

A470 CARDIFF TO GLAN CONWY TRUNK ROAD: GELLI-GEMLYN IMPROVEMENT

CULTURAL HERITAGE ASSESSMENT

GAT Project No. G1644

Report number : 711 (Revised October 2008)

Prepared for
Gwynedd Consultancy
September 2008

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

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By

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A470 CARDIFF TO GLAN CONWY TRUNK ROAD: GELLIGEMLYN IMPROVEMENT

CULTURAL HERITAGE ASSESSMENT (G1644)

1. INTRODUCTION

1.1 Overview

This report on Cultural Heritage covers three areas of assessment forming three sub-topics:

Archaeological Remains

Historic Buildings

Historic Landscapes

The report follows guidance provided in DMRB Volume 11, Section 3, Part 2: Cultural Heritage (June 1993, revised August 2007).

1.2. Project identification

The Welsh Assembly Government Transport Wales proposes an improvement to the A470 trunk road at Gelligemlyn, in the County of Gwynedd, north-west Wales. The location and regional context are shown in Figure 01. The alignment of the Proposed Scheme is shown on Figure 02

1.3 Purpose of the report

The purpose of this report is to provide information on the assessment of the significance of environmental effects of the Proposed Scheme on the cultural heritage of the area and the measures proposed to mitigate or enhance such effects.

The cultural heritage report has been prepared by Gwynedd Archaeological Trust by an experienced and qualified archaeologist.

1.4 Scheme description

The proposed scheme is located south of Ganllwyd between SH 729229 and SH 733223 on the western side of the A470(T), between Bryn Cemlyn and Gelligemlyn. Following a safety assessment of the existing crash barriers on the eastern side of the A470(T) at this location, it was considered that the current provision no longer met the relevant safety standards. Therefore, the aim of the scheme is to improve the safety of road users at this location by ensuring that the current safety standards are achieved.

The area of land adjacent to the eastern side of the A470(T) in this location is within Meirionnydd Oakwoods and Bat Sites Special Area of Conservation (SAC). Therefore, in order to avoid creating significant adverse effects on the SAC the work will involve creating a new, two lane carriageway along the western side of the existing road; approximately 650m in length. This will replace the old carriageway. The scheme is not intended to increase traffic flows and is aimed at improving the safety for users of this route.

A minor access road currently joins the A470(T) from the west at the northern end of the scheme. Visibility at the junction is restricted so it is proposed to re-design this to improve the visibility and safety for users. At the southern end of the scheme it is proposed to straighten out a bend, which otherwise could become potentially dangerous as a result of the new straighter section of carriageway to the north, and an existing, but unused, highway at the southern end of the scheme will be stopped up.

1.5 Regulatory / Policy Framework

The European Union Council Directive 85/337/EEC, amended by Directive 97/11/EC, requires the preparation of an Environmental Impact Assessment (EIA) for certain types of projects likely to have significant effects on the environment. This helps to ensure that the predicted effects and the scope for reducing them are properly understood by the relevant authorities, statutory consultees and general public. The Highways (Assessment of Environmental Effects) Regulations, 1999 (SI No. 369), as amended by the Highways (Environmental Impact Assessment) Regulations 2007, interpret these

Directives. Under these Regulations, a highway scheme may require an Environmental Impact Assessment (EIA). In accordance with the Schedules to the Regulations and Directive it has been determined that an EIA is required for this highway scheme.

The framework for the protection of archaeology in Wales within the planning process is provided by Welsh Office Circular 60/96 'Planning and the Historic Environment: Archaeology' in conjunction with Planning Policy Wales and Welsh Office Circular 61/96 'Planning and the Historic Environment: Historic Buildings and Conservation Areas',

Currently the Gwynedd Structure Plan (1991-2006) remains the adopted strategic development plan until it is superseded by the emerging Unitary Development Plan (UDP). The Structure Plan embodies policies relating to transport and the countryside within Gwynedd and the Snowdonia National Park, including nature conservation, tourism, recreation and agriculture.

The Structure Plan and the UDP (Policy B7) state that the developer will be required to commission either an archaeological assessment and/or field evaluation in order to determine the archaeological impact of a proposed development. Appropriate mitigation should also be recommended. This report fulfils these requirements.

LANDMAP (**Landscape Assessment and Decision-Making Process**) is the methodology promoted and supported by Countryside Council for Wales (CCW) and Welsh Unitary Authorities for assessing the diversity of landscapes within Wales. It identifies and explains their most important characteristics and qualities - whether they are ordinary, but locally important landscapes, or nationally recognised spectacular landscapes. Carried out at a Unitary Authority level, information is recorded about an area's geological, ecological, visual, cultural and historic character. The combination of these layers of information makes it possible to assess the richness or complexity of landscapes at a national and local level.

LANDMAP draws attention to the most important elements of the landscape and helps decision-makers to make informed judgements. These, in turn, strengthen Wales's diverse landscape heritage. It provides a consistent framework for collecting landscape information, primarily for landscape planners. Through studying information about an area's landscape, decision makers can understand what makes it distinctive, helping identify a sense of place.

It is intended to provide an input to decisions that are made concerning conservation or improvements or about the effect of proposed developments in the landscape. There are no *LANDMAP* historic areas in the vicinity of the proposed development.

1.6 Previous work

An assessment was made for a more extensive, 3 km long, road improvement scheme in 2000. This was carried out by Gwynedd Archaeological Trust for Hyder (Hopewell 2000, GAT report 400). The present report has utilised some data from this assessment but a separate field assessment has been carried out along with an expanded desktop study.

1.7 Method Statement

The current assessment work has been carried out in accordance with the methodology within DMRB Volume 11, Section 3, Part 2 Cultural Heritage (June 1993, revised August 2007) and as described below.

1.7.1 Desk based study

The desk-based assessment involved a study of the Historic Environment Register (HER) information for the study area. This included an examination of the core HER, and secondary information held within the record which includes unpublished reports, the 1:2500 County Series Ordnance Survey maps, and the National Archaeological Record index cards. The National Monuments Record (NMR) was checked for sites additional to the HER. Secondary sources were examined, including the Inventories of the Royal Commission on Ancient and Historical Monuments for Wales, and works held within the regional libraries and the University of Wales Bangor library. Indices to relevant journals, including county history and archaeology society journals and national society journals such as

Archaeologia Cambrensis were checked. Pre-afforestation RAF aerial photographs were consulted at RCAHMW. Information about Listed Buildings and Scheduled Ancient Monuments (SAM) was obtained from Cadw: Welsh Historic Monuments.

1.7.2 Field survey

This part of the assessment involved visiting the study area and assessing the sites identified during the desk-based study. Any additional sites noted were also assessed.

The aims of this stage of the work are to:

- verify the results of the desk based assessment
- identify any further archaeological sites which may exist as above ground features
- photograph and record the present condition of all sites noted.

The field survey was carried out in good weather on 14 December 2007. Some of the land at the northern limit part of the proposed scheme comprised an area of former forestry plantation that had been felled about 8 years ago. This was still covered with partially decomposed brash along with a growth of dense 2m high brambles. Detailed assessment was not possible in this area so reference was made to the previous assessment, carried out before the growth of the brambles, in November 2000 (Hopewell 2000).

1.7.3 Report

Following completion of the stages outlined above, a report was produced following DMRB guidelines.

2. TOPOGRAPHIC AND HISTORIC BACKGROUND

2.1 Introduction

This section provides an overview of the topographic and historic background to the area of the proposed scheme and is relevant to all three assessment sub-topics. Archive material consulted during the desktop study provided some dating evidence for known sites, and maps of successive dates made it possible to understand how the landscape had developed. Ordnance Survey map coverage of the area was good. The tithe maps (1846) provided some additional information and included the names of some of the individual fields shown on the 1st edition OS map. The location of sites described in the text are shown on Fig. 3

2.2 Topographic description

The A470 and thus the area of interest runs along the side of the steep-sided valley of the Mawddach. The valley floor is only just above the tidal limit of the river standing at less than 10m above sea level. The land to the west of the road rises steeply reaching a height of 150m, between 200 and 300m to the west of the valley floor. The road has been terraced into the lower parts of this slope. The land on the western side of the road consists of plantations of an imported species of *Quercus* interspersed with dense infestations of *Rhododendron ponticum* along with an area of clear-felled conifer plantation that is now very overgrown. The upper parts of the slope consist of either steep scree or conifer plantations. The land above the steep valley sides comprises enclosed upland sheep pasture.

2.3 The Archaeological Background

2.3.1 Prehistoric and Roman (up to 400AD)

Note: in the discussion below PRN refers to the Primary Reference Number of sites within the HER.

There are no known settlement or burial sites of the prehistoric period in the vicinity of the proposed scheme. Most of the land is either steeply sloping or liable to flooding and as such has a low potential for the discovery of archaeological remains of human settlement or ritual practices.

The hill slopes above the steep valley sides exhibit evidence for a range of prehistoric activity. The earliest evidence of human activity is in the form of a Mesolithic flint blade (PRN 4927) discovered on the eastern side of the valley near Pont Wen.

The most usual evidence for Bronze Age activity in North Wales is in the form of burial cairns which usually contain a stone lined cist grave. Three examples of this monument type (PRNs 6216, 5135 and 3931) can be seen below Cefn Coch, to the south-west of the scheme.

Foel Fanner hillfort (PRN 4750) provides the most visible evidence of Iron Age activity. The site stands 0.5 km to the east of the area of interest and is the remains of a defended settlement that acted as a focus for the smaller settlements in the area such as the hut circles below Cefn Coch (PRNs 3932 and 5176) and the hut circle on the eastern slopes of the valley. The occupation of the Iron Age sites in the area may well have continued into the Roman period.

The line of the Roman road between the forts at Tomen y Mur and Brithdir can be traced as far as Pen y Stryd, 9.5km to the north of the scheme. The line beyond this point is open to debate. One of two likely but unproven routes (Margary 1967 and Hopewell 2007) runs along the Mawddach valley and could pass through the scheme corridor.

2.3.2 Medieval (400AD – 1485 AD)

The study area lies within the medieval cantref of Ardudwy, in the commote of *Ardudwy Is Artro* and formed part of the medieval township of Llanelltyd. The surviving traces of medieval settlement are characterised by the presence of rectangular long hut platforms. One of these has been recorded within the study area at Tyddyn-bach (PRN 6208). Further examples stand below the Cefn-coch ridge (PRNs 3926 and 5200). Cymer Abbey near Llanelltyd was granted its charter in the 12th century and the development of the Abbey granges led to substantial holdings in the valley (Richards 1959). These were subsequently taken over by Nannau, a large Gentry estate.

2.3.3 Post-Medieval and later (1485 AD to the present day)

Thomas Pennant) recorded, during his Tours of Wales in 1781, that the sides of the hills in the ‘very contracted’ part of the valley to the south of Dolmelynlllyn were ‘finely covered with wood, almost to the top’ (Pennant, 1781).

The later history of much of this part of the Mawddach valley is bound to that of the Vaughan family and the Nannau estate (Kirkby Wyn Cato 1989). The major house and grounds in the northern part of the valley was Dolmelynlllyn which stands 800m to the north of the area of interest. The house dates from the 16th century although it has been much extended since that time. The house was sold by the Vaughans in 1796 to W.A. Madocks. A later owner Charles Williams purchased the Berth-lwyd estate extending the Dolmelynlllyn estate into the area (Cadw 1998). The estate was acquired by the National Trust in 1936.

The other higher status house in the area, Gelligemlyn, was recorded as belonging to Owen Jones Ellis Nanney Esq. in the 1846 tithe schedule. The fridd which covers most of the northern part of the west side of the valley in the area of interest was, at the end of the 19th century, largely open. The 1st edition 6” OS map (1880) shows two areas of woodland amongst open fields on the west side of the road in the area of the proposed scheme. The 1946-7 aerial photographs show open fields or scrubby woodland to the west of the road and a strip of open land immediately to the east of the road. Full afforestation did not occur until the 1960s or 70s. A complex network of paths is shown within the woods opposite Bryn Cemlyn on the early OS maps, perhaps suggesting a degree of landscaping.

