127 to SH84565141
- 1.9 Stone wall alongside southern side of the road from SH84925126 to SH84275147
- 1.10 Entrance to junction which crosses over Pont Rhyd-y-Dyfrgi SH84555142
- 1.11 Small compound SH84435145
- 1.12 Stone wall alongside Northern edge of road from SH84545142 to SH83965146
- 1.13 Small compound SH84175142
- 1.14 Entrance to Plas Padog SH84085143
- 1.15 Small compound SH84165142
- 1.16 Entrance to the chapel and houses at Padog SH83955145
- 1.17 Pont Padog SH83985147
- 1.18 Stone wall alongside southern edge of road from SH84245145 to SH83975146
- 1.19 Small compound and culvert SH83875158
- 1.20 Entrance to Tai-duon SH83515161
- 1.21 Stone wall alongside the south edge of the road from SH83945150 to SH83355199
- 1.22 Stone wall alongside the northern edge of the road from SH83965150 to SH83215203

- 1.23 Small compound SH83505185
- 1.24 Original Telford milestone (faceplate missing) SH83505185
- 1.25 Small compound SH83385201
- 1.26 Small compound SH83295199
- 1.27 Original route of Telford road (still visible) SH83225218C
- 1.28 Single arch stone bridge near Glan Conway (has been widened) SH83195230

Recommendation for further assessment: None

Recommendation for mitigatory measures: It is recommended that this site is preserved in situ. However should any part of Telford's road be affected by the development of the new road, details of construction should be recorded using the most appropriate method (this could be a combination of excavation and watching brief), together with photographic and descriptive recording of any bridges, compounds, walls, culverts, milestones or other features affected.

2. Track to Pant Glas SH84805120 Category D.

Track leading from the Telford road to Pant Glas farm. This appears to follow the line of the road marked on John Evans map of 1795 running from Ysbytty Ifan to Llanrwst, passing Pant Glas and crossing over the small late 18th century bridge now forming part of the entrance to Voelas.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: The method and phases of construction should be recorded by the most appropriate method; this could include excavating a trench across the line of the track and maintaining a watching brief.

3. Old trackway (disused) SH84635133 Category C.

Clearly visible track, which runs east - west, following the contours at the base of the field north of Pant Glas. There is an entrance leading off the Telford road (1.5) indicating it was in use from 1816. It is probable that this is the remains of the Old Caernarvon Turnpike, built shortly after 1810 and shown on the first edition Ordnance Survey map of 1818.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: The line of the track should be surveyed, and where the track is to be directly affected the method of construction should be recorded.

4. Wet corner of field south-east of Plas-padog. SH84205120 Category E.

A fairly large field, which has been drained for the most part, but there remains a substantial area which is boggy and largely unimproved, despite some attempt at drainage. The area is typical of those where Prehistoric burnt mounds are found, and there is potential here for the presence of archaeological deposits.

Recommendations for further assessment: None

Recommendation for mitigatory measures: The trial trenching recommended in para 4.6 below should include this area. The work should be accompanied by environmental studies if positive results are obtained.

5. Slate water tank. SH84145129 Category C.

A slate water tank which is probably contemporary with Plas-padog i.e. 19th century.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: Recording by photograph and description.

6. Two separate stepping stone crossings across the R. Eidda. SH83875136 and SH83835132 *Category C*

Both crossing places are incomplete and have stones missing. They are probably contemporary with the settlement at Padog (19th century).

Recommendation for further assessment: None.

Recommendation for mitigatory measures: Recording by photography and description.

7. Two separate ford crossings over the R. Eidda. SH83825131 and SH83895131

Category C

One of these crossings is probably contemporary with Padog and could possibly be earlier, the other has the appearance of a modern crossing.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: Survey and record by photography and description.

8. Possible ford crossing at track to Bryn Bras. SH83725140 *Category C*

Contemporary with Bryn Bras, ie at least early 17th century, possibly older.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: Survey and record by photography and description.

9. Track leading to Bryn Bras. SH83555150 *Category C*

Contemporary with Bryn Bras, ie at least early 18th century, possibly older.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: Record by photography and description, with limited archaeological examination, so that the road metalling and general construction can be examined and recorded.

10. Footbridge, (disused and derelict) SH83155217 *Category C*

Remains of a footbridge probably used to connect Glan Conwy with the land on the west side of the R. Conwy. All that now exists are two stone and concrete abutments on either side of the river and a central pier with the rusting remains of the span. It is marked as being used on the 1913 OS map.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: Record by photograph and description.

4.5 Field boundaries.

The pattern and nature of field boundaries are an important aspect of the historical landscape. Their construction, linear plan and ecological diversity can provide valuable information about the landscape and its evolution.

The most common type of field boundary in this area is the drystone wall, but examples of embanked walls, and low earth banks, usually topped with modern sheep-fencing, as well as a single predominately blackthorn hedge were noted.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: A descriptive survey should be carried out of all traditional field boundaries to be affected, including measured profiles and photographic recording. It is also recommended that an ecological survey of the boundaries accompanies the archaeological survey. The information gained from this survey would provide both a

suitable record of historic features and contribute to the re-instatement of landscape features.

