Land at Ty Mawr Holyhead Anglesey

Archaeological Assessment and evaluation 2000-2004

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Ymddiriedolaeth Archaeolegol Gwynedd
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ARCHAEOLOGICAL ASSESSMENT AND FIELD EVALUATION

SUMMARY

It is intended to develop a green-field site within an area of land comprising some 50 ha in the vicinity of Ty Mawr, Holyhead. An archaeological assessment undertaken in November 2000 (GAT Report 389) revealed a high density of known archaeological sites, including two scheduled ancient monuments. The potential for the discovery of additional sites was considered to be high, and hence an initial programme of field evaluation was recommended to form part of the Environmental Assessment.

The first evaluation comprised 34,800-sq. m. of magnetometer survey and 2,755-sq. m. of trial excavation, and was confined to the northern part of the assessment area, that is the area for which a planning application was to be submitted. The location of the magnetometer survey grids was partly determined by the location of known archaeological sites and partly by local topography. The location of the trial trenches was further informed by the magnetometer results.

A second phase of field evaluation was undertaken in 2004 to confirm the status of those sites discovered in 2000, and to further evaluate the area.

Seven new sites (numbers 37 – 43) were discovered during the initial evaluation works. The second phase of evaluation did not find any significant archaeology at four of these sites. Two of the remaining sites were identified as settlements of late Prehistoric/Romano-British date (circa 500 BC to 400 AD), and the third as a site dating from the Early Bronze Age.

Recommendations include preservation in situ *or complete excavation of the three Category B sites. Detailed or basic recording is recommended for all the upstanding structures, and a watching brief is recommended at certain sites where there may be potential for archaeological remains.*

It is recognised that there remains good potential for the discovery of sites of archaeological significance. However, a further programme of field evaluation is not considered appropriate given the problem of the high sampling rate required in order to locate remains that are of a relatively low distribution density. It is therefore recommended that a programme of strip, map and sample is undertaken during the top soil strip that will allow monitoring of large areas and better targeting of excavation.

Attention is drawn to the importance of the two scheduled ancient monuments (Trefignath burial chamber and Ty Mawr standing stone) and the need to preserve their setting.

1. INTRODUCTION

It is proposed to develop an area of land at Ty Mawr Farm, Holyhead, within a plot comprising some 50 ha, centred on NGR SH254808. An initial archaeological assessment of a larger area was undertaken in 2000 (GAT Report no. 389, November 2000) which was followed by a programme of field evaluation comprising magnetometer survey and trial excavation (GAT Report no. 428, November 2001). The results of the assessment and evaluation were combined in 2002, for submission with a planning application (GAT Report no. 459, June 2002). The field evaluation had revealed a high density of archaeological sites, thus raising the archaeological potential of the area and a second programme of work was proposed that both examined additional areas and re-evaluated the sites discovered in 2000. The additional work was undertaken in 2004 (GAT Report no. 541, September 2004). The present report combines all the findings to date and offers a synthesis of the results. Full details for each of the phases are to be found in GAT Reports 389, 428 and 459. Details of the second phase of magnetometer survey are given in Stratascan 2004. Where specific trenches are referred to by number, those excavated in 2001 are prefixed with an 'A' and those excavated in 2004 are prefixed with a 'B'.

2. SPECIFICATION AND PROJECT DESIGN

A brief for the second phase of field evaluation was prepared by the Development Control Archaeologist outlining a potential programme of works (see Appendix I). These have been undertaken as a staged process, of which the first stage was a geophysical survey (Stratascan 2004). A project design was produced for the second stage which provided a method statement for undertaking a first phase of trial excavation, taking into account the results from the earlier field evaluation, and of the proposed impact from the development as outlined on the *Preliminary Master Plan* (Drawing Number 56080/PP/01). The project design was requested by Symonds Group Limited on behalf of Welsh Development Agency, and was prepared by Gwynedd Archaeological Trust (GAT June 2004).

3. ASSESSMENT AND EVALUATION TECHNIQUES

Initial assessment

The initial desktop assessment combined a desk-based study using both primary and secondary sources with a field walkover. Of particular value for the former phase were the Penrhos manuscripts at the University of Wales, Bangor. These included estate maps of 18th century and 19th century date, which clearly showed the evolution of the settlement pattern and field systems in the area, and the changes wrought by the construction of Telford's London to Holyhead road in 1822-6 and the construction of the railway 1844-5. More recent changes have occurred with the construction of the Aluminium Works in the early 1970's and the A55 dual carriageway in 1999-2000.

Two scheduled ancient monuments lay within the original assessment area, though the present revised, smaller area excludes the Trefignath burial chamber, but still includes the Ty Mawr standing stone.

Recommendations arising from the initial assessment included assessment on the site of post-medieval farmsteads and a programme of field evaluation. Recommendations were also made for taking into account the setting of the two scheduled ancient monuments.

Phase 1 field evaluation

Geophysical survey

This involved the survey of 18 areas by magnetometer, covering 3.36ha. The areas chosen for survey were those thought most likely from their topographical location to be suitable for early settlement. Despite medium to heavy background noise, a number of features were identified as being of likely archaeological interest.

Trial excavation

A total of 64 trenches totaling 2755 square metres was examined. These were located in areas identified by magnetometer survey and by topography as being the most likely to contain archaeological remains. Seven additional sites were identified as a result of this process (sites 37 to 43), including two settlements of late prehistoric/Romano-British date, and a number of less readily definable sites, but thought to be of prehistoric date.

Phase 2 field evaluation

The density of archaeological sites revealed by the first phase of field evaluation identified a requirement for additional work to both further assess the known sites, and to assess the area at a higher sampling level.

Magnetic Susceptibility
This survey was undertaken over the entire study area, and used to locate areas of higher archaeological potential by identifying areas of enhanced magnetic susceptibility. The results from this study identified areas of low magnetic enhancement in the northwest and south parts of the site, areas of

moderate to high magnetic enhancement along the eastern edge and the highest areas towards the centre and west parts of the site (Stratascan 2004).

Magnetometer survey
This was carried out over ten areas covering 10ha in total. Three of these were located within the areas of high magnetic enhancement identified by magnetic susceptibility, and the remainder were located either over known archaeological remains, or on areas that appeared from their topographic location to have potential for archaeological remains. Areas of rock outcrop and wet boggy areas were avoided. There is some overlap between the two magnetometer surveys, but combined they offer a comprehensive coverage of the areas of greatest archaeological potential. The areas not covered by survey are those generally containing steep slopes leading to localised high spots. Areas of rock outcrop, bog and developed areas that prevented survey being undertaken are shown on figure 2. The latter includes the former farmsteads of Ty Mawr and Trefignath, as well as an electricity sub-station.

Trial excavation
An additional 32 trenches were excavated in 2004, totaling 1381 square metres. The location for these was determined by the results from the magnetometer survey and the known archaeology. Survey areas 9 and 10 (see Stratascan 2004) were targeted for trial excavation, as these appeared to hold the greatest potential, though the majority of the other survey areas were sampled also (see figure 3). The excavations resulted in better definition of the known archaeology, both in character and in locating the extent of the buried archaeology. The investigation of features revealed by the magnetometer survey found the majority of them to be natural, or arising from more modern agricultural practices. No additional archaeological sites were identified as a result of the second phase of geophysical survey or trial excavation.

During the same period as the second phase of field evaluation a waste water main was being installed through the area. The pipeline was approximately 737m long, and the area stripped averaged 10m wide, thus totaling some 7370 square metres. An intermittent watching brief was undertaken for the entire length of the pipeline, thus increasing the area examined for archaeological remains to over 8,600 square metres. No sites of archaeological significance were identified within the pipeline easement. Though identification of features is considerably more difficult under watching brief conditions than by trial excavation, archaeological remains containing burning or major structural elements would have been noted.