The slopes on the western side of the valley road are less steep to the south of the scheme. This area is not wooded and represents a typical area of rough grazing. The upper slopes on the western side of the valley display similar characteristics. The Grade II listed former farmhouse and byre at Cae-mawr in this area is a good example of a 17th century vernacular domestic building of a type associated with upland farming.

2.3.4 Industry

The most significant event to occur in the Mawddach valley in post-Medieval times was the discovery of gold in the lead mines of the area (Hall 1988). Gold was initially noticed in a jig at Cwm-heisian mine, several km to the north of the study area in 1843 but initial attempts to attract investors were unsuccessful. The American gold rush of 1849, however, whetted the appetite of the stock market for British gold. Several mines in Meirionnydd produced a significant amount of gold but fabulous fortunes were not instantly forthcoming and the bubble burst amidst accusations of fraud.

There was, however, still potential in the Meirionnydd gold field and it was recognised that high-grade ore had been produced at Dolfrwynog, Prince of Wales and Clogau mines. In 1857/58 T.A. Readwin

and William Williams of Bryntirion bought up the share capital of Vigra and Clogau mines in order to prospect for copper. They also restarted work on an adit on the St David's lode. Gold was encountered within a year, and was being produced in earnest by 1861. Production rose to a peak in 1862 with 320 ounces per fortnight being produced. This precipitated a scramble for shares and a reawakening of interest in Welsh gold. Unfortunately a huge investment in new machinery designed to process large amounts of quartz failed to produce a good return and by 1870 gold production had ceased.

T.A. Readwin started work at Gwynfynydd mine in the 1880s but a lack of funds resulted in the mine being taken over by William Pritchard Morgan. A rich lode was discovered in 1887 and the mine became very successful. Clogau was also reopened and was eventually acquired by a group of local businessmen and again began to produce a good supply of gold. Both mines were taken over by Godfrey Issacs and his associates in the 1890s and in 1904 a record 20,000 ounces of gold was produced. At this time over 150 men were employed in the mines. Production again fell after 1907 and in 1916 the last mine had closed. Sporadic attempts at mining have occurred since but gold production has ceased to be a major factor in the economy of the area.

The majority of the above activity occurred to the west of the Mawddach valley. Part of one small mine, Cae-mawr, falls close to the proposed scheme (Crew and Latham 1984). The Mine was worked by Readwin between 1862 and 1865 and continued to be used intermittently between 1891 and 1895. The only available figure for its output records that 10 tons of quartz yielded 1.35 oz of gold in 1891 (Morrison, 1975). Other trial workings are recorded on the first edition 6" OS map in Fridd Gelligemlyn and on the eastern side of the river (PRNs 20883 20900 20890 20884 8666 and 8667).

One further significant industrial site (PRN 4748) lies on the eastern side of the river below the woodland of Coed Dol-y-clochydd. A late 16th century blast furnace was excavated by students from Plas Tan-y-bwlch revealing much new information on the techniques of iron production in this period (Crew and Williams 1986). The site was consolidated after the excavations were completed.

2.4 Conclusions

Much of the area within and around the proposed scheme comprises the steep wooded slopes of the Mawddach valley and the featureless flood plain of the river. There are consequently no known medieval or earlier settlements or ritual sites close to the road and only scattered sites on the uplands above the valley. More recent sites are mainly associated with the 'Welsh gold rush' of the late 19th century. These sites are again mainly restricted to the upper slopes, away from the road although some smaller trial workings have been recorded on the lower slopes. An archaeologically important 16th century blast furnace survives on the eastern side of the river.

2.5 Existing statutory protection

The following buildings/features are Grade II listed:

Milepost to the north of Gelligemlyn – now recorded as missing, but still listed (11 in the Gazetteer).

Former farmhouse at Cae-mawr including attached byre.

There are no Scheduled Ancient Monuments in the vicinity of the proposed scheme.

3. ARCHAEOLOGICAL REMAINS

This section describes sites which are near enough to the proposed scheme to be potentially affected by its construction. In practice, this includes all sites recorded during the fieldwork phase of the project. This work intensively examined a corridor, approximately 100m, wide centred on the present road. The general arrangement plan indicates that the proposed scheme deviates from the present line of the road in several places, all on the western side, and these areas were examined in greatest detail. There is a SAC on the eastern side of the present road and no disturbance is anticipated in this area. Several sites were identified on the eastern side and some of these have been included because they could be affected by ancillary works. It has been assumed that the improvement works will not affect the eastern bank of the Mawddach river and the river has therefore been taken as the eastern boundary of the assessment. The archaeological remains are initially presented as a gazetteer representing the baseline conditions. Mitigatory measures and the impact of the proposed scheme on the archaeological assets is then examined.

3.1 Assessment Methodology

The assessment was carried out in accordance with the methodology within DMRB volume 11 (2007). The assessment of archaeological remains considers the potential for direct effects, such as destruction or loss of part of a feature, and indirect effects, including: visual intrusion, severance from linked or associated features or landscape elements, changes in setting, or loss of amenity where the public have access.

3.2 Impact Definitions

In order to assess the importance of sites and to allow the appropriate mitigatory action to be proposed for each, a framework of categories, defined in DMRB Vol. 11 2007, will be used to define the importance of each site and the magnitude and significance of impact caused by the proposed scheme on each site.

3.2.1 Assessment of the value of archaeological assets

All archaeological sites have been assessed for value, and allocated to one of the categories listed below. The allocation of a site to a category defines the value of the archaeological resource of that site. The categories in the current DMRB listed in table 2.3 replace the classification of archaeological importance categories that were used in DMRB 1994. The previous classification is still utilised within Scheduled Ancient Monument (SAM) definitions and ASIDOHL reports and the equivalent categories are noted in Table 1

Table 1: Factors for assessing the value of archaeological assets

Very High	<ul style="list-style-type: none">• World Heritage Sites (including nominated sites).• Assets of acknowledged international importance.• Assets that can contribute significantly to acknowledged international research objectives. (Previously Category A)
High	<ul style="list-style-type: none">• Scheduled Monuments (including proposed sites).• Undesignated assets of schedulable quality and importance.• Assets that can contribute significantly to acknowledged national research objectives. (Previously Category A)
Medium	<ul style="list-style-type: none">• Designated or undesignated assets that contribute to regional research objectives. (Previously Category B)
Low	<ul style="list-style-type: none">• Designated and undesignated assets of local importance.• Assets compromised by poor preservation and/or poor survival of contextual associations.• Assets of limited value, but with potential to contribute to local research objectives. (Previously Category C)
Negligible	<ul style="list-style-type: none">• Assets with very little or no surviving archaeological interest. (Previously Category D)
Unknown	<ul style="list-style-type: none">• The importance of the resource has not been ascertained. (Previously Category E)

3.2.2 Magnitude of impacts

The definition of impacts on the cultural heritage are defined as follows (DMRB Volume 11, 2007)

Table 2: Factors in the Assessment of Magnitude of Impacts

Major	Change to most or all key archaeological materials, such that the resource is totally altered. Comprehensive changes to setting.
Moderate	Changes to many key archaeological materials, such that the resource is clearly modified. Considerable changes to setting that affect the character of the asset
Minor	Changes to key archaeological materials, such that the asset is slightly altered. Slight changes to setting
Negligible	Very minor changes to archaeological materials, or setting
No Change	No change

The value of an archaeological asset refers to both the physical remains and information inherent in the site. If a site is excavated in advance of the construction work the physical remains will be destroyed, but the information will have been retained. This is termed “Preservation of Archaeological Remains by Record” in Planning and the Historic Environment: Archaeology (Welsh Office Circular 60/96). It should be noted that even though this is seen as a valid mitigatory measure, preservation *in situ* is the preferred option.

3.2.3 The significance of effect

The significance of effect is derived from the importance of the resource and the magnitude of the impact upon it. Archaeological value Unknown sites are not included because they would have been reassigned to another category by the end of the assessment and evaluation.

Very large - A serious impact on a site of international or national importance with little or no scope for mitigation. These effects represent key factors in the decision making process.

Large - Lesser impacts on sites of national importance and serious impacts on sites of regional importance, with some scope for mitigation. These factors should be seen as being very important considerations in the decision making process.

Moderate - Moderate or minor impacts on sites of regional importance and minor to major impacts on sites of local or minor importance. A range of mitigatory measures should be available.

Slight - Negligible impacts on sites of regional, local or minor importance and minor and moderate impacts on minor or damaged sites. A range of basic mitigatory measures should be available.

Neutral - No perceptible effect or change to sites of all categories.

The significance of effect will be determined using Table 3, a basic matrix combining archaeological value and magnitude of impact.

Table 3: Determination of Significance of Effect

	Very High	Neutral	Slight	Moderate or Large	Large or Very Large	Very Large
Archaeological Value	High	Neutral	Slight	Moderate or Slight	Moderate or Large	Large or Very Large
	Medium	Neutral	Neutral or Slight	Slight	Moderate	Moderate or Large
	Low	Neutral	Neutral or Slight	Neutral or Slight	Slight	Moderate or Slight
	Negligible	Neutral	Neutral	Neutral or Slight	Neutral or Slight	Slight
		No Change	Negligible	Minor	Moderate	Major
Magnitude of impact						

3.3 Definition of Mitigation Measures

The alignment of the Proposed Scheme avoids as far as possible sites of archaeological interest. Where a site is affected, mitigation measures would be required in accordance with the guidelines in DMRB Volume 10 and Volume 11.

The following are the basic categories of archaeological mitigation measures which will be used. Additional details may be added in regard to the setting of archaeological sites. The detailed recording, basic recording and watching brief options fulfil the “preservation by record” option described in Welsh Office Circular 60/96.

None - No impact, so no requirement for mitigation measures.

Detailed recording - Detailed recording requires a photographic record, surveying and the production of a scale drawing prior to the commencement of the works on site. Archaeological excavation works may also be required, depending upon the particular feature and the extent and effect of the impact.

This may entail full excavation and recording where a known site will be destroyed or partially destroyed by the scheme. Some built sites would require dismantling by hand, to provide a detailed record of the method of construction and in the case of a listed structure, the salvage of materials for re-use and re-building.

For wider areas of high archaeological potential there are three main options:

Geophysical Survey: This can be used, where appropriate, as an initial non-intrusive assessment technique allowing areas of archaeological activity to be recognised. Magnetometer survey is the preferred first option in most cases, because it allows large areas to be surveyed quickly and can detect a wide range of archaeological features. Resistivity may be used as a secondary option. It should be noted that not all archaeological features can be detected using geophysical survey and absence of positive results does not prove that there is no archaeology present. Geophysical survey should be followed by one of the following options.

Trial Trenching: This can be adopted as a staged mitigation process involving assessment and then wider excavation where necessary. A series of trenches would be excavated within a designated area in order to provide a sample of the buried archaeology. A minimum of 5% area coverage is usually specified. The results from geophysical survey can be used to allow accurate positioning of a proportion of the trenches over specific archaeological features. All archaeological features uncovered during the process would be assessed. Significant features would then be excavated and fully recorded.

Strip map and sample: This technique involves the examination of machine-stripped surfaces to identify archaeological remains. The process of machine stripping would be supervised by an archaeologist. Once stripping has been undertaken, areas of archaeological potential would be identified and cleaned by hand. Sample areas would be cleaned by hand in areas with no apparent archaeological interest to act as a control. Where complex archaeological deposits are identified during stripping, these would be identified at an early stage in order to formulate a defined area of work. This technique relies upon the recognition of features by plan, and excavation of features would be kept to a level required to assess the nature and importance of the remains. This would be followed by full excavation where appropriate.

Basic recording - Recording by photograph and description requires a photographic record and written description prior to the commencement of works on site. A measured survey may be required in certain cases.