4.6 Areas of unknown archaeological potential

Previous results from similar projects have shown that many sites can only be detected by excavation, particularly in areas such as this where surface indications are slight due to ploughing. Trial trenching and a continuous watching brief along the line of the route are therefore essential parts of the evaluation procedure, with potential for discovering sites which would otherwise go unrecorded. However the excavation of trial trenches before the land has been purchased by the Welsh Office does pose a number of practical problems, and other methods of ground investigation to help advise the course of the proposed road should be used. Ground investigation work for engineering purposes which involves the digging of trial pits should be monitored by an archaeologist. A geophysical survey should be carried out along the line of the proposed road. The success of this technique depends upon the nature of the soils and underlying rock, but one common approach is to cover the entire route by rapid scanning (either magnetic susceptibility or magnetometer), and then survey a sample of the remainder of the route by magnetometer or resistivity, using the results of the rapid scanning to aid the location of the areas to be surveyed in detail. It is recommended that sample areas for detailed survey should not be less than 1600 square metres in size.

Recommendation for further assessment: (i) Any trial pits dug along the line of the road should be monitored by an archaeologist. (ii) A geophysical survey should be carried out which will allow investigation for below ground archaeological features without excavation. (iii) A series of trial trenches should be dug along the line of the road, so that approximately 2% of the area to be affected is examined. Previous studies have shown that the best results come from a series of trenches measuring approximately 30 m by 2 m cutting across the line of the proposed road.

Recommended mitigatory measures: Any sites arising from the trial trenching will be allocated to categories according to their importance. A continuous watching brief should be maintained during the relevant stages of the road improvement works.

5. SUMMARY OF RECOMMENDATIONS FOR FURTHER WORK AND MITIGATORY MEASURES

5.1 Further assessment work

This section summarises the work which is recommended to evaluate those archaeological remains whose status and extent are not yet established, i.e. sites in Category E. They will be reclassified and suitable mitigatory measures suggested following evaluation.

Category E - Sites needing further investigation

Areas of unknown archaeological potential.

Geophysical survey/Trial Trenching

5.2 Mitigatory Measures

This section lists the remaining sites according to category. The categorisation attempts to quantify the importance of the archaeological resource, as suggested in the 'Design Manual for Roads and Bridges' Volume 11, Section 3, Part 2.

Category A - National importance

1 Telford's London-Holyhead road

Preservation in situ

Category B - Regional importance

None

Category C - Local importance

2	Track to Pant Glas	Recording
3	Trackway south of Pant Glas	Survey and recording
	Field boundaries	Recording

Category D - Minor and damaged sites

4.	Field S. of Padog	Trial trenching
5	Slate water tank	Descriptive recording
6	Stepping stones over R. Eidda	Descriptive recording
7	Ford crossing R. Eidda	Descriptive recording
8	Ford (near Bryn Bras)	Descriptive recording
9	Track to Bryn Bras	Descriptive recording
10	Footbridge crossing R. Conwy (nr Glan Conwy)	Descriptive recording

A continuous watching brief should be maintained along the whole route during relevant stages of the work.

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7.0 NON TECHNICAL SUMMARY

An initial assessment of the proposed route has identified a number of sites of local interest, and one area for further assessment.

Initial recommendations are proposed for mitigatory strategies for known sites ranging from preservation *in situ* where at all possible to the provision of a watching brief during road construction.

The area around the corridor of interest shows evidence of continuous settlement from Prehistoric times onwards, with the potential for sites of any date occurring along the proposed route.

The site of greatest archaeological importance is Telford's road, and, although preservation *in situ* is recommended, any major disturbance of the road should be accompanied by full recording of the details of construction and any associated features.

The remaining sites identified within the route corridor are mainly agricultural features (tracks and river crossings form the majority of sites in the gazetteer), and it is recommended that these features are recorded by photograph and written description, and surveyed at an appropriate level where necessary. Whereas these could reflect a Medieval landscape, in their present form they are more likely to be 18th or 19th century in date. The track linking Pant Glas to the A5 (2) follows the route of an early road which crossed over the small late 18th century bridge south-west of Voelas and continued on to Llanrwst. A trackway (3) north of Pant Glas would appear to be the 1810 turnpike road which preceded Telford's road.

It is recommended that an archaeological and ecological survey is undertaken of the field boundaries within the corridor of interest, and expand this where necessary to allow the boundaries affected to be put into context.

A geophysical survey is recommended to help locate unknown areas of archaeology without excavation, and a series of trial trenches are also recommended, the area of which should approximate to some 2% of the area to be developed. It is realised that this latter recommendation can only be carried out once the land has been purchased by the Welsh Office. It is also recommended that a watching brief is maintained during the initial stages of ground disturbance and that provision be made for the adequate recording of any sites which are identified at this late stage in the development.