Field evaluation reviewed

Holy Island, like much of Anglesey, is characterised by rocky ridges running northwest to southeast, and low peaty valleys between. The development area contains a ridge to the south of the site, with a peaty valley to the north. Other localised hillocks exist, creating slopes of varying steepness. The areas of greatest archaeological potential are considered to be the flatter areas lifted above the waterlogged lower soils, but out of the exposed ridge tops; this can include slopes where activity may have taken place on former terraces, that are now hidden by soil movement over the terrace. However, this does not mean rock outcrops were not utilised. Trefignath burial chamber is sited on a rock ridge, and so is the Trearddur chamber to the south. The problem lies in the lower survival of archaeology on rock surfaces. These areas retain little archaeological potential because the evidence would have long since eroded. Field evaluation is therefore aimed at those areas that contain the greatest potential for archaeological survival, though it needs to be recognised that this need not be a reflection of past activities within the area, merely the identification of those that have survived.

Additional problems are caused by the dumping of topsoil on the site within at least two periods. The first was in the 1970's, when it is said that topsoil removed during the construction of the Aluminium works was spread over several areas to increase topsoil depth, and bury rock outcrops. The depth of topsoil at site 38 is thought to result from these activities. Secondly, topsoil was stored over the area of Site 42 during construction of the A55 dual carriageway in 1999. A variable depth was left when it was removed in 2002/3. Thus the current depth of topsoil over the archaeology is not necessarily a guide to its depth pre 1970, and so cannot easily be used as a guide to estimate potential of archaeological survival. Similarly the varying depth of the underlying rock does not allow easy guidance of the identification or prediction of topsoil depth, and nor does the undulating nature of the underlying glacial clays. However within Area 10 cut features were recognisable in the glacial clays at a depth of approximately 250mm, though this increased to 450mm in one trench. At site 39 there was a

similar depth of 200mm to 300mm, and at site 43 between 250mm and 300mm. These sites all lie on relatively level ground, away from the immediate vicinity of rock outcrops, and with no evidence for secondary soil dumping.

Figure 2 identifies the rock outcrops and wet boggy areas that are unsuitable for magnetometer survey or trial excavation. These were mapped using information from a topographical survey supplied by Symonds (Drawing number CS3811-2, 2002), supplemented by field survey and information from Ordnance Survey maps. Also included on figure 2 are areas of extant development, including the former farmsteads of Ty Mawr and Trefignath. Within a similar category falls the road through the site, and the extant field boundaries. The rock outcrops, boggy areas and extant development account for some 10 hectares, or 20% of the area (not including roads and field boundaries).

Detailed magnetometer survey has been undertaken over some 24% of the area (figure 3), though when areas unsuitable for survey are taken into account, the percentage rises to over 30%. The areas not surveyed are those that were considered to be of low potential, particularly the steeper sloping ground, as shown on the contour survey figure 2. Though a considerable number of features were identified by the magnetometer survey, subsequent excavation revealed that the majority of these were natural changes in the geology or modern agricultural features. A summary of the principal features examined is given in the table below.

Trench No.	**Feature**	**Result**
B1	Area 10 feature f	No features revealed
B2 and B31	Area 10 features b and c	Post-medieval land drain and tree roots
B3 and B30	Area 10 feature a	Possible post-medieval field boundary
B4	Area 9 features a and I	Possible post-medieval field boundary
B6, B26, B27, B28	Area 9 feature a	Modern soil dump over rock outcrop.
B5	Area 9 feature b	Probable geological origin caused by presence of gravel.
B10	Area 3	No features revealed
B18	Area 3	No features revealed
B33	Area 3	Possible post-medieval field boundary
B22 and B23	Area 6	No features revealed
B25	Area 5	Possible post-medieval field boundary
B17	Area 8	Probable geological origin caused by increased number of stones
B20	Area 4	Probable geological origin caused by change from clay subsoil to peat
B21	Area 4	Probable geological origin caused by change from clay subsoil to peat

Similar results to the above were obtained from the earlier trench excavations. No features were revealed of the three prehistoric settlements (sites 38, 39 and 42) by magnetometer survey. It is therefore believed that further evaluation by magnetometer survey would not provide sufficiently reliable results to help identify significant archaeological remains in a cost-effective manner.

The combined 4,136 square metres of excavation represents just under 1% of the total area, however this represents over 1% of the area available for excavation. Much of the remaining area is characterised by steep slopes considered of low archaeological potential (see figure 2). Though the technique has proved valuable at locating areas of archaeological significance, it relies on a relatively dense collection of features. The location and interpretation of activities that leave more ephemeral archaeological evidence are not so readily identifiable through this method, requiring a sample area of some 5% (Hey and Lacey 2001). The results from the trial trenches and watching brief on the pipeline would suggest that a high percentage of areas do not contain archaeological remains, and therefore conducting a 5% sample would not be cost effective, as only a small percentage of trenches would

identify additional features of archaeological relevance. Instead, any archaeology that has not yet been identified may be better located by monitoring the stripping of far larger areas, perhaps by undertaking a strip, map and record exercise (see recommendations section below where this is discussed further).

4 ARCHAEOLOGICAL FINDINGS AND RECOMMENDATIONS

4.1 Topographic Description

Holy Island, or Ynys Gybi, is located off the western coast of Anglesey, to which currently it is joined by the Stanley Embankment, and also by the bridge at Four Mile Bridge (Pont Rhyd y Bont). Holyhead (Caer Gybi) is the principle town on Holy Island, and the proposed development site lies to the south-east of the town. The site is to the south and west of the Anglesey Aluminium works, and is bounded to the north by the railway and the new A55. To the south it borders the outskirts of the village of Trearddur Bay.

Geologically Anglesey is composed largely of Pre-Cambrian rocks, most notably the Mona Complex. These bedded rocks have undergone intense pressures leaving them deformed and folded, and volcanic events have resulted in their interbedding with lavas, ashes and tuffs. These make up much of the bedrock of Holy Island (Davies 1972).

The bedrock under the study area is composed of pale green chlorite schists, part of the New Harbour Group of the Mona Complex (Keeley 1987). Boulder clay overlies this, with the bedrock outcropping in places, and occasional patches of glacial gravels. The soils formed over these substrates are brown earths of the Rocky Gaerwen and Trisant types (Geological and soil survey maps). These soils can carry crops or excellent pasture, and were frequently chosen for settlement in the prehistoric period. The Rocky Gaerwen soils are shallow with frequent rock outcrops, and farms and fields tend to be smaller on these soils than on deeper soils (Keeley 1987).

Like much of Holy Island, the topography of the study area is characterized by north-east to south-west aligned rocky ridges within intervening boggy hollows. This is particularly noticeable around the western, central part of the study area. The bedrock is never far below the surface, and occasionally outcrops as small crags and knolls. Most of the area is used currently for grazing sheep and cattle, with some small paddocks around Tyddyn-uchaf used for horses. The grass is, therefore, generally kept short and largely weed free, although gorse and bramble grow on the rocky ridges. Some fields and paddocks have been planted with trees, making the recognition of sites almost impossible in these areas.

A pollen study was carried out to the northwest of Trefignath burial chamber (Greig 1987). This suggested that the Boreal period vegetation was of a scrubby sub-arctic type. The woodland developed in the usual sequence, from open woodland with birch to denser, mixed oak forest, but with an unusual amount of willow. The climax forest contained oak and elm with hazel as an under-storey. A band of peat, with little pollen survival due to the drying out of the bog, was dated to about the start of the Neolithic period. The band contained charcoal and other evidence for burning, suggesting forest clearance in the immediate area. When the pollen record continued it showed that the forest had been replaced by grassland and arable fields. In the medieval period, and later, expanding arable farming caused increased erosion into the bog.

42. Archaeological and historical background (Figure 1)

The town of Holyhead expanded in size and importance after the development of the port for use by packet boats to Ireland, but it has a long history. There is evidence of Neolithic, Bronze Age and later prehistoric activity. Two Neolithic tombs lie within the study area, and will be discussed in detail below. Four Neolithic polished stone axes have been found in the northern part of Holy Island (Lynch 1991). Those found closest to the study area are two axes from the Graiglwyd axe factory, above Penmaenmawr, found when excavating a hole for a turntable railway near Kingsland in 1926 (PRN 2507, SH 2504 8165), and one axe of unspecified stone found at Penllech Nest (PRN 2506, SH 251 816).