Watching brief - Observation of particular identified features or areas during works in their vicinity. This may be supplemented by detailed or basic recording of exposed layers, structures or sections.

Avoidance - Features which may be affected directly by the scheme, or by the construction of the scheme, should be avoided.

Reinstatement and/or relocation – The feature should be reinstated with archaeological advice and supervision.

3..4 Baseline Conditions

This section comprises a gazetteer of the archaeological remains identified in the assessment. Refer to Fig. 4 for the location of the individual sites.

1. Dry-stone revetment wall NGR: SH73002279

Archaeological value: Low

A dry-stone revetment wall, 0.6m high and built from river cobbles runs around the break of slope above the Mawddach and a small tributary stream. The wall is now ruinous.

2. Dry-stone revetment wall NGR: SH73002275

Archaeological value: Low

A dry-stone revetment wall, 0.4 to 0.6m high and built from river cobbles runs around the break of slope above the Mawddach and a small tributary stream. Presumably contemporary with site 1, the wall is now ruinous. This wall formed part of a rectangular enclosure that is visible on the pre-afforestation aerial photographs of 1946-7. This appears to have been part of the landscaped grounds of Bryn Cemlyn.

3. Pathway NGR: SH73002277

Archaeological value: Negligible

A narrow path zigzags down the steep slope beside a stream to the south-west of Bryn Cemlyn. The path is disused, overgrown and visible as a 0.3m wide terrace cut into the side of the valley.

4. Culvert and trough 72972275

Archaeological value: Low

A stream passes beneath the A470 via a narrow culvert. The water is then carried three metres away from the revetment wall in an iron trough.

5. Revetment wall NGR: SH73122262

Archaeological value: Low

Occasional lengths of dry-stone revetment walls run along the break of slope 20 to 30m from the eastern edge of the A470. The land drops steeply to the river beyond this point. The pre-afforestation aerial photographs of 1946-7 demonstrate that this was a former boundary between open ground to the north-east of the road and woodland in the valley bottom.

6. Boundary NGR: SH73142259

Archaeological value: Negligible

The boundary indicated on the 1st edition 6" OS map has been replaced with a wire fence, little remains of the original wall.

7. Possible rectangular platform NGR: SH72942274

Archaeological value: Unknown

An alignment of large stones above a stream could be the remains of a rectangular platform. A large amount of scattered stones make this site difficult to assess. It could be the remains of a small square hut or a partly buried medieval long hut. This area is in shadow on the 1946-7 aerial photographs and no further details could be seen.

8. Track or path NGR: SH72802276

Archaeological value: Medium

A 1m wide path is cut into the slope above the road at this point. Occasional lengths of dry-stone revetment wall can be traced below the path. The path crosses two streams and then drops down towards the road before being lost in the former plantation. This path is shown on the OS 6 inch 1880 edition. The track may be the remains of an early route along the valley and is well-preserved as far as the stream crossing at SH72832273. To the south of this point it becomes difficult to trace due to damage from forestry plantation and harvesting.

9. Track or path NGR: SH72872278

Archaeological value: Low

A 1.5m wide terraced path winds up the slope from the road to join up to path 8. This is also shown on the OS 6 inch 1880 edition.

10. Dry-stone boundary/field wall NGR: SH72842280

Archaeological value: Negligible

A dry-stone wall standing to a height of about 1.2m, runs uphill from the A470 parallel to a small stream crossing over the stream about 100m up the slope.

11. Bridge abutments NGR: SH72852280

Archaeological value: Low

The remains of narrow bridge abutments can be seen on the banks of the stream. The bridge originally carried a path (site 8). A break in dry-stone wall 10 suggests that all of these features were in use at the same time. The abutment on the north side of the stream is well preserved and is of dry-stone and stands to a height of 1.0m. The abutment is 1.7m wide and cut into the slope. There are no visible remains of the bridge itself but it probably was a small wooden structure or a single stone slab.

12. Ford NGR: SH72832273

Archaeological value: Low

Path 8 crosses a second stream via a ford. The path can be seen to cut down the side of the stream which was forded at a natural shelf in the steep slope which may have been enhanced by the addition of a few boulders.

13. Old track or road NGR: SH73232244

Archaeological value: Medium

A two metre wide shelf can be seen 15-20m south-west of and running parallel to the A470. This presumably represents an earlier line of the present road. It was not, however, possible to assign a date to this feature. A fragment of trackway is shown on the OS 6" and 25" maps from the 1880s and on the 1946-7 aerial photographs. This may have connected to other fragments of track shown on the early maps (perhaps site 8) possibly indicating a road alignment predating the current A470.

14. Dry-stone field/boundary wall NGR: SH73242240

Archaeological value: Negligible

A ruinous 1.5m high, single skin, dry-stone wall runs up the slope from the road. The wall becomes more substantial about 100m up the slope.

15. Sub-circular enclosure NGR: SH73172242c

Archaeological value: Unknown

A 0.6m high bank of piled stone delineates a sub-circular enclosure c.80m in diameter. The enclosure stands on a naturally level area at the top of the slope above the road and is shown as a field boundary on all editions of the OS 6" and 25" maps. One side of the enclosure appears to be formed by wall 14. The pre-afforestation aerial photographs of 1946-7 show the enclosure in open fields and the bank is visible as a stone spread. This can be contrasted with wall 14 which was well preserved at this time. This suggests that the enclosure predates wall 14 which was probably built over parts of the bank. The sub-circular enclosure therefore appears to predate the 18th/19th century estate enclosure and landscaping seen elsewhere in the area. It could be part of an earlier field system or possibly the remains of a prehistoric defended enclosure. There may be internal structures visible on the aerial photographs towards the southern side of the enclosure but these are unclear and the area is now buried in deep leaf litter. See also site 20, a possible hut circle, just to the south of the enclosure.

16. Trackway NGR: SH73252235

Archaeological value: Medium

A 1.5m wide trackway, cut into and terraced out onto the hillside, zigzags down the steep slope above the road. This is shown on the OS 6" and 25" maps from the 1880s onwards. The track is well constructed with stone revetment and appears to have been a link between the farms higher up the valley side and the main road.

17. Leat NGR: SH73252224

Archaeological value: Negligible

A 1.0m wide, 0.6m deep, dry leat runs from several hundred metres up the mountain to the road above Gelligemlyn. The leat was not traced to its origin. It may represent a disused water supply for the Gelligemlyn complex or possibly a drain from mine workings although none are marked in the vicinity on the 1st edition 6" OS map. It is however visible on the 1946-7 aerial photographs and appears to abstract water from the nearby stream.

18. Trial NGR: SH73272226

Archaeological value: Low

A trial level is cut into a steep rock face a few metres west of the A470 near Gelligemlyn. It is probable that this trial was dug in search of gold in the later part of the 19th century. The area is very overgrown with *Rhododendron ponticum* and therefore difficult to assess. Smaller associated workings also appear to have been cut into the rock a few metres to the south.

19. Trials/quarry scoops *PRN 20883* NGR: SH73262223

Archaeological value: Low

Two mineral or stone workings, now overgrown and rather indistinct, can be seen at the base of the crags. The 1st edition 6" OS map indicates 'Old Levels' in this area although their exact position is not shown. It is probable that these workings were dug in search of gold in the later part of the 19th century. The two workings are small scale the larger being 10m x 10m with little evidence of significant spoil production.

20. Possible hut circle NGR: SH73232237

Archaeological value: Unknown

A possible hut circle lies adjacent to sub-circular enclosure 16. It is a rocky sub-circular platform 2.5m in diameter internally and 6m externally. It is terraced into the slope and there are a few disturbed stones on the south side. The site is visible on the pre-afforestation aerial photographs of 1946-7. Further assessment is needed before this can be allocated to a category.

21. Roman Road *PRN 17732* NGR: SH73102250C

Archaeological value: Unknown

The southern part of the route of the Roman road between Tomen y Mur and Brithdir (Margary I.D. number RR69b) has not been traced in detail but recent research suggests that its most likely route is along the Mawddach valley (Hopewell 2007). No physical evidence has so far been discovered but buried remains could exist within the road corridor.

22. Sites of unknown archaeological potential

Archaeological value: Unknown

There is some potential for the discovery of previously unknown buried archaeological sites away from the steeper slopes. The chance of sites being masked by undergrowth and accumulations of leaf litter are high across the whole area.

3.5 Magnitude of Impacts (Change) and Significance of Effects Prior to and with Mitigation

This section of the report assesses the impact on each site identified in the baseline survey (Section 3.3 above). Many of the sites identified will not be affected by the proposed scheme. However they lie within or adjacent to the working corridor, and it is possible that minor changes or ancillary works such as compounds and borrow pits may impact upon these sites. The level of mitigation required if they are to be affected is therefore stated. The classification of impacts uses the definitions set out in Section 3.2 of the report following guidelines given in DMRB Vol. 11 2007. All impacts would occur within the construction phase and would be direct and permanent.

1. Dry-stone revetment wall NGR: SH73002279

Archaeological value: Low

Recommendations for further assessment: None

Magnitude of impact prior to mitigation: No change
No direct impact.

Significance of effect prior to mitigation: Neutral

Recommended Mitigation Measures: None

If the site is to be affected a basic record should be made in advance of impact.

Magnitude of impact with mitigation: No change.

Significance of effect with mitigation: Neutral

2. Dry-stone revetment wall NGR: SH73002275

Archaeological value: Low

Recommendations for further assessment: None

Magnitude of impact prior to mitigation: No change
No direct impact.

Significance of effect prior to mitigation: Neutral

Recommended Mitigation Measures: None

If the site is to be affected a basic record should be made in advance of impact.

Magnitude of impact with mitigation: No change

Significance of effect with mitigation: Neutral

3. Pathway NGR: SH73002277

Archaeological value: Negligible

Recommendations for further assessment: None

Magnitude of impact prior to mitigation: No change

No impact.

Significance of effect prior to mitigation: Neutral

Recommended Mitigation Measures: None

If the site is to be affected a basic record should be made in advance of impact.

Magnitude of impact with mitigation: No change

Significance of effect with mitigation: Neutral

4. Culvert and trough 72972275

Archaeological value: Low

Recommendations for further assessment: None

Magnitude of impact prior to mitigation: Moderate

The site will be impacted upon by the proposals.

Significance of effect prior to mitigation: Slight adverse

Recommended Mitigation Measures: Basic recording

A basic record is to be made in advance of destruction.

Magnitude of impact with mitigation: Minor

The site would be recorded ensuring preservation by record

Significance of effect with mitigation: Neutral

5. Path and revetment wall NGR: SH73122262

Archaeological value: Low

Recommendations for further assessment: None

Magnitude of impact prior to mitigation: No change

No impact.

Significance of effect prior to mitigation: Neutral

Recommended Mitigation Measures: None

If the site is to be affected a basic record should be made in advance of impact.

Magnitude of impact with mitigation: No change.

Significance of effect with mitigation: Neutral

6. Boundary NGR: SH73142259

Archaeological value: Negligible

Recommendations for further assessment: None

Magnitude of impact prior to mitigation: No change
No impact.

Significance of effect prior to mitigation: Neutral

Recommended Mitigation Measures: None

If the site is to be affected a basic record should be made in advance of impact.

Magnitude of impact with mitigation: No change.

Significance of effect with mitigation: Neutral

7. Possible rectangular platform NGR: SH72942274

Archaeological value: Unknown

Recommendations for further assessment: None.

Trial excavation if impact is necessary.

Magnitude of impact prior to mitigation: No change
No impact.

Significance of effect prior to mitigation: Neutral

Recommended Mitigation Measures: None

If the site is to be affected mitigation depends on the results of the assessment. If a structure of archaeological significance is identified full excavation in advance of destruction will be required.

Magnitude of impact with mitigation: No change

Significance of effect with mitigation: Neutral

8. Track or path NGR: SH72802276

Archaeological value: Medium

Recommendations for further assessment: None

Magnitude of impact prior to mitigation: Moderate

The southern end of the track will be truncated by the construction of the minor road access. The extent of the impact is unknown but access works may remove a significant part of the site.