Two Bronze Age barrows were prominently situated on top of Holyhead Mountain (PRN 15691, 15692), though little can be seen of them now, and another at Garn (PRN 3804). There was also a cemetery of three barrows at Porth Dafarch (PRN 1772-4). A barrow was recently discovered under the early Christian cemetery at Ty Mawr (SH 2520 8135). The Ty Mawr standing stone (PRN 2501) is one of several such stones in this part of Holy Island. There is another to the south, next to Stanley Mill (PRN 2009), and a rare pairing of two stones just over 3m apart, to the west at Plas Meilw (PRN 2748) (Lynch 1991).

The island has several notable Iron Age and Roman period sites. Holyhead is dominated by its mountain, to the north-west of the town. The summit is enclosed by a stone rampart wall forming the hillfort of Caer y Twr (PRN 1760). A much smaller promontory fort, Dinas on the south coast of Holy Island (PRN 807), is probably also Iron Age. This promontory is surrounded by high cliffs and a low bank runs along the edge of the chasm, which separates it from the mainland. These forts were probably defensive refuges, and the population lived in more hospitable areas. Towards the foot of the south-western slope of Holyhead Mountain are a group of huts near another Ty Mawr (PRN 1755) and a similar hut group overlie the Bronze Age barrows at Porth Dafarch (PRN 2754). Excavation at Ty Mawr demonstrated that the stone huts belonged to the 1st millennium bc, but with some activity in the 3rd century AD, as well as earlier prehistoric and post-Roman settlement evidence (Smith 1985). The finds from Porth Dafarch dated the huts to the Roman period (Lynch 1991, RCAHMW 1937).

A Roman fort was constructed at Holyhead towards the end of the 3rd century or later, as a naval base against Irish raiders (Lynch 1972). A Roman coin hoard was found in the area in 1710. The coins were buried in a brass vessel, and all dated to the 4th century (PRN 2503, SH 26 81). To the north of the Aluminium works, on the shore of Penrhos Beach, Stanley (1868) recorded a 'Danish fort'. The site (PRN 2509) is now under the main road, and all traces of it have been destroyed, so it is not known whether the fort was Iron Age, Roman or actually attributable to the Vikings.

Holy Island was of considerable importance in the early Christian period, with the *clas* site of Caer Gybi large enough to attract the attention of the Vikings in 961 (Edwards1986, 24). The foundation of this monastic community by St Cybi is traditionally dated to the mid 6th century AD, and it was presumably located within the Roman fort; the present church on the site dates from the 13th century. There is an unusual concentration of early Christian sites known, or suspected, on the island. These include a cemetery of long-cist graves, dating to approximately 6th to 8th century AD, discovered during the construction of the A55 dual carriageway, to the north-west of Ty Mawr Farm. At this site the graves were located around, and cut into, the remains of a Bronze Age barrow. Another cemetery, of similar date, lies to the Southwest of the study area, at Tywyn y Capel, the site of a medieval chapel on the shore of Trearddur Bay (Edwards 1986, 31). There were also cist burials found at Porth Dafarch. A chapel and well formerly lay to the northwest of the study area, where there are documentary and map references to Capel Ulo, and Fynnon Ulo. However, recent trial trenching in the area failed to reveal any archaeological evidence (GAT report 382).

The use of Holyhead port increased in the reign of Elizabeth I, when it became the departure point for the Royal Mail to Ireland. During Oliver Cromwell's Commonwealth Holyhead was garrisoned, and regular packet boats sailed to Ireland (Hughes and Williams 1981). The port subsequently grew until, by the early 19th century, it was the principle port for Ireland.

During the 17th century the road across Anglesey to Holyhead was probably just a rough track, but the forerunner to the bridge at Four Mile Bridge already joined Holy Island to Anglesey by 1578 (Hughes and Williams 1981). One of the earliest maps of Anglesey, published by Speed in 1630, marks Pont-Rhydbont (the bridge at Four Mile Bridge), and just to the west of it is Llansanfraid (St Bride's or Trearddur Bay), the only place marked on Holy Island, other than Holyhead itself (Evans 1972).

In 1765 the road from the Menai ferries to Holyhead was turnpiked, and much improved (Ramage 1987). However, transport was still difficult until Telford built his new London to Holyhead road (the A5), which arrived on Holy Island in 1823. The Stanley Embankment (grade II listed, PRN 20074) carried the road over the Afon Lasinwen, the tidal strait between Holy Island and Anglesey, replacing the ferries and fords (GAT Report 251). The embankment was designed by Thomas Telford, started in 1822 and opened in 1823; its construction created the body of water now referred to as the Inland Sea. In 1846-8 the railway line was constructed along the southern side of the embankment (GAT 204, p251). The railway runs along the northern boundary of the study area, separating it from the

Aluminium works. Major improvements were also made to the harbour throughout the 19th century (Hughes and Williams 1981, GAT Report 64, 251).

The coming of Telford's road and the railway significantly changed the landscape of Holy Island, but a comparison between the 18th and late 19th century maps show that the layout of the fields in the study area did not change considerably. There was no parliamentary enclosure of open fields on Anglesey, as occurred in other parts of Britain at this time, but some common land was enclosed by Private Act (Carr 1982), such as the small areas of common land around Ty Mawr enclosed in 1861 (WPE 68/128).

A large number of defensive works were constructed in 1940-41 to resist the invasion of Britain. Pillboxes were an important component of these defences, and more than 18,000 were built during 1940 (Brown *et al* 1995). In the Second World War Holyhead was strategically important, as it was on the route both to Ireland and to the port of Liverpool. Pillboxes, arranged in a rough line across the island, defended the middle of Holy Island and the Inland Sea, preventing enemy troop movement on Holy Island and defending the approaches to Holyhead. The line starts at the southwestern end at Trearddur Bay. Behind the Trearddur Bay Hotel (SH 2519 7931) are two circular-plan pillboxes (grade II listed, 20079). Another is set in the grounds of Trearddur House (SH 2546 7934, grade II listed, 20080). Closer to the study area one (SH 2721 8029) is situated to cover the south side of the Stanley Embankment, and the other (SH 2707 7991, PRN 7213) is a little further south, overlooking the Inland Sea. A related pillbox, not previously recorded, was found within the study area, see below.

Most of the land in the study area was owned by the Penrhos family, who stabilised their surname to Owen in the early 16th century (Richards 1940). The original house at Penrhos was said to have been built during the reign of Henry VIII (RCAHMW 1937). In 1763 Margaret Owen, the heiress to Hugh Owen, married John Stanley and the Penrhos Estate passed to the Stanleys of Alderley (Ramage 1972, 1987, Richards 1940). W. O. Stanley was a noted antiquarian, and the Penrhos estate maps provide valuable historical evidence.

The area presently consists of a number of farmsteads surrounded by regularly shaped fields. The majority of the farmsteads are now abandoned and ruinous. The field layout was generally established by 1769, but numerous fields have been amalgamated at various periods since then, and some boundaries have been lost or altered. Unlike the area to the north of Holyhead (Penrhos estate map II, 772, map 14), there were no large open fields here in the late 18th century. There were a number of small farms, often associated with small, irregular in-by fields or tofts, which have since disappeared. Estate maps of the 18th century also show that some of the present settlements, such as Trefignath, have moved slightly from their original locations. These deserted or migrated settlements will have left archaeological remains, although regular ploughing has removed most surface indications. See figures 4-7 for copies of the relevant estate maps.

4.3 Scheduled sites

4.3.1 Scheduled sites in the study area

Ancient monuments of national importance are given legal protection by scheduling, which is administered by Cadw: Welsh Historic Monuments Executive Agency. Scheduling ensures that the case for preservation of archaeological remains is fully considered in proposals for development. Planning policy aims to reconcile the need for development with the interests of conservation. Development plans should include policies for the protection, enhancement and preservation of archaeological sites and their settings. This applies particularly to scheduled monuments, but the Planning Guidance makes it clear that these points should also be considered in relation to unscheduled sites.