Significance of effect prior to mitigation: Moderate adverse

Recommended Mitigation Measures: Detailed Record

A detailed record should be made of the site in advance of destruction. This should include detailed plans and sample excavation.

Magnitude of impact with mitigation: Minor

Parts of the site will be unaffected. Any elements that will be destroyed will be fully recorded ensuring preservation by record

Significance of effect with mitigation: Slight adverse

9. Track or path NGR: SH72872278

Archaeological value: Low

Recommendations for further assessment: None

Magnitude of impact prior to mitigation: No change
No impact.

Significance of effect prior to mitigation: Neutral

Recommended Mitigation Measures: None

If the site is to be affected a basic record should be made in advance of impact.

Magnitude of impact with mitigation: No change

Significance of effect with mitigation: Neutral

10. Dry-stone boundary/field wall NGR: SH72842280

Archaeological value: Negligible

Recommendations for further assessment: None

Magnitude of impact prior to mitigation: No change

Significance of effect prior to mitigation: Neutral

Recommended Mitigation Measures: None

If the site is to be affected a basic record should be made in advance of impact.

Magnitude of impact with mitigation: No change
The site would be avoided or recorded ensuring preservation by record

Significance of effect with mitigation: Neutral

11. Bridge abutments NGR: SH72852280

Archaeological value: Low

Recommendations for further assessment: None

Magnitude of impact prior to mitigation: No change
No impact.

Significance of effect prior to mitigation: Neutral

Recommended Mitigation Measures: None.

Magnitude of impact with mitigation: No change

Significance of effect with mitigation: Neutral

12. Ford NGR: SH72832273

Archaeological value: Low

Recommendations for further assessment: None

Magnitude of impact prior to mitigation: No change
No impact.

Significance of effect prior to mitigation: Neutral

Recommended Mitigation Measures: None

Magnitude of impact with mitigation: No change

Significance of effect with mitigation: Neutral

13. Old track or road NGR: SH73232244

Archaeological value: Medium

Recommendations for further assessment: None

Magnitude of impact prior to mitigation: Moderate

The site will be destroyed by the proposed scheme. It is likely that it is part of a road running along the valley so the overall destruction in the context of the wider landscape should be no more than Moderate.

Significance of effect prior to mitigation: Moderate adverse

Recommended Mitigation Measures: Detailed recording

The site should be fully recorded in advance of destruction. This should include sample excavation to record constructional details.

Magnitude of impact with mitigation: Minor

Detailed recording would allow greater understanding of the site and ensure preservation by record.

Significance of effect with mitigation: Slight adverse

14. Dry-stone field\boundary wall NGR: SH73242240

Archaeological value: Negligible

Recommendations for further assessment: None

Magnitude of impact prior to mitigation: Moderate

Parts of the wall will be destroyed by the scheme

Significance of effect prior to mitigation: Slight adverse

Recommended Mitigation Measures: Basic recording

A basic record should be made of the site in advance of destruction.

Magnitude of impact with mitigation: Minor

Preservation by record would provide a degree of mitigation

Significance of effect with mitigation: Neutral

15. Sub-circular enclosure NGR: SH73172242c

Archaeological value: Unknown

Recommendations for further assessment: None.

Magnitude of impact prior to mitigation: No change

Significance of effect prior to mitigation: Neutral

Recommended Mitigation Measures: Avoidance

Magnitude of impact with mitigation: No change

Significance of effect with mitigation: Neutral

16. Trackway NGR: SH73252235

Archaeological value: Medium

Recommendations for further assessment: None

Magnitude of impact prior to mitigation: Moderate

The well constructed zigzag part of the trackway will be destroyed by the scheme. This is only part of a longer trackway but is the most distinctive part and includes the link to the modern road.

Significance of effect prior to mitigation: Moderate adverse

Recommended Mitigation Measures: Detailed recording

The site should be fully recorded in advance of destruction. This should include sample excavation to record constructional details.

Magnitude of impact with mitigation: Moderate

Detailed recording would ensure preservation by record.

Significance of effect with mitigation: Moderate adverse

17. Leat NGR: SH73252224

Archaeological value: Negligible

Recommendations for further assessment: None

Magnitude of impact prior to mitigation: No change

Significance of effect prior to mitigation: Neutral

Recommended Mitigation Measures: None

Magnitude of impact with mitigation: No change.

Significance of effect with mitigation: Neutral

18. Trial NGR: SH73272226

Archaeological value: Low

Recommendations for further assessment: None

Magnitude of impact prior to mitigation: No change

There is a possibility that the site may be destroyed by ancillary works

Significance of effect prior to mitigation: Neutral

Recommended Mitigation Measures: None

If the site is to be affected a basic record should be made after the clearance of vegetation and in advance of impact.

Magnitude of impact with mitigation: No change

The site would be avoided or recorded ensuring preservation by record

Significance of effect with mitigation: Neutral

19. Trials/quarry scoops NGR: SH73262223

Archaeological value: Low

Recommendations for further assessment: None

Magnitude of impact prior to mitigation: No change

Significance of effect prior to mitigation: Neutral

Recommended Mitigation Measures: None

Magnitude of impact with mitigation: No change

Significance of effect with mitigation: Neutral

20. Possible hut circle NGR: SH73232237

Archaeological value: Unknown

Recommendations for further assessment: None

Magnitude of impact prior to mitigation: No change

Significance of effect prior to mitigation: Neutral

Recommended Mitigation Measures: Avoidance

Magnitude of impact with mitigation: No change

Significance of effect with mitigation: Neutral

21. Roman road PRN 17732 NGR: SH73102250C

Archaeological value: Unknown

Recommendations for further assessment: None

Magnitude of impact prior to mitigation: Up to Moderate

There is a possibility that part of the site could be affected by the scheme.

Significance of effect prior to mitigation: Up to Moderate adverse

Recommended Mitigation Measures: Watching Brief

There is a possibility that the road passes through the area affected by the scheme. A watching brief is recommended during topsoil stripping along potential routes.

Magnitude of impact with mitigation: Up to Moderate

Any remains of the road would be recorded. The recovery of new information would provide some mitigation.

Significance of effect with mitigation: Up to Moderate adverse

22. Sites of unknown archaeological potential

Archaeological value: Unknown

Recommendations for further assessment: None

Magnitude of impact prior to mitigation: Up to Major

Previously unknown sites could be destroyed by the scheme

Significance of effect prior to mitigation: Up to Very Large Adverse

Recommended Mitigation Measures: Watching Brief

There is a possibility that there are undiscovered sites within the area affected by the scheme. A watching brief is recommended during topsoil stripping in areas of higher archaeological potential (i.e. away from the steeper slopes).

Magnitude of impact with mitigation: Up to Major

Any undiscovered sites would be recorded at the appropriate level. The recovery of new information would provide a degree of mitigation.

Significance of effect with mitigation: Up to Large adverse

3.6. Summary of significance of effects

Archaeological remains were discovered at 20 sites within, or very close to, the proposed scheme. The proposed scheme would directly affect five sites. These sites consist of disused trackways and boundaries with Negligible to Medium archaeological value. All will be destroyed or partially destroyed by the proposed scheme. Mitigation in all cases will involve recording in advance of destruction ensuring preservation by record. Significance of effects after mitigation will range from Neutral adverse to Moderate adverse.

The remaining 15 sites will not be affected by the proposed scheme. These sites have been retained in the report for background information because they are adjacent to the construction corridor, and there is a slight risk that they could be affected by ancillary such as the erection of reptile fencing. In all cases the preferred mitigation would be avoidance. If this is not possible the sites should be recorded to an appropriate level in advance of destruction thus ensuring preservation by record. Eleven of the sites consist of trackways, roads and associated features, boundaries, a leat and mining trials. If affected, the significance of effect after mitigation would range from Neutral adverse to Moderate adverse. Three sites (7, 15, 20), are of unknown archaeological value and would require further assessment before definite mitigation can be recommended. These sites are all of potentially High archaeological value and could be interpreted as the remains of a medieval long-hut, a prehistoric defended enclosure and a prehistoric hut circle.

The proposed scheme corridor is very overgrown and there is potential for the discovery of further archaeological remains, including the route of a Roman road that may run along the Mawddach valley, during the construction. Some areas are very steeply sloping and have a very low potential, whilst others are relatively level and have a higher potential. An intermittent watching brief is therefore recommended during initial site clearance/topsoil stripping. Any newly discovered archaeological remains should be recorded to an appropriate level in advance of destruction.

4.0 HISTORIC BUILDINGS

4.1 Assessment Methodology

The assessment was carried out in accordance with the methodology within DMRB volume 11 (2007). The assessment of built heritage considers the potential for direct effects, such as demolition or loss of part of a feature, and indirect effects, including: visual intrusion, severance from linked or associated features or landscape, changes in setting, or loss of amenity where the public have access.

4.2 Impact definitions

4.2.1 Assessment of the value of archaeological assets

The evaluation of the value of the built heritage resource uses the categories and criteria shown in table 4

Table 4: Guide for Establishing the Value of Historic Buildings

Criteria for Establishing the Value of Historic Buildings	
Very High	<ul style="list-style-type: none">• Structures inscribed as of universal importance as World Heritage Sites.• Other buildings of recognised international importance.
High	<ul style="list-style-type: none">• Scheduled Monuments with standing remains.• Grade I and Grade II* (Scotland: Category A) Listed Buildings.• Other listed buildings that can be shown to have exceptional qualities in their fabric or historical associations not adequately reflected in the listing grade.• Conservation Areas containing very important buildings.• Undesignated structures of clear national importance.
Medium	<ul style="list-style-type: none">• Grade II (Scotland: Category B) Listed Buildings.• Historic (unlisted) buildings that can be shown to have exceptional qualities in their fabric or historical associations.• Conservation Areas containing buildings that contribute significantly to its historic character.• Historic Townscape or built-up areas with important historic integrity in their buildings, or built settings (e.g. including street furniture and other structures).
Low	<ul style="list-style-type: none">• ‘Locally Listed’ buildings (Scotland Category C(S) Listed Buildings).• Historic (unlisted) buildings of modest quality in their fabric or historical association.• Historic Townscape or built-up areas of limited historic integrity in their buildings, or built settings (e.g. including street furniture and other structures).
Negligible	<ul style="list-style-type: none">• Buildings of no architectural or historical note; buildings of an intrusive character.
Unknown	<ul style="list-style-type: none">• Buildings with some hidden (i.e. inaccessible) potential for historic significance.

4.2.2 Magnitude of impacts

The magnitude of impact or change is graded using the criteria shown in table X.2

Table 5: Factors in the Assessment of the Magnitude of Impacts

Factors in the Assessment of Magnitude of Impacts	
Major	Change to key historic building elements, such that the resource is totally altered. Comprehensive changes to the setting.
Moderate	Change to many key historic building elements, such that the resource is significantly modified. Changes to the setting of an historic building, such that it is significantly modified.
Minor	Change to key historic building elements, such that the asset is slightly different. Change to setting of an historic building, such that it is noticeably changed.
Negligible	Slight changes to historic buildings elements or setting that hardly affect it
No change	No change to fabric or setting.

4.2.3 The significance of effect

The significance of the effect of the proposed scheme is considered in terms of the magnitude of the impact arising from the proposed scheme in relation to the value or sensitivity of the receptor. This is determined using the following matrix

Table 6: Significance of effects matrix

	Very High	Neutral	Slight	Moderate or Large	Large or Very Large	Very Large
Archaeological Importance	High	Neutral	Slight	Moderate or Slight	Moderate or Large	Large or Very Large
	Medium	Neutral	Neutral or Slight	Slight	Moderate	Moderate or Large
	Low	Neutral	Neutral or Slight	Neutral or Slight	Slight	Moderate or Slight
	Negligible	Neutral	Neutral	Neutral or Slight	Neutral or Slight	Slight
		No Change	Negligible	Minor	Moderate	Major
		Magnitude of impact				

4.3 Regulatory/Policy Framework

4.3.1 Designations

Figure 5 shows the designations that apply in the area around the scheme and the historic buildings, including listed buildings and conservation areas, discussed in this sub-topic.