There is one scheduled site within the study area, the Ty Mawr standing stone (SAM An 12). This site has public access via a footpath to the stone, and has a brief interpretation plaque next to the road. The scheduled area measures c. 25m by 20m around the stone (figure 8).

Another scheduled site lies just outside the southern edge of the study area, namely the Trefignath burial chamber (SAM An 11). This site was excavated between 1977 and 1979, and was partially reconstructed in 1980 and consolidated for public access from the adjacent road (Lon Towyn Capel). The scheduled area forms a rectangle measuring c. 40m by 25m around the monument, however, a

larger area than this has been fenced in and is under Cadw Guardianship (i.e. an area of land managed directly by Cadw) (see figure 9).

A third monument, a burial chamber at Trearddur, lies to the south of the study area. It is not scheduled, however the monument needs to be taken into account as it is of significance in relation to the scheduled monuments.

Listing provides similar protection for buildings as scheduling does for archaeological sites. There are no listed buildings in the study area.

4.3.2 The importance of setting

The sites in this report are listed and described as discrete entities, but at no point in their history would they have existed as such, and recognising in this site specific way we run the risk of isolating them from their setting and related landscape. It then becomes possible for new development to cause the isolation of features from their original environment.

The lack of cartographic and documentary evidence for prehistoric sites means that can be far more difficult to interpret their setting and it is of particular importance that the evidence on or in the ground is preserved. To go beyond the ordinary domestic life of prehistory and to attempt to study past thoughts and beliefs is to deal with even sparser, more obscure evidence. Here the loss of one class of evidence can lead to a completely different, possibly erroneous, interpretation of a monument. Numerous studies have shown that Neolithic and Bronze Age monuments were not located just by purely practical considerations, but that the landscape formed a significant part of the monument itself. Bradley (1993) has discussed the possibility of monuments as models of the physical and cultural world around them, with their position in the landscape being deliberately used to reflect a variety of complex ideas. Numerous authors have suggested that the intervisibility or otherwise between Neolithic burial monuments reflects the social landscape of territory and landownership. The relationship of monuments to the sun, moon, and even some stars, has also been widely discussed. Features of the landscape, such as distant hills, are often used as foresights to point to particular celestial phenomenon. Without being able to appreciate the physical landscape in which these monuments were placed none of these theories could be proposed, explored or tested. The setting of a monument forms such an intrinsic part of its existence that it cannot be adequately interpreted without it.

For the purposes of this development there are two monuments to which these points apply in particular, the Ty Mawr standing stone and the Trefignath burial chamber; it is also necessary to take into account the Trearddur monument because of its proximity to Trefignath. All are located on local high points, with views of Holyhead Mountain and wide views in other directions. There are east-west orientations in all the monuments, and Baynes (1911) has suggested that the standing stone was deliberately placed in relation to the Trefignath burial chamber. Perhaps the Trearddur monument is also deliberately related to the location of the others. It and Trefignath are intervisible, and Smith (1987) has suggested that Trearddur may originally have been the same type of construction as the first phase of Trefignath, and therefore possibly built at a similar date. These and other considerations can only be explored with all three monuments being protected and their location in their landscape being appreciated.

The planning legislation does, to some extent, take this approach into consideration. The Welsh Office Circular 60/96 stresses the 'desirability of preserving an ancient monument and its setting…whether that monument is scheduled or unscheduled' (3). Collcutt (1999) has studied this issue in relation to planning regulations and guidances, mainly from England, but also from the rest of the UK. He concluded that the setting of a monument was considered of importance, even though the term was not strictly defined. The view from and to a monument should be considered in planning applications, as should the relationship of neighbouring monuments to the understanding of the monument in question. The regulations, however, leave the exact definition of setting open to be decided on a case by case basis, with the application of common sense. Four main points should be considered:

'*(a) Intrinsic Visual Interest - the visual qualities of the archaeological features themselves as seen from other points;*

(b) Topographic Setting - the visual relationship of the archaeological features to surrounding topography (including local slope angles) and to such major elements as hills, river valleys, etc.;
(c) Landuse Setting - the visual relationship of the archaeological features to the landuse and particularly to those elements of the current landuse which had remained unchanged or were similar to those which existed at the time the features were occupied; and
(d) Group Setting - the visual relationship of the features to other visible archaeological sites in the vicinity, in terms of both contemporary and diachronic ("palimpsest") groupings or patterning'
(Collcutt 1999, 504).

This whole issue is problematic and the appeal to common sense is important. Of particular importance are the category A monuments. Under the planning regulations their setting must be considered, but to preserve the full area visible from the three monuments would be to forbid all development within the study area. The common sense approach would seem to be to identify the most important aspects of the settings and try to preserve these. The view towards Holyhead Mountain is probably of considerable significance, as is the view to the east, as many Neolithic tombs are aligned on the sunrise at different times of the year. In the case particularly of the standing stone and Trearddur monument it is possible that the view to the west was also important. The intervisibility between the monuments should also be preserved. Keeping lines of site open in these directions, rather than preserving the whole view, may be an acceptable compromise (see figure 4).

No development is allowed within the scheduled areas, but these are small and do not take the setting into account. A larger exclusion area would be recommended to allow the appreciation of the monuments in relation to their immediate topography. Any development must be considered carefully so that the monuments are not left isolated, entirely surrounded by buildings and re-landscaping. It should also be considered that buried archaeology related to the visible monuments may extend a considerable distance from the monument, and archaeological evaluation should precede any works close to these sites.

5. SITE GAZETTEER

This gazetteer contains a list of all sites identified during the assessment and field evaluation programme. The non-sequential numbering system arises from some sites being removed when the assessment area was reduced in size. Where individual trenches are referred to by number, those excavated in 2001 are prefixed with the letter 'A', and those excavated in 2004 are prefixed with the letter 'B'.

A square feature, measuring c. 25m on each side, was visible as a slight earthwork on aerial photographs just southwest of Ty Mawr (SH 2512 8118). This was inspected on the ground, where it was just visible, but a manhole cover located in the middle of the feature showed that it was a buried reservoir or septic tank.

(See figure 5 for location of sites)

1. Field boundaries PRN 13925
Category C
Most of the fields are recognisable in 1769, though there have been some localised alterations, especially around Tyddyn-pioden. The layout was finally established by 1817, and the changes since have been slight, consisting mainly of amalgamations to create larger fields. The boundaries were originally all dry-stone walls, except a group of earthen banks with hedges, around Tyddyn-uchaf. These banks do not appear on the earlier maps, and so seem to be a later form of boundary used to subdivide existing fields.
Many of the walls have been replaced by post and wire fences, and even those that survive are usually too ruined to act as stock barriers without additional fencing. The walls are all built of local schist in rough courses, with topper stones. Where the walls have been rebuilt the topper stones have sometimes been cemented in place and positioned upright and widely spaced, like mini-crenellations. The more traditional method was to have the stones sloping slightly and leaning against each other like books on a shelf. The stone is almost always fairly small schist slabs, but at SH 2530 8067, a large quartz boulder has been built into a wall. This measures 0.80x0.75x0.45m, and was presumably dug up from the field.

Mending and rebuilding over two and a half centuries has ensured that there is no clear stylistic typology of the walls, but differences in gateposts may give an indication of the date of the latest rebuilding episode. In the area southeast of Tyddyn-pioden there are a group of brick-faced gateposts, presumably constructed at the same time. These are built with poor quality brick of a type often used during the Second World War. Along the Lon Towyn Capel road boundary there are some more ornate stone-built gateposts, one of which is circular in plan, and has stone set in its top to create the effect of a small crenellated tower (SH 2575 8062). More simply, large slabs are occasionally used, such as at SH 2587 8040.

Many of the field boundaries have been lost even since the OS 1:10,000 map was surveyed in 1971. Most of the removed boundaries can be seen on the ground, and often also on aerial photographs, as shallow gullies or low banks. Even boundaries removed during the 19th century can sometimes still be traced, such as those in the field centred on SH 2520 8045, which are visible as very slight gullies, not to be confused with the other gullies in this field, which are the surface traces of field drains.

Maps: Penrhos II. 772 (1769), Penrhos III. 208 (1769), Penrhos II. 778 (1817), Penrhos II. 804 (1817), W maps 52/1 (1845), tithe map (1853), 25" County Series (1889, 1900), 6" County Series (1926), OS 1:10,000 (1971, 1975)

Recommendations: *It is recommended that where possible existing field boundaries are retained. If removal is necessary then recording should include details of construction, appearance, and cross section. If new boundaries are to be constructed they should be of the same style as the existing. The dating of field boundaries by archaeological excavation is fraught with difficulty, and though relative dates can be established, it is very rare to find absolute dating evidence. The margin of error associated with radiocarbon dating is typically too great to be of use, and usually only provides a* terminus post quem. *Thus excavation is not necessarily the most effective method of examining and recording field walls, though a strategy involving sample excavation across those known to have been present in 1769 could be of benefit. Such a strategy, to be combined with a watching brief to identify appropriate areas for excavation, should form part of any mitigation specification.*

2. Ponds PRN 18401

Category C

Water was an important resource and drinking water for livestock may have been scarce in summer. There were wells near most of the farmsteads, but in the fields ponds of various sorts were dug for the animals. There are features in the middle of some fields, which are roughly oval-shaped hollows surrounded by broad banks, presumably composed of the material dug from the hollow. These are possibly dewponds to collect rainwater, although they could be quarry pits. These features can be seen at SH 2513 8047, where there is one measuring c.29x23m and over 1m deep, and at SH 2523 8102. The latter is visible on the aerial photographs as an almost figure-of-eight shaped feature measuring c. 35x26m and up to 1m deep. There is a small enclosure marked on the 1817 map, presumably surrounding the feature. It is not marked on the 1889 OS map, and had presumably gone out of use by then. Neither feature had standing water in the bottom, even though there was plenty on the fields around.

Other ponds were constructed at the junctions of walls, and usually fed by drains. These often have some element of stone revetting to support the sides. One such example is located at SH 2526 8096. It measures c. 12 x 6m and is at least 1.5m deep, with rough stone revetting in places. At SH 2535 8036 is a fairly deep pond defined on the north side by a natural crag, to the west by a wall, and to the south by a boulder revetment. It is fed from the boggy valley running off to the northeast. A pond still present at SH 2662 8050 was marked on the 1889 map. This was fed by a drainage ditch.

Maps: Penrhos II. 804 (1817), 25" County Series (1889, 1900)

Recommendations: *Basic recording and watching brief.*

3. Road PRN 13926 SH 2511 8125 – SH 2622 7975

Category C

The road known as Lon Towyn Capel runs through the middle of the study area, aligned north-west to south-east. It winds gently and is lined with stone walls along most of the length within the study area. This road provides access to many of the farms listed below. It is shown on all the Penrhos Estate maps from 1769 onwards, although it does not appear on John Evan's 1795 map of North Wales, presumably because it was considered too minor to be shown. It's route has remained largely unchanged.

Maps: Penrhos II. 772 (1769), Penrhos III. 208 (1769), Penrhos II. 778 (1817), Penrhos II. 804 (1817), W maps 52/1 (1845), tithe map (1853), 25" County Series (1889, 1900), 6" County Series (1926), OS 1:10,000 (1971, 1975)

Recommendations: *Basic recording and watching brief.*

4. Ty Mawr PRN 21169, SH 2523 8121
Category C
A farmhouse appears on the same site on maps going back to the mid 18th century. It is not certain that the same building is shown, but the house appears to be at least 200 years old (GAT Report 64). Common land around Ty Mawr was enclosed by act of parliament in 1861. The house and related buildings were demolished to make way for the improved A55, so only some barns and the garden now survive.
Maps: Penrhos II, 772, map 3 (1769), W maps 52/1 (1845), tithe map (1853), WPE 68/128 (1861)
Recommendations: *The older parts of the farm have already been destroyed so basic recording will be adequate to record the remainder.*

5. Enclosure and structure PRN 18402 SH 2525 8112
Category D
A small enclosure, associated with a small building, is shown on the 1900 and 1926 maps adjacent to the road, just south-east of Ty Mawr. On the ground a low bank could be seen defining the south-west corner of the enclosure. There is no trace of the building, but the field near the road had been recently ploughed. There was also a heap of stones next to the field gate at this point, and it was not clear whether they had been dumped there from elsewhere, or represented stones removed from this part of the field.
Maps: 25" County Series (1900), 6" County Series (1926)
Recommendations: *Watching brief*

6. Tyddyn-Pioden PRN 18403 SH 2510 8092
Category D
The modern house of this name is at the above grid reference and is outside the study area, but the earlier maps show that it was originally further east, at SH 2533 8083 (6a). The earliest spelling is of Tyddyn y Pregodyn. On the 1845 tithe map there is a building shown next to the road called Tyddyn y Biodan, further south than present, at c. SH 2510 8078 (6b), but this may be a cartographic error; there are no structures shown on the site of 6a.
The eastern location at 6a is on the southeastern corner of a ridge. Parts of the ridge may have been artificially leveled, but there is no clear evidence for structures, however, it is a good location for a house, safely above the boggy valley to the south. Just north of here there is the slight trace of a former field boundary running northeast to south-west. Between this and the well, site 7, there are very vague suggestions of parallel furrows, but these are not clear enough or regular enough to be securely interpreted as the remains of ridge and furrow. The boundary is shown on the 1769 map, but here ploughing is indicated to the southeast, not the north-west of the boundary.
Very little could be seen at the more southerly location, except for a 1m wide dogleg in the field wall, for which there was no obvious explanation. This may have been part of a former building, though the stretch of wall was no broader than usual.
Geophysical survey (Grid I) did not reveal any archaeological anomalies, and no features were revealed in Trench 13, though this may have been sited slightly south of the area.
Maps: Penrhos II, 772, map 3 (1769), Penrhos II, 804 (1817), W maps 52/1 (1845), Tithe map (1853), 6" County series (1926)
Recommendations: *Watching brief.*

7. Well PRN 13927 SH 2525 8092
Category C
A stone-lined well is located on a now removed field boundary. The boundary is visible as a gully in the grass. The well has dry-stone walls and a cemented stone slab capping, all of local schist. It is aligned c. northeast to south-west along the boundary and opens at its south-western end. At the northeastern end grows a very straggly hawthorn bush. Three large timbers lie over the southwestern end, and are probably the remains of some wooden structure. The well is 1.3m deep from the top of the capstones to its stone lined base. It is currently full of water and the presence of disused pipe work showed that it has been in use until fairly recently, but its origin could be as old as the enclosure of the fields. The copy of the 25" map inspected was damaged at just this point, so it was not clear if the well was marked or not, but it is shown on the 6" map.
Maps: County series, 25" (1889), 6" (1926).