4.3.2 World Heritage Sites

The Convention Concerning the Protection of the World Cultural and Natural Heritage, UNESCO 1972, created a World Heritage List. Sites on the list are defined as:

works of man or the combined works of nature and man, and areas including archaeological sites which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological point of view.

There are no world heritage sites in the vicinity of the scheme (Harlech Castle 17km to the north is the closest and will be unaffected)

4.3.3 Conservation Areas and Listed Buildings

Conservation Areas and Listed Buildings are statutory designations. The areas and buildings (or structures) themselves are protected, and their settings. There is only one listed structure, a cast iron milepost (now missing) at Gelligemlyn, in the vicinity of the proposed scheme.

4.3.4 Register of Landscapes, Parks and Gardens of Historic Interest in Wales

The proposed scheme falls within the Vale of Dolgellau Landscape of Outstanding Historic Interest (Cadw 1998 i), but is not included in any of the 17 historic landscape character areas defined in the Vale of Dolgellau Historic Landscape Characterisation report (GAT report no. 537 2005).

Dolmelynlyn, just to the north of the proposed scheme, is registered as a Park and Garden of Special Historic Interest in Wales (Cadw 1998 ii).

4.3.5 Policy Framework

The proposed scheme lies within the county of Gwynedd. Currently the Gwynedd Structure Plan (1991-2006) remains the adopted strategic development plan until it is superseded by the emerging Unitary Development Plan (UDP), in 2008. The Structure Plan embodies policies relating to transport and the countryside within Gwynedd and the Snowdonia National Park, including nature conservation, tourism, recreation and agriculture. Policy D22 states that “any development or redevelopment in close proximity to a ‘listed building’ and having a bearing on its setting and character will be carefully controlled”. In addition the Eryri Local Plan provides a detailed planning statement for development within the Snowdonia National Park.

4.3.6 LANDMAP

LANDMAP (Landscape Assessment and Decision-Making Process) is the methodology promoted and supported by Countryside Council for Wales (CCW) and the Welsh Unitary Authorities for assessing the diversity of landscapes within Wales. There are no LANDMAP Historic Aspect Areas in the vicinity of the scheme. The scheme is on the edge of the Coed y Brenin Cultural Landscape Aspect Area containing important associations with the Merioneth gold rush and now an important mountain biking centre. The principal management recommendations are for the conservation of built and industrial heritage.

4.4 Baseline Conditions

This section comprises a gazetteer of the historic buildings identified in the assessment. Refer to Fig. 5 for the location of the individual sites.

23. Bryn-cemlyn house and terraced gardens NGR: SH72922288

Archaeological value: Medium

Bryn Cemlyn House, buildings and terraced gardens probably dating from the 19th century stand between the A470 and the Afon Mawddach. The architectural style suggests that they were part of the Nannau Estate although there may also be links with the Dolmelynlyn estate. The gardens are shown

on the 1889 6" ordnance survey map. The terraces are now overgrown with only occasional remnants of the original planting in the form of a few scattered box and yew bushes.

24. The present A470 NGR: SH72952280 to NGR: SH72342075

Archaeological value: Low

The present road, which was probably constructed in the early 19th century, runs along the side of a rough steeply sloping valley and incorporates several impressive lengths of revetment wall, culverts for streams and dry-stone boundary walls.

25. Cast iron milestone NGR: SH73282236

Archaeological value: Negligible (formerly High)

A grade II listed structure described as 'A late 19th century cast iron milestone (reading Dolgelley 4 and Trawsfynydd 8) with a triangular profile is recorded as standing on the east side of the A470. The milestone was recorded as being in poor condition in the scheme assessment of 2000. At that time the upper part had been smashed and the side reading 'Dolgelley 4' was detached but still present. The other side was missing. The milestone is now completely destroyed and is no longer visible. The archaeological value of the site is now Negligible.

26. Gelligemlyn and Plas-Gelligemlyn NGR: SH73152227

Archaeological value: Medium

This complex of buildings and gardens east of the A470 were part of the Nannau estate in the 18th and 19th century and may have functioned as a hunting lodge. There may also be links with the Dolmelynnllyn estate. Extensive landscaped gardens are visible on the 1956-7 aerial photographs.

4.5 Magnitude of Impacts (Change) and Significance of Effects Prior to and with Mitigation

This section of the report assesses the impact on each site identified in the baseline survey (Section 2 above), recommends mitigation measures and then reassesses the impact on the sites after the implementation of the mitigation measures. The classification of impacts uses the definitions set out in Section 2 of the report following guidelines given in DMRB Vol. 11 2007.

23. Bryn-cemlyn house and terraced gardens NGR: SH72922288

Archaeological value: Medium

Recommendations for further assessment: None

Magnitude of impact prior to mitigation: Negligible

The setting of the buildings will be slightly affected with views to the south-east from the southern end of the grounds affected by the cutting for the minor road access. Given that the main outlook from the house and gardens is over the valley to the north-east this impact is negligible.

Significance of effect prior to mitigation: Neutral

Recommended Mitigation Measures: Sympathetic landscaping

Landscaping of the cutting above the minor road access should reflect the form of the local landscape.

Magnitude of impact with mitigation: Negligible

Sympathetic landscaping will minimise the intrusive effects of the road cutting.

Significance of effect with mitigation: Neutral

24. The present A470 NGR: SH72952280 to NGR: SH72342075

Archaeological value: Low

Recommendations for further assessment: None

Magnitude of impact prior to mitigation: Minor

The historic character of a short length of the A470 will be altered. The road was originally cut into the steep side of the valley and was narrow and winding utilising stone revetment walls on the lower side.

The scheme will straighten the road giving it a more modern character. The connection between the road and archaeological site 16 (Trackway) will be severed.

Significance of effect prior to mitigation: Slight adverse

Recommended Mitigation Measures: Sympathetic design

Revetment walls and roadside walls should be faced with stone. Planting should utilise species that are locally common.

Magnitude of impact with mitigation: Minor

There will inevitably be a detrimental affect on the historic character of the current narrow winding road. This will be slightly lessened by the use of appropriate materials and sympathetic landscaping.

Significance of effect with mitigation: Slight Adverse

25. Cast iron milestone NGR: SH73282236

Archaeological value: Negligible (formerly High)

Recommendations for further assessment: None

Magnitude of impact prior to mitigation: No Change

The milestone appears to have been destroyed

Significance of effect prior to mitigation: Neutral

Recommended Mitigation Measures: Replacement

It may be appropriate to erect a replacement milestone in a suitable position on the new road.

Magnitude of impact with mitigation: No change

A replacement milestone would add an element of historical context to the realigned road.

Significance of effect with mitigation: Neutral

26. Gelligemlyn and Plas-Gelligemlyn NGR: SH73152227

Archaeological value: Medium

Recommendations for further assessment: None

Magnitude of impact prior to mitigation: Minor

The setting of the buildings will be adversely affected. The present entrance is to be taken down and rebuilt further to the east. Views to the west will be compromised by the replacement of the narrow road that was presumably contemporary with the buildings, with a road of modern character on a different alignment.

Significance of effect prior to mitigation: Slight adverse

Recommended Mitigation Measures: Sympathetic landscaping and planting

Rebuild the entrance using the same materials and in the same style. Visual intrusion will be lessened by the utilisation of local materials in the road construction and screening by planting.

Magnitude of impact with mitigation: Minor

Sympathetic landscaping and design will help lessen the intrusive effects of the new road alignment.

Significance of effect with mitigation: Slight adverse

4.6. Summary of significance of effects

Four historic buildings or structures were identified. Of these one, a cast iron mile post listed Grade II has been destroyed and should be reclassified from High to Negligible importance. It would be investigated as to whether a replacement milestone can be manufactured and placed on the proposed scheme in order to help to maintain the historic context of the road. This would produce a Moderate beneficial effect. There will be a slight adverse effect on the setting of two houses due to the modern character of the new road. This can be partly mitigated by the use of appropriate stone-faced masonry and planting with locally common species. The historic character of the current A470 will inevitably be affected producing a Slight adverse effect.

5.0 HISTORIC LANDSCAPE

5.1 Assessment Methodology

This sub-topic follows guidance provided in DMRB Volume 11, Section 3, Part 2: Cultural Heritage (June 1993, revised August 2007).

The proposed scheme falls within the Vale of Dolgellau Landscape of Outstanding Historic Interest (Cadw 1998 i).

An Assessment of the Significance of the Impact of Development on Historic Landscape Areas on the Register of Landscapes of Historic Interest in Wales (ASIDOHL) is usually required as part of any survey and assessment work within a Landscape of Outstanding Historic Interest. This is in accordance with the guidelines set out in Guide to Good Practice on Using the Register of Landscapes of Historic Interest in Wales in the Planning and Development Process (Cadw and CCW 2006). In this case, however, the proposed scheme affects only a small area on the northern limit of the Landscape and does not fall within any of the 17 historic landscape character areas defined in the *Vale of Dolgellau Historic Landscape Characterisation Report* (GAT report no. 537 2005). Richard Kelly, the Historic Landscapes Officer at the Countryside Council for Wales was consulted and it was decided that the proposed scheme would be best assessed using the DMRB historic landscape methodology. This would also allow the assessment to focus on the area around the proposed scheme as a defined landscape character unit.

Dolmelynlyn, just to the north of the proposed scheme, is registered as a Park and Garden of Special Historic Interest in Wales (Cadw 1998 ii) but will not be affected by the proposed scheme.

The data compiled for the Archaeological Remains and Historic Buildings sub-topics has been used alongside LANDMAP cultural data and map regression to form the basis of historic landscape characterisation and analysis.

5.2 Impact definitions

5.2.1 Assessment of the value of archaeological assets

The evaluation of the value of the historic landscapes uses the categories and criteria shown in table 7.

Table 7: Guide for Establishing Value of Historic Landscapes

Criteria for establishing the value of Historic Landscape Character Units	
Very High	<ul style="list-style-type: none">• World Heritage Sites inscribed for their historic landscape qualities.• Historic landscapes of international value, whether designated or not.• Extremely well preserved historic landscapes with exceptional coherence, time-depth, or other critical factor(s).
High	<ul style="list-style-type: none">• Designated historic landscapes of outstanding interest.• Undesignated landscapes of outstanding interest.• Undesignated landscapes of high quality and importance, and of demonstrable national value.• Well preserved historic landscapes, exhibiting considerable coherence, time-depth or other critical factor(s).
Medium	<ul style="list-style-type: none">• Designated special historic landscapes.• Undesignated historic landscapes that would justify special historic landscape designation, landscapes of regional value.• Averagely well-preserved historic landscapes with reasonable coherence, time-depth or other critical factor(s).
Low	<ul style="list-style-type: none">• Robust undesignated historic landscapes.• Historic landscapes with importance to local interest groups.• Historic landscapes whose value is limited by poor preservation and/or poor survival of contextual associations.
Negligible	<ul style="list-style-type: none">• Landscapes with little or no significant historical interest.

5.2.2 Magnitude of impacts

The magnitude of impact or change is graded using the factors shown in table 8

Table 8: Magnitude of Impact: Summary of Factors

Factors in the Assessment of Magnitude of Change	
Major	Change to most or all key historic landscape elements, parcels or components; extreme visual effects; gross change of noise or change to sound quality; fundamental changes to use or access; resulting in total change to historic landscape character unit.
Moderate	Changes to many key historic landscape elements, parcels or components, visual change to many key aspects of the historic landscape, noticeable differences in noise or sound quality, considerable changes to use or access; resulting in moderate changes to historic landscape character.
Minor	Changes to few key historic landscape elements, parcels or components, slight visual changes to few key aspects of historic landscape, limited changes to noise levels or sound quality; slight changes to use or access: resulting in limited changes to historic landscape character.
Negligible	Very minor changes to key historic landscape elements, parcels or components, virtually unchanged visual effects, very slight changes in noise levels or sound quality; very slight changes to use or access; resulting in a very small change to historic landscape character.
No change	No change to elements, parcels or components; no visual or audible changes; no changes arising from in amenity or community factors.