Recommendations: *Detailed recording*

8. Ty Mawr standing stone PRN 2501, SAM A12, SH 2539 8095
Category A
The stone is an attractive piece of schist with swirling bedding planes, and an almost anthropomorphic shape. It stands c. 2.5m high, and is a maximum of 1.7m wide and 0.4m thick. It is located on a local high point, at an altitude of 12m OD, but not on the highest point in the area, in a gently undulating, rather than a craggy, field. The views are good all round, but especially good of Holyhead mountain. The stone stands in a slight hollow caused by livestock eroding the ground around it, and this has exposed the packing stones around the base of the monolith. No earthworks were noticed around the stone, despite the grass in this field being particularly short.
A small square marks the stone on the 1889 map, but it is not labeled. On the 1926 map it is marked as a *maen hir*.
The monument is listed by RCAHMW (1937) as a *maen hir* 83/4 ft high 4ft wide and 11/4ft thick. Baynes (1911, p71) states that its south-east face is facing the summer solstice sunrise, and that an alignment from here to the burial chamber at Trefignath is within one degree of the winter solstice sunrise. A geophysical survey was carried out by Geophysical Surveys of Bradford in 1990, which revealed a possible bank around the monument, and associated linear features. There is a possibility that the circular anomaly could be the trace of a former fence, but no such fence is shown on any map (Geophysical Surveys 1990).
Additional magnetometer survey was undertaken to the west and north of the stone (Grids E and F) but no features were revealed, nor in the trial trenches 2, 3 and 12.
Maps: County series 25" (1889), 6" (1926)
Recommendations: *Every effort should be made to avoid excessive visual intrusion. It must be possible to appreciate the monument in its landscape setting. Vistas towards Holyhead Mountain and south-east towards the Trefignath tomb should be kept open. To enable the appreciation of the location of the stone on top of a rise in the terrain development should not come within 50m of the stone to the south-east. In other directions an exclusion zone of 20m is recommended. It is important to seek the views of Cadw, and it may be necessary to apply for scheduled monument consent for work that affects the setting.*

9. Stone PRN 18404 c. SH 2541 8085
Category D
A large, horizontal stone was found directly south of the standing stone. It is orientated east to west, and has rather rounded edges. It is well embedded in the ground, and has clearly not been recently deposited. It is possible that it is part of the bedrock, but its form and the slope of the bedding planes are different to the bedrock outcrops, none of which appear in this fairly low-lying area. It is located in a low-lying point in the landscape, with higher land all round except to the west. The Ty Mawr standing stone appears on the brow of the rise to the north from this point. Although it is probable that the recumbent stone is out-cropping bedrock, its location in relation to the *maen hir* and the lack of other outcrops in the area make it worth investigating. There is a tradition that a second stone existed near the Ty Mawr standing stone (Glynn Morris pers. comm.).
Geophysical survey (Grid D) and trial trenching (Trench 4) revealed the stone to be a glacial erratic; no archaeological features were located.
Recommendations: *None.*

10. Pen-y-Lone PRN 14588 SH 2555 8082 (Figure 6)
Category C
A series of cottages and associated fields are depicted on the early estate maps, located immediately next to the minor road, northwest of Trefignath. In 1769 these were called Pen-y-Lone, and are represented as two houses with small tofts next to them. In 1817 one of these is still marked, and another building appears to the northwest. This latter is the farm called Penbonc-deg in 1853, and Bonc-deg on later maps. The layout of fields around Bonc-deg was the same in 1817 as it was in 1889, but all trace of Pen-y-Lone had disappeared by the later date.
Pen-y-Lone was a fairly substantial farm in the 18th century, covering the land subsequently farmed by Trefignath Farm, and even including some land as far away as Cae Glas.
At the location of Pen-y-Lone a mound was noted on the aerial photographs. This was clear on the ground and appeared to be a house platform measuring c. 10x4m along the top. It was c.0.4m high, though appeared higher at the southwestern end where the land naturally sloped down. The mound was

roughly rectangular in shape and to the southwest slighter traces of other features could be seen. A low bank seems to form a small rectangular enclosure to the southwest of the house platform. To the west of that and running further north is a slight linear, hollow, which extends to the field boundary to the north. Even further west are at least two other parallel hollows.
The house platform is the more southerly of the two houses marked on the 1769 map. This had a small field to its southeast, but a corner of the field extends round the southwest end of the house, probably explaining the apparent rectangular enclosure. At this period there was no boundary to the north, but by 1817 there was and the features visible on the ground are clearly a mixture of different periods. One short boundary is shown further west in 1817.
Excavations on the site of Pen y Lon (Grid K and Trench 24 (2001) and Trench 7 (2004) revealed wall foundations and related stone spreads, interpreted as the remains of the former house and associate buildings.
Maps: Penrhos II, 772, map 4 (1769), Penrhos II, 804 (1817), W maps 52/1 (1845), tithe map (1853), County series 25" (1889)
Recommendations: *Preservation* in situ, *or full excavation of the remains.*

36. Bonc-deg PRN 13928 SH 2555 8082
Category C
A series of cottages and associated fields are depicted on the early estate maps, located immediately next to the minor road, northwest of Trefignath. In 1769 these were called Pen-y-Lone, and are represented as two houses with small tofts next to them. In 1817 one of these is still marked, and another building appears to the northwest. This latter is the farm called Penbonc-deg in 1853, and Bonc-deg on later maps. The layout of fields around Bonc-deg was the same in 1817 as it was in 1889, but all trace of Pen-y-Lone had disappeared by the later date.
Where Bonc-deg was located the earthworks are not easily interpreted. There is a faint terrace or lynchet defining the enclosure round the farmstead. Within this there are hollows and undulations, presumably relating to the farm buildings, but a detailed plan of them would have to be made before these rather confusing remains could be interpreted in detail. The magnetometer survey (Grid G) produced a series of high readings, but no specific features. Excavation (Trench 1, 2000) revealed remains of a stone wall and fragments of a concrete surface, both standing on a layer of rounded cobbles and sand. The structural remains were slight, suggesting the site had been heavily robbed out when destroyed in the 1960's. No further excavation were undertaken here in 2004.
Maps: Penrhos II, 772, map 4 (1769), Penrhos II, 804 (1817), W maps 52/1 (1845), tithe map (1853), County series 25" (1889)
Recommendations: *Watching brief..*

11. Unidentifiable earthworks PRN 18404 SH 2533 8065
Category D
At the southwestern end of a smooth, rather than rocky, ridge, and close to a very wet area, is a group of low, grassy hummocks. Some resemble banks and others have roughly circular hollows, but there are no clear patterns, except a possibly rectangular feature measuring c. 12 x 6m. The scarps are less than 0.4m high, and are generally aligned along the same axis as the ridge. It is possible that these are the result of rock outcropping near the surface, but they are slightly different in character to other examples of this, which are frequently seen in the study area. Possibly trees growing and falling over would explain the earthworks, but there are no trees marked here on any of the maps. The features are probably natural, but the possibility that they are anthropogenic cannot be entirely ruled out.
Geophysical survey (Grid L) and trial excavation (Trench A28) failed to reveal any archaeological remains.
Recommendations: *None.*

13. Trefignath Farm PRN 13929 SH 2590 8073
Category C
The 1769 map shows two small buildings to the north of the modern farm, which were in a field called Trefignedd, part of the Pen-y-Lone land. By 1817 there was a building, named as Trefignath, in the same location as the recent farm, but the two buildings to the north were still in use. The situation was the same in 1845 and 1853, but by 1887 the whole farm had moved to the southern location; although a very small structure is indicated further north near the railway. Slight traces of former buildings on the southern site are visible on the aerial photographs. The buildings were marked on the 1926 map, but had been removed by 1971, and sheep pens now occupy the site.

The name of the farm has been very variable, including Trefignerth (1624), Trefignedd (1769) and Trefignant (1817). The forms show no logical development, and 1624 is the earliest known reference (Smith 1987).
The buildings at the northern location (outside the study area) do not show on the ground as earthworks, but there are a pair of gateposts in roughly the right place. These are large stone slabs, possibly taken from the tomb. The gap between them has long since been filled in with walling, which is now low and fairly ruined. Whether this gate is related to the buildings or just provided access between the fields is unclear. It seems likely that some subsurface remains of the buildings survive. An attempt was made to locate the buildings by geophysical survey, during the archaeological evaluation in advance of the A55 road improvements. No clear evidence of the buildings was found, but a circular anomaly, c. 5m in diameter, and an associated linear feature of unknown status, were revealed to the north-east of the burial chamber (GAT 204).
Trial excavation (Trench 44) revealed traces of former buildings, interpreted as late medieval buildings associated with the first settlement at Trefignath. These, however, now lie just beyond the western limit of the study area, although the later site of house and buildings lie within it. These have been almost entirely removed down to bedrock, with only traces of concrete remaining where the farm buildings stood. Part of the area is now used for sheep pens, with an area covered in hard core to the south of this. However, the external wall of the western range of barns does survive, though converted into a field wall. The eastern (internal) side of this is cement rendered, and some stones project where they have been keyed into now demolished perpendicular walls. To the east of the hard cored area at least half of the pond exists, though silted up. To the north of that is a rock outcrop, enclosed by walls. In the north side of these walls are the remains of some small structures, probably those shown on the 1889 map.
Maps: Penrhos II, 772, map 4 (1769), Penrhos II, 778, sheet 7 (1817), Penrhos II, 804 (1817), W maps 52/1 (1845), tithe map (1853), 25" County Series (1889), 6" County Series (1926), OS 1:10,000 (1971)
Recommendations: *Basic recording of upstanding remains, and watching brief during demolition and below ground works.*