5.2.3 The significance of effect

The significance of the effect of the proposed scheme is considered in terms of the magnitude of the impact arising from the proposed scheme in relation to the value or sensitivity of the receptor this is determined using the following matrix

Table 9: Significance of effects matrix

	Very High	Neutral	Slight	Moderate or Large	Large or Very Large	Very Large
Importance	High	Neutral	Slight	Moderate or Slight	Moderate or Large	Large or Very Large
	Medium	Neutral	Neutral or Slight	Slight	Moderate	Moderate or Large
	Low	Neutral	Neutral or Slight	Neutral or Slight	Slight	Moderate or Slight
	Negligible	Neutral	Neutral	Neutral or Slight	Neutral or Slight	Slight
		No Change	Negligible	Minor	Moderate	Major
Magnitude of impact						

5.3 Designations

The proposed scheme falls within the Vale of Dolgellau Landscape of Outstanding Historic Interest (refer to 5.1, above, for further details).

Dolmelynlyn, just to the north of the proposed scheme, is registered as a Park and Garden of Special Historic Interest in Wales (Cadw 1998 ii).

The entire area falls within the Snowdonia National Park.

5.4 Baseline Conditions

27 Gelligemlyn Historic Landscape Character Unit: Definition, Description and Significance

An approximately 1.3km length of the lower part of the western side of the Mawddach Valley can be viewed, for the purposes of this evaluation, as a discrete landscape character unit (refer to Fig. 6). The area consists of steeply sloping woodland running down to level areas in the valley bottom. The level areas are occupied by buildings with links to the Nannau Estate. The Dolmelynlyn estate also had holdings in the area in later years. Careg-arw (this is shown on Fig 6) is the southern limit of the area. Local tradition states that this house was built as a fishing lodge by the Nannau estate and the 1891 census records that a water bailiff occupied the house. A small suspension bridge links the house to the eastern side of the river. A complex of buildings at Gelligemlyn with landscaped gardens may have originated as a hunting lodge for the estate. Bryn Cemlyn stands at the north of the landscape unit and still retains the remains of terraced gardens running down to the river. A network of paths in woods on the western side of the road also appears to be typical of landscaping by the estate. The southern part of the land, on the west side of the road, was formerly open land and part of Ffridd Gelligemlyn. This is now wooded but traces can still be seen of exploratory gold levels associated with a minor gold rush in the Mawddach valley during the late 19th Century. The valley functions as a north-south transport corridor and may have contained the Roman road running between the forts at Tomen y Mur (the exact location of this is unclear, but it is known to run along the valley) and Brithdir.

The Gelligemlyn character unit should be seen in the context of a wider landscape and is on the border between two LANDMAP (<http://landmap.ccw.gov.uk>) cultural aspect areas, Coed y Brenin and Aber Mawddach and within part of the Vale of Dolgellau Landscape of Outstanding Historic Interest (Cadw 1998). The cultural aspect areas are described by CCW as follows:

COED Y BRENNIN: Formerly part of the holdings of Cymer Abbey, Coed y Brenin takes its name from having become a royal possession at the dissolution. From medieval times it has been exploited for metals as well as for timber - it was here that the first traces of gold were found, the Merioneth gold rush preceding that of California by several years. Two mines have remained active in recent years and may be kept open on a care-and-maintenance basis. Coed y Brenin is now internationally recognised as a mountain-biking location, and the popularity of this sport is reflected in the success of ventures such as Llys Ednowain in Trawsfynydd, a combined hostel-heritage centre.

ABER MAWDDACH: The river estuary and the surrounding, including the settlements at Bontddu and Llanelltyd. Like the Conwy river, the other long tidal estuary in North Wales, historically this area had a Cistercian monastery near its tidal head and a Welsh burgess town just beyond. The area forms a rich relict cultural landscapes, including trackways, medieval settlements and field systems as well as slate quarries and gold mines. A distinctive landscape element is made up of the substantial Victorian houses dating from the tourist hey-day of the area, as well as a great many vernacular cottages and farm-houses. This aspect area forms a prosperous link area between Barmouth and Dolgellau.

The contents and significance of the Vale of Dolgellau Landscape of Outstanding Historic Interest are described as:

A natural basin at the confluence of two valleys situated between Cader Idris, the Arenig and Rhinog Mountains, containing diverse evidence of land use and exploitation from the prehistoric, medieval and recent periods. The area includes a close group of Iron Age hillforts, a Roman fortlet and industrial complex, Cymer Abbey and motte (territorially succeeded by the Nannau Estate), Dolgellau town, 19th and 20th century gold and copper workings and historic associations with the Quaker movement. (Cadw 1998, 119).

Key elements of the character unit can be summarised as buildings and grounds associated with the Nannau Estate, gold workings and a multi-period transport corridor. The area retains reasonable

coherence and is, in parts, well-preserved although forestry has changed the character of the western side.

5.5 Magnitude of Impacts (Change) and Significance of Effects Prior to and with Mitigation

This section of the report assesses the impact on the historic character unit identified in the baseline survey, recommends mitigation measures and then reassesses the impact on the sites after the implementation of the mitigation measures. The classification of impacts uses the definitions set out in Section 5.2 of the report following guidelines given in DMRB Vol. 11 2007.

27 Gelligemlyn Historic Character Unit

Value: Medium

Magnitude of impact prior to mitigation: Minor

There will be no direct physical impact on the former estate buildings and grounds and only a slight impact on their setting. At least one of the gold trials could be destroyed; this could produce a moderate impact on this element in the context of the character area but would be negligible in the context of the wider landscape of the Mawddach valley because minor workings of this type are relatively common. There will be a major physical impact on the current A470 within the character area but this will be negligible within the wider landscape because the historic transport link will be retained thus maintaining its context and coherence.

Significance of effect prior to mitigation: Slight adverse

Recommended Mitigation Measures: Sympathetic design

Revetment walls and roadside walls should be faced with stone. Planting should utilise species that are locally common.

Magnitude of impact with mitigation: Minor

There will inevitably be a detrimental affect on the historic character area as noted above. Impacts on setting of the buildings and grounds will be lessened due to the landscape integration produced by sympathetic design.

Significance of effect with mitigation: Slight Adverse

5.6. Summary of significance of effects

The area around the proposed scheme can be seen as a discrete historic character unit containing former estate houses, industrial remains and a transport corridor. There will be a slight adverse effect on all key elements of the landscape both before and after mitigation. Mitigation would consist of sympathetic design and planting which would slightly reduce the adverse effect.

6. SUMMARY

Table 10 (below) shows a summary of the value of cultural assets, proposed mitigation measures and the significance of impacts with and without mitigation for all three sub-topics. Detailed summaries are provided at the end of each sub-topic in the report. The value of Cultural Heritage assets across the three sub-topics ranges from negligible to medium with no assets identified with High or Very High value and most with Low or Negligible value. Three sites have been identified that would require further assessment before appropriate mitigation can be identified. However, none of the three sites will be affected by the current scheme. There is a possibility that further assets will be discovered during groundworks although the potential for the discovery of High or Very High value archaeological remains must be seen as low.

No assets are of sufficient value to require any changes to the general alignment of the scheme. The principal mitigation measures are the recording of archaeological remains at an appropriate level in advance of destruction, the use of appropriate materials such as stone faced masonry within the scheme, planting using locally common species and avoidance of outlying sites by access and ancillary works. The scheme with mitigation has been assessed as producing a neutral effect on 60% of assets, a slight adverse effect on 30%, a moderate adverse effect on 5% and a moderate beneficial effect on 5%.

Table 10 Summary of mitigation and assessment of significance of effects (all effects are in the construction phase and are permanent)						
Site name and number	Value	Assessment without mitigation		Proposed mitigation	Assessment with mitigation	
		Description	Significance		Description	Significance
ARCHAEOLOGICAL REMAINS						
1. Dry-stone revetment wall	Low	No change	Neutral	None.	No change	Neutral
2. Dry-stone revetment wall	Low	No change	Neutral	None.	No change	Neutral
3. Pathway	Negligible	No change	Neutral	None	No change	Neutral
4. Culvert and trough	Low	Moderate	Slight adverse	Basic record	Minor	Neutral
5. Path and revetment wall	Low	No change	Neutral	None	No change	Neutral
6. Boundary	Negligible	No change	Neutral	None	No change	Neutral
7. Possible rectangular platform	Unknown	No change	Neutral	None	No change	Neutral
8. Track or path	Medium	Moderate: Partial destruction	Moderate adverse	Detailed record inc sample excavation	Minor; Partial destruction with preservation by record	Slight adverse
9. Track or path	Low	No change	Neutral	None	No change	Neutral
10. Dry-stone boundary/field wall	Negligible	No change	Neutral	None	No change	Neutral
11. Bridge abutments	Low	No change	Neutral	None	No change	Neutral
12. Ford	Low	No change	Neutral	None	No change	Neutral
13. Old track or road	Medium	Moderate: Destruction	Moderate adverse	Detailed recording	Minor: Destruction with preservation by record	Slight adverse
14. Dry-stone field/boundary wall	Negligible	Moderate: Partial destruction	Slight adverse	Basic recording	Minor: Partial destruction with preservation by record	Neutral
15. Sub-circular enclosure	Unknown	No change	Neutral	Avoidance	No change.	Neutral
16. Trackway	Medium	Moderate: Partial destruction	Moderate adverse	Detailed recording inc sample excavation	Moderate: Partial destruction with preservation by record	Moderate adverse
17. Leat	Negligible	No change	Neutral	None	No change	Neutral
18. Trial	Low	No change	Neutral	None	No change	Neutral
19. Trials/quarry scoops	Low	No change	Neutral	None	No change	Neutral
20. Possible hut circle	Unknown	No change	Neutral	Avoidance	No change	Neutral
21. Roman road	Unknown	Up to Moderate: Possible partial destruction	Up to Moderate adverse	Watching brief with provision for detailed recording including excavation	Up to Moderate: Partial destruction with preservation by record	Up to Moderate adverse
22. Sites of unknown archaeological	Unknown	Up to Major Destruction	Up to Very Large	Watching brief and appropriate recording	Up to Major Destruction with preservation by record	Up to Large adverse

potential			adverse			
HISTORIC BUILDINGS						
23. Bryn-cemlyn house and terraced gardens	Medium	Negligible: Slight impact on setting	Neutral	Sympathetic landscaping	Negligible: Little impact on setting	Neutral
24. The present A470	Low	Minor: Historic character of road lost, severance of links between road and trackway.	Slight adverse	Sympathetic design using stone faced revetments etc.	Minor: Historic character of road mostly lost, severance of links between road and trackway.	Slight adverse
25. Cast iron milestone	Negligible (formerly high)	No change: The milestone appears to have been lost.	Neutral	Possible replacement	Possible minor positive: if replaced. If not replaced then No Change.	Moderate beneficial or Neutral
26. Gelligemlyn and Plas-Gelligemlyn	Medium	Minor: Setting compromised by intrusion of modern road replacing road with contemporary character and alignment. Impact of heavy traffic lessened	Slight adverse	Sympathetic design using appropriate materials, landscaping and planting	Minor: Sympathetic landscaping and design should slightly lessen the intrusive effects of the new road	Slight adverse
HISTORIC LANDSCAPES						
27 Gelligemlyn Historic Character Unit	Medium	Minor: Historic transport link modified, slight impact on setting of estate buildings, slight impact on historic mining elements.	Slight adverse	Sympathetic design using stone-faced masonry and planting of locally common species	Minor: Historic transport link modified, minimal impact on setting of estate buildings, slight impact on historic mining elements.	Slight adverse