14. Trefignath burial chamber PRN 2500, SAM A11, SH 2586 8055
Category A
This Neolithic burial chamber lies outside the western edge of the study area. However, it is a scheduled ancient monument, and as the setting of the site may be impacted upon, it is necessary to include it within the gazetteer. The monument is composed of local mica schist, and situated on a natural knoll. It is surrounded by traces of a long cairn, and is best preserved at the eastern end. This site was assumed to be a gallery grave until excavation proved it to be much more complex. The site was excavated between 1977 and 1979, and was partly reconstructed in 1980. This demonstrated that the tomb had three chambers, which were built in succession from west to east, with the cairn enlarged as each new chamber was built. The earliest chamber resembled a simple passage grave. The central and eastern chambers were box-like structures with portal stones. The tomb overlay evidence of domestic occupation of the site dating to the early fourth millennium uncalibrated bc (HAR 3932 5050+/-70 BP) (Smith 1987).
Quantities of flint and chert artefacts including 22 scrapers, and a single leaf-shaped arrowhead were found, and the remains of at least 21 pottery vessels (Smith 1987). Nineteenth century references also mention the discovery of 'urns and bones' (Lynch 1991). The site was first noted in 1655 or 1660 when John Aubrey visited it (Smith 1987, p3). Stanley in 1867 states that the monument was damaged c. 70 or 80 years previously, when the capstones were removed for gateposts and lintels. An alignment from the standing stone at Ty Mawr to the burial chamber lines up, to within one degree, with the winter solstice sunrise (Baynes 1911).
The chamber is marked as a *cromlech* on the 1889 map, but not shown on any earlier maps, although clearly known about. On the 1926 map it is marked as *cromlechau*, presumably because the chambers were being considered as separate tombs, rather than part of a single structure.
Maps: County series 25" (1889), 6" (1926)
Recommendations: *Every effort should be made to avoid excessive visual intrusion. It must be possible to appreciate the monument in its landscape setting. Ideally a vista should be left open towards the standing stone and Holyhead Mountain beyond. The existing guardianship area should be adequate to preserve the immediate surroundings of the monument. The northern approach to the monument could be improved if the wire fencing around the site of Trefignath farm was removed and the appearance of this area improved. The view of Cadw needs to be sought on any design that affects the setting of this site, and scheduled ancient monument consent may be required.*

Site 37 Peat deposits PRN 18405
Category E
An exploratory excavation (A6), although limited by the difficulties of digging within waterlogged soils, was undertaken at the base of a break of slope within a large elongated depression which often contains standing water. Further work is required to establish the full depth of the peat and its potential for palaeo-environmental material. However, evidence from trenches B20 and B21 suggest the peat may be a relatively late formation, and not comparable with the area to the east which was sampled in the late 1970's.
Recommendations: *This site is to be retained as a wet area, and the impact upon the peats may therefore not be high. Should there be proposed major impact, it is recommended that peats from the deep, central area, of the hollow be assessed for palaeo-environmental potential.*

Site 38 Burnt clay feature PRN 18406 Figure 7
Category B
This feature, a roughly circular patch of burnt clay, was discovered during trial excavation (Trench A16). An unexpected depth of topsoil (up to 1.8m) made full evaluation difficult, as access to the interior of the trench was not possible at this depth. Trenches B6, B27 and B28 revealed that the hearth was located in a former natural hollow between rocks that was in-filled and leveled in the 20th century. The hearth was cut into a deposit identified as an occupation layer that contained other patches of burnt clay and several sherds of decorated Beaker pottery, and three flints, one clearly identifiable as Early Bronze Age or earlier in date. No post-holes or cut features were otherwise identified to suggest the presence of structural remains, but the pottery, flint and presence of a fire dating from around 2000 BC make this an important find.
Recommendations: *The site as identified within trenches 6, 27 and 28 is located in a relatively discrete area between rock outcrops. Though the present development plan does not impact directly upon this site, full excavation (occupying an area approximately 30m in diameter) should be undertaken if there is to be any impact upon the archaeology.*

Site 39 Romano-British settlement west of Pen y Lon PRN 14599 Figure 8
Category B
The evaluation excavations undertaken in 2001 identified the remains of a probable clay-walled roundhouse with associated finds of black-burnished ware and Samian ware, indicative of Romano-British activity. It was anticipated that Trenches B7, B8 and B9 would encompass the remains of the Romano-British structure, whilst Trench B10 would locate any additional features. Trenches B18, B19, B32 and B33 were added later to investigate the magnetometer readings and encompass as wide an area as possible. Trench B7 and B8 were also joined by stripping the topsoil between them *through* part of Trench A26 in an attempt to characterise what appeared to be a badly disturbed stone capped drain in Trench B8 and structural remains in Trench B7. It was hoped by exposing part of Trench A26 that these features could be linked. The excavations showed that the stone-lined drain in Trench B8 is likely to be directly linked, or part of the same network of drains, as that discovered in Trench A26. The lack of definite Roman evidence within Trench 7 is difficult to explain, unless activity within post-medieval times has truncated and destroyed the relevant layers. Analysis of the 1817 Estate Map (reproduced in GAT 2002, Figure10) showed that the majority of Trench 7 was in an area which would have been part of a small enclosed field associated with the Pen-y-Lone farmstead, and possibly cultivated more intensively than the area outside. The rubble layers found in the extensions of Trench 7 were thought to be remains of the farmstead spread across the field. However evidence for Romano-British activity was identified in Trench B9, which contained a possible compacted clay floor surface, cut by a small circular feature that contained a pivot for a door, all of which were indicative of Romano-British settlement.
Trenches B10 and B18 were archaeologically sterile, whilst Trenches B19, B32 and B33 were indicative of post-medieval landscaping. The evidence for the Romano-British settlement was thus limited to a smaller area than expected, appearing in parts of Trenches B8, B9 and possibly at the east end of B7. The pottery suggests a Hadrianic/Antonine date of occupation in the 2nd century AD.
Recommendation: *Preservation* in situ*, or full excavation of an area some 40m in diameter in advance of development.*

Site 40 Cobbled area PRN 18407
Category D
This site lies on a slight prominence immediately above an area of marshy ground. Excavation (Trench A34) revealed a cobbled area, which was interpreted as being of human origin. However, further

excavation in 2004 was unable to identify any additional remains. A layer of peat with woody remains overlay the glacial clay, but post-medieval pottery on the clay suggested the peat was a relatively late formation. The cobbled area may have been of glacial origin, as the rounded stones are typical of those found naturally within the soil, alternatively the archaeology may have been confined to a very limited area. The two trenches, B20 and B21, were also placed to investigate features identified during the magnetometer survey. The linear signals recorded in the survey were not identified in Trench 20 whilst the area of magnetic disturbance investigated by Trench 21 is best interpreted as the change from clay to peat. Overall, there was very limited evidence of archaeological activity within this area.
Recommendation*: There are no recommendations for further work in this area.*

Site 41 Stone settings PRN 14587
Category D
Excavation of geophysical anomalies (Trench A36) revealed two pits containing carefully placed large stones. A concentration of smaller stone, some of it burnt, also lay within the trench. Although the pits were not obviously part of structures, burnt stone is typically found on Prehistoric settlement sites. However, further excavation in 2004 (Trenches B22 and B23) found no further evidence for any archaeological activity. The only evidence for prehistoric activity was a residual flint recovered from the topsoil.
Recommendation*: There are no recommendations for further work in this area.*