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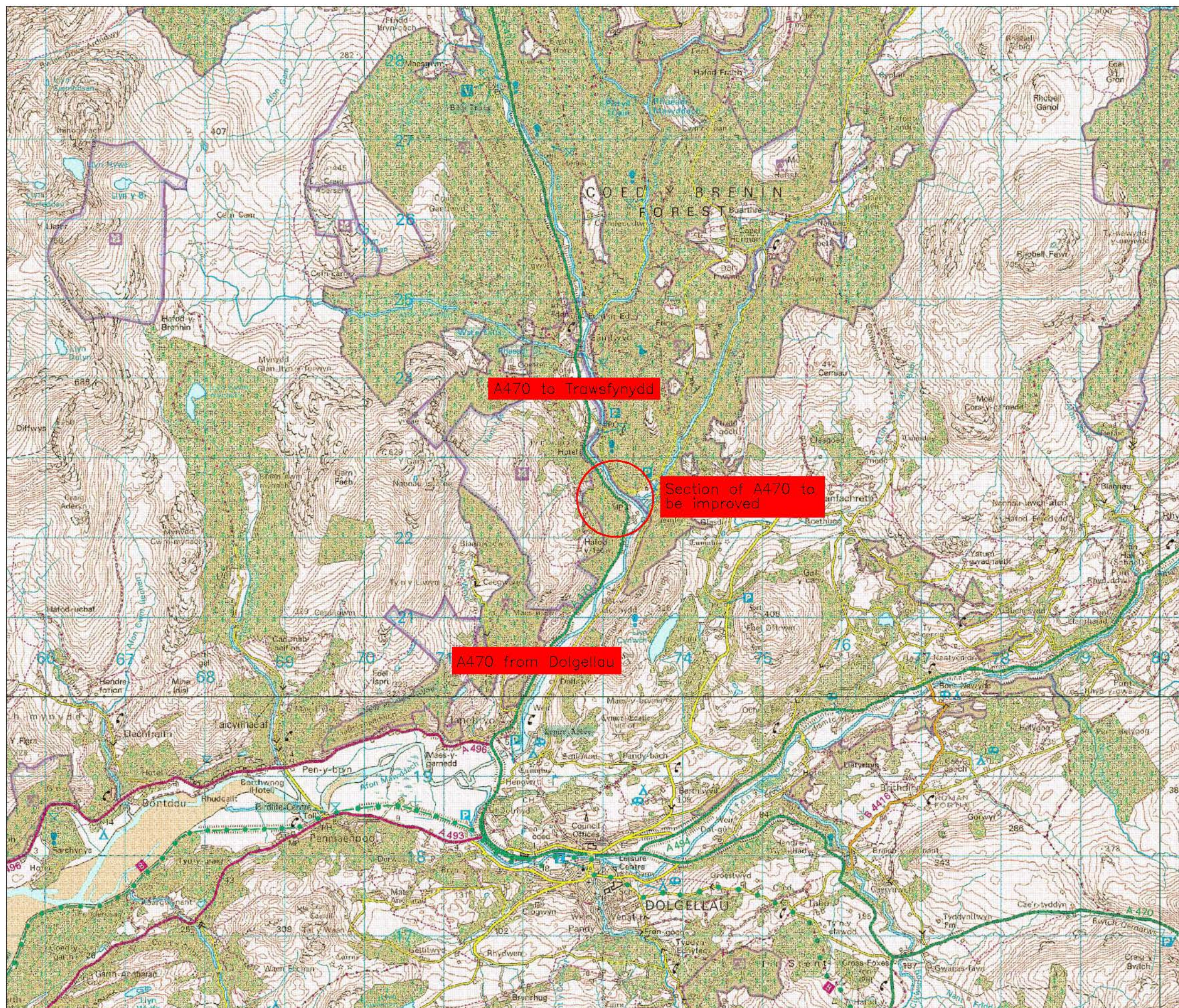
1:10,000 Sheet 72NW 1982

6" Meirionethshire 1st Ed. Sheet XXXIII. N.W. 1885

7.4 Aerial Photographs

Sortie: 106G/UK/1235 Date: 10/03/1946 Frames: 4001 and 4002

Sortie: CPE/UK/1939 Date: 20/01/1947 Frames: 4043 and 4044



Sellwyd ar fap yr Arloeg Ordnans gyda charolradd Rheolwr Gwag el Mawrthdi.
Cedwir Hawlfraint y Goran.
Mae atgynhyrchu hys darddod yn torri hawlfraint y Goran a gall arwain at enillydd neu achos sifil.
Based upon the Ordnance Survey mapping with the permission of the Controller of Her Majesty's Stationary Office.
Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings.
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**A470 GELLIGEMLYN
INTERIM SCHEME**
Scale 1:50,000
**FIGURE 1
LOCATION PLAN**

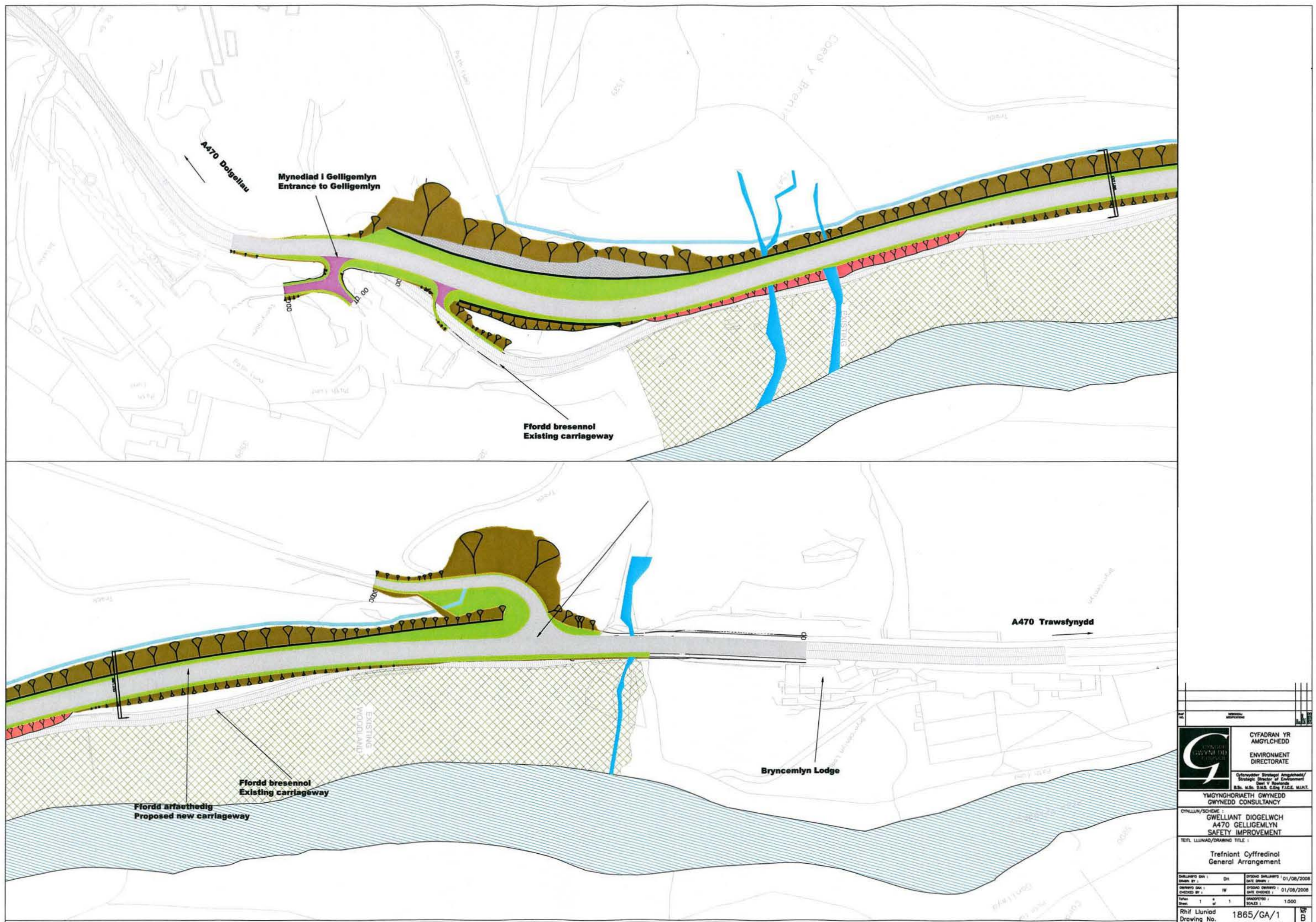
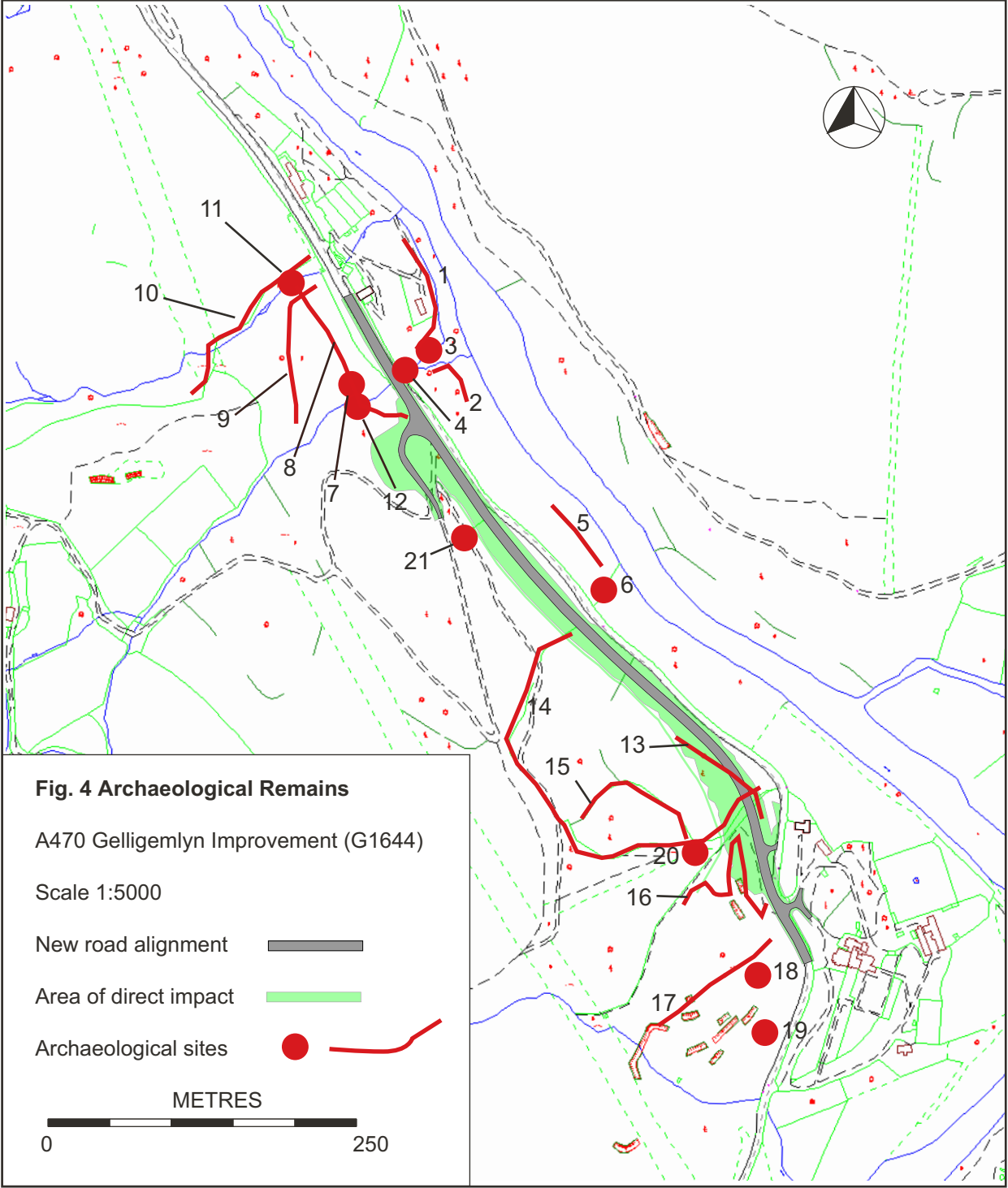
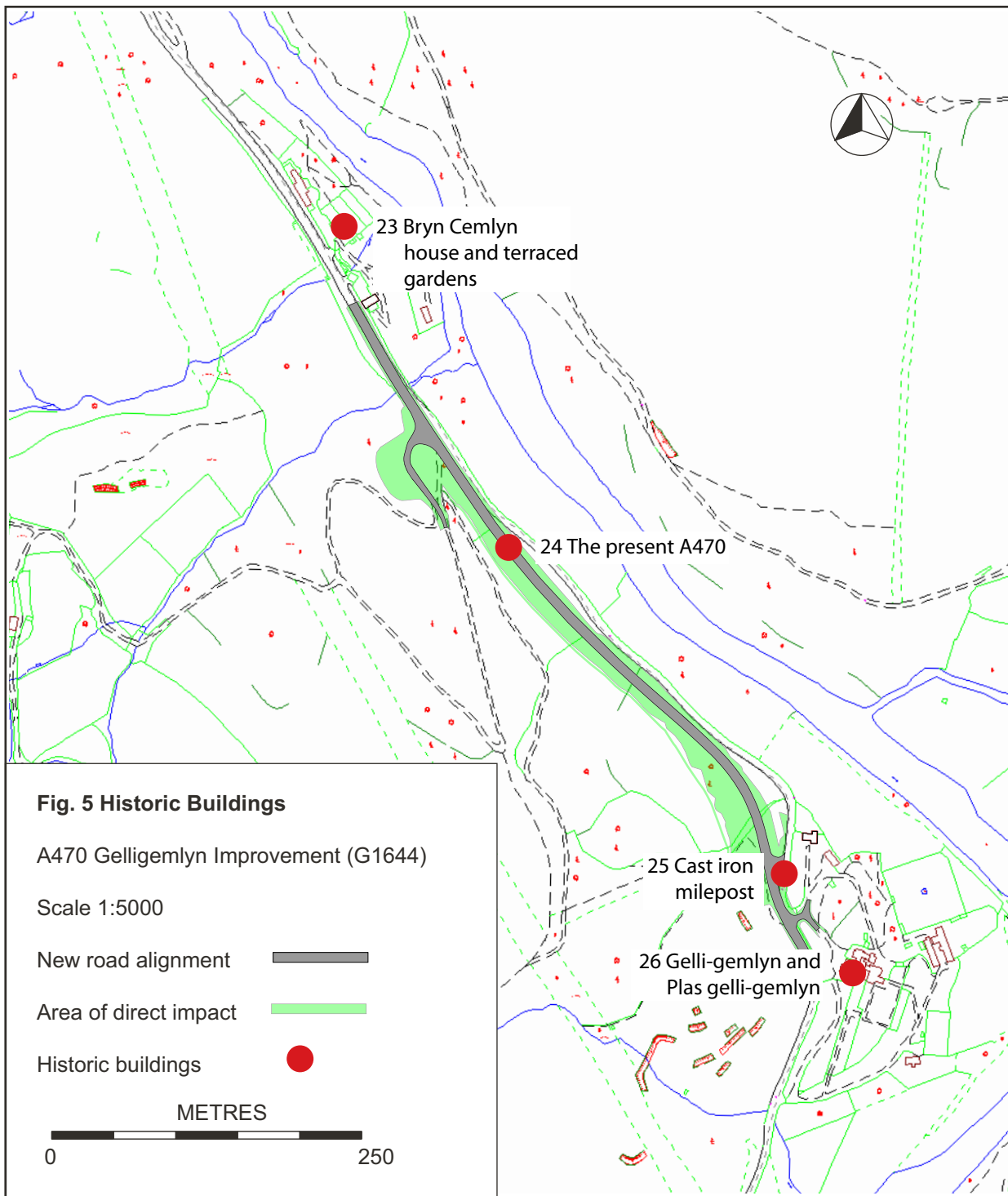
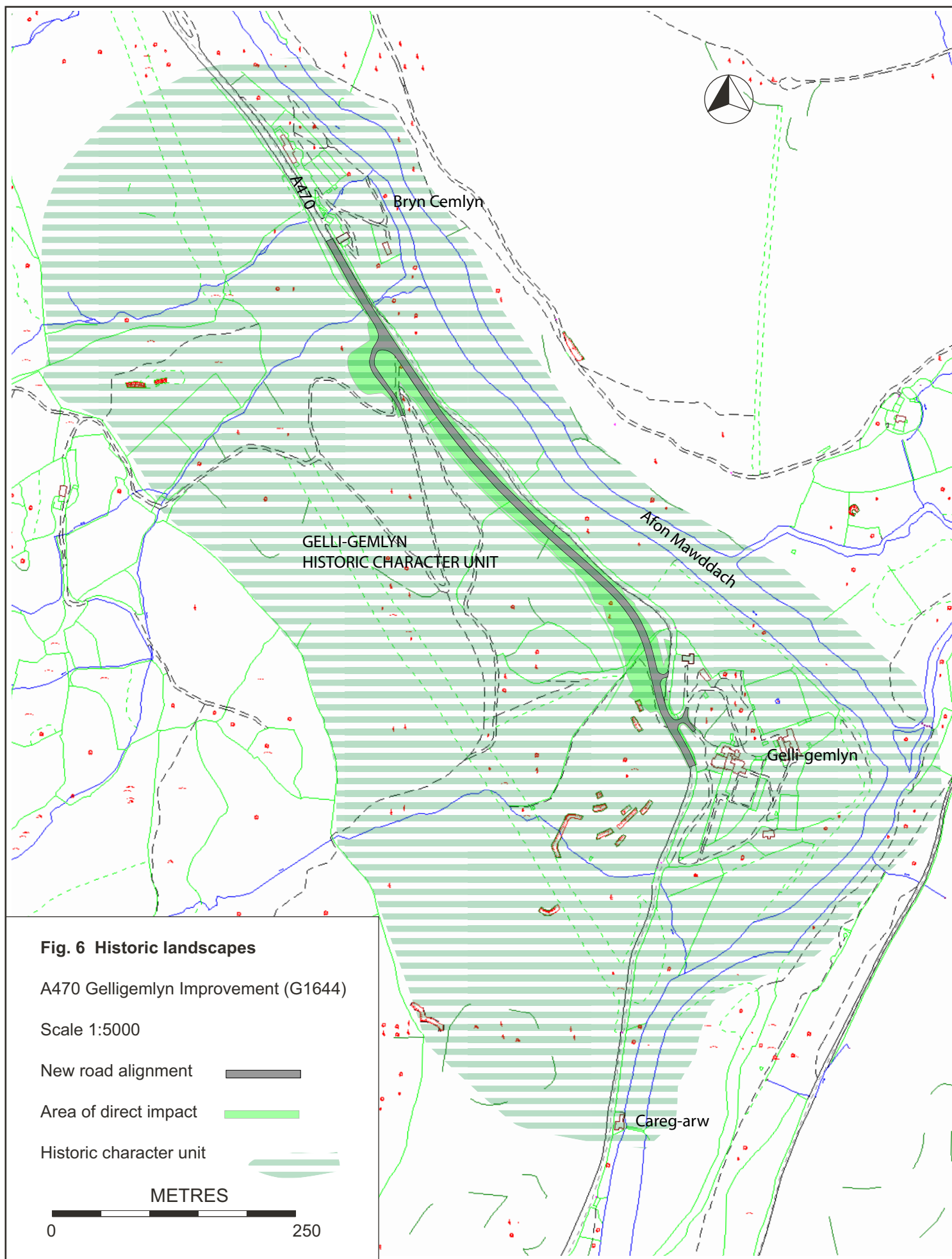


Figure 2 Plan of Proposed Scheme







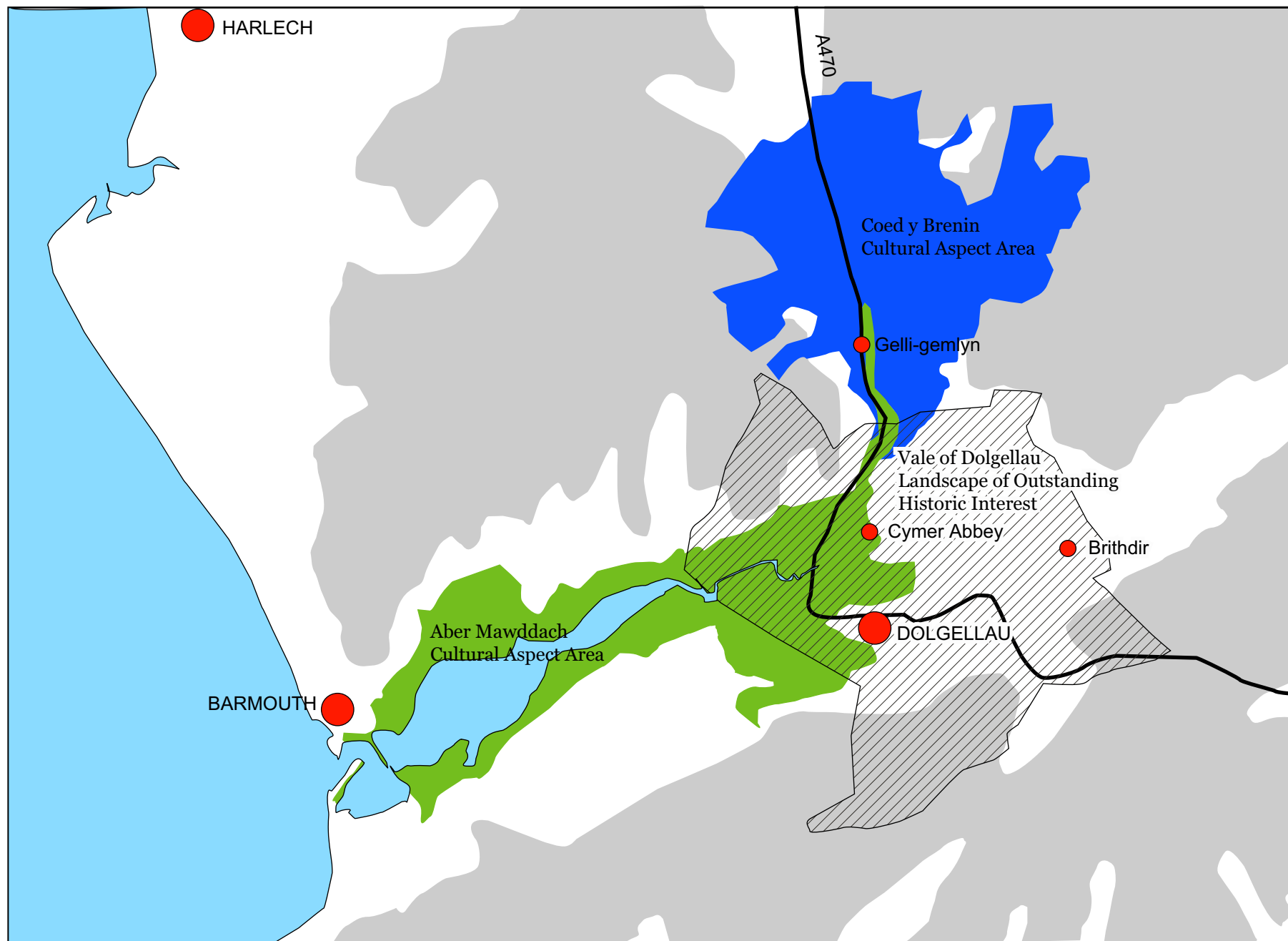


Fig. 7 Aber Mawddach and Coed y Brenin cultural aspect areas and Vale of Dolgellau landscape of outstanding historic interest