Site 42 Prehistoric settlement remains PRN 14602 Figures 9 and 10
Category B
Excavation within Trenches A51 and A54 revealed a variety of features, including stone capped drains, burnt stone and fragmentary stone walls. Although some of the features undoubtedly relate to the complex of small fields which surrounded Bonc Deg (Site 36), for example feature *i* in trench A54, the other features are interpreted as part of a late Prehistoric and Romano-British settlement. Additional excavation undertaken in 2004 to ascertain the extent of the remains identified further remains in trenches B11, B12, B13 and B14. B13 revealed an occupation layer and a stone-lined culvert. Moreover, this trench produced several sherds of Romano-British pottery, including a piece of *mortaria*, all of the 2nd century AD.
Trenches B11, B14, B15, B16, B17 and B24 were inserted around this area to evaluate the extent of this activity.
Trenches B11 and B14 both contained compacted floor surfaces whilst Trench B14 also contained a wall which could have been sealed by clay, suggesting a clay walled round house.
Trenches B15, B16, B17 and B24 were archaeologically sterile.
The excavations confirmed the presence of a Late-Prehistoric/Romano-British settlement within the southern part of the trench A54 and adjoining trenches, and a concentration of Post-medieval features within the northern part of trench A54.
Recommendation: *Preservation* in situ*, or full excavation of an area some 30m in diameter in advance of development.*

Site 43 Possible Prehistoric site PRN 13930
Category D
Site 43 was identified from the 2001 evaluation as a potential prehistoric site as indicated by a large curvilinear feature and a slag-filled pit. Trenches B25 and B29 were located within this area to assess the extent of the prehistoric activity. Trench B25 was inserted at the southern end of the trench from the 2001 evaluation but failed to locate any prehistoric activity, identifying only post-medieval features. Trench 29 was located several metres to the northeast of the original trench but again failed to locate any prehistoric activity and was recorded as archaeological sterile. It was concluded that the potential for further archaeological recovery at this site was low. The pit discovered in 2001 may relate to post-medieval agricultural practices, as intense burning will produce slag from many different materials. A cursory visual examination was undertaken by Peter Crew of the slag in 2002, who thought it was not the result of metal working. No formal report on the slag was produced.
Recommendation*: There are no recommendations for further work in this area.*

6. ASSESSMENT OF IMPACT AND PROPOSALS FOR MITIGATORY MEASURES

6.1 Research questions arising from fieldwork results

The results of the assessment and field evaluation have presented a dense concentration of archaeological remains of many periods. A chronological summary will be given below, which takes into account the archaeology within and immediately adjacent to the study areas. Two principal excavations have been undertaken within and close to the study area: the excavation of Trefignath burial chamber undertaken 1977-79 (Smith and Lynch 1987), and the excavation of a Neolithic settlement, Bronze Age barrow and Early Christian cemetery north of Ty Mawr in 1999 (unpublished, but draft report, Kenney and Longley 2001) in advance of the construction of the dual carriageway. Pollen samples were taken from a bog north of Trefignath during the tomb excavations, and reported on in Smith and Lynch 1987 (Greig 1987).

Palaeolithic and Mesolithic
Palaeolithic remains are rare, and it is even more rare to find them by traditional field evaluation techniques, particularly as most evidence will have been removed during glaciation. Finds of Mesolithic date are also comparatively rare, though they are known from north and west of the study area. Examination of the pollen sequence in the bog north of Trefignath chamber showed a sequence of birch and open grassland in the Mesolithic period giving way to oak and elm as the climate improved and the full 'climax forest' matured in the Neolithic period. The only hint of Mesolithic activity recovered from the evaluation is a core trimming flake from a narrow blade core, typical of the late Mesolithic (Trench A34). However, late Mesolithic radiocarbon dates were obtained from below the Ty Mawr barrow, and at least one substantial posthole on the site belongs to this period (Kenney and Longley forthcoming). The search for *in situ* Mesolithic deposits on the northern part of Holy Island should be considered an important research priority, although predicting the location of such deposits is difficult. The Mesolithic/Neolithic transition period, marking the stages in human evolution from hunter-gatherer to settled agriculturist, has not been greatly studied in Anglesey, and any contribution to research in this period would be of national importance.

Neolithic
The importance of the two Neolithic tombs within the study area has been discussed in the background study above. Early Neolithic dates (*circa* 3000 - 4020 BC) have been obtained from the excavations immediately north of the farm at Ty Mawr, and features on this site may represent settlement remains from the period of the occupation of Trefignath (Kenney 2001). Pre-tomb features at Trefignath may also represent settlement remains (Smith and Lynch 1987, 10-11). The pollen analysis (Greig 1987) showed a sequence of woodland clearance to cultivated arable within the later Neolithic, though the record is slightly confused, particularly within the earlier Neolithic period. Neolithic settlement is notoriously difficult to locate, and only one possible house is known from north-west Wales (that at Llandegai) (Lynch *et al* 2000, 50-51). The location of settlement sites would therefore contribute to a debate of national importance.

No additional sites of specifically Neolithic date have been discovered within the development area, nonetheless the presence of the two tombs would suggest greater density of settlement than that represented by the finds from the Ty Mawr excavations, and there must remain a strong likelihood that further remains exist within the vicinity, and possibly within the development area.

Bronze Age
Activity within the Early Bronze Age is evidenced by the standing stone at Ty Mawr, and the barrow located during the Ty Mawr excavations (Kenney 2001). This is now supplemented by the pottery found associated with the hearth at site 38. Once again, settlement during this period is very rare, and any contribution to a greater understanding of settlement and land use during this period would contribute to a debate of national importance.

The dislocation that typically marks the earlier from the later Bronze Age is poorly understood, although climatic deterioration undoubtedly played a significant role. Burnt mounds form the commonest site type within the latter period, but none have been found at Ty Mawr. Other settlements are rare, but it has been suggested they should be sought within the earlier phases of the later Prehistoric settlements.

Late Prehistoric and Romano-British
Settlement sites from this period are more common, and several have been excavated within recent years. The finding of two additional sites provides the opportunity of answering more detailed questions concerning density of population, availability and use of resources, development of agricultural techniques, development of metal working technology, site status, and social hierarchies. Pottery studies help establish trading patterns, site activities and site hierarchy. Environmental evidence from these periods is of particular importance, as it provides basic data on vegetation, crop cultivation, and climate change. The chronological sequence is important, particularly at the start of the settlement which may overlap with the Later Bronze Age, and at the end, which may overlap with the Early Christian/Post Roman period.

Early Christian Period
Although several burial sites from this period are known from Holy Island, including one found during the Ty Mawr excavations, no certain settlements are known. The presence of the burial sites certainly indicates settlement, and locating its whereabouts is of particular importance. The starting place has to be the Romano-British settlements, some occupied into the 6th to 8th centuries, but there is little evidence for settlement location after that.

Medieval and Post-Medieval periods
There is no documentary evidence for medieval settlement within the immediate development area, although Tre Gof, south of the study area, was a settlement in late medieval times, and is a site of particular importance.

An area of research of particular importance is the evolution of medieval field systems and their subsequent enclosure within the Post-Medieval period. Several strips remaining from the open medieval system are still visible on the 1769 and 1817 estate maps. Information from buried soils and palaeo-environmental sources on these sites may provide valuable evidence for this process, and for the nature of both medieval open and enclosed field systems.

The date of the establishment of farmsteads within the late Medieval and Post-Medieval is one presently poorly understood. Evidence from Trefignath and Pen y Lon will contribute to this debate.

The widespread use of Post-Roman pottery on Anglesey is typically fairly late (often not until the 18th century), and although many concentrations of pottery have been reported on from south and east Wales, such collections are much rarer in north and west Wales. A study of the pottery from Trefignath, Pen y Lon and possibly Bonc Deg and Tyddyn Pioden will provide important additional material for understanding the source and date of pottery vessels, and hence improve our knowledge of trading patterns, technological development and the economy.

6.2 General recommendations

The density of archaeological sites found at Ty Mawr suggests a high level of activity within the area from Neolithic times to the present day. The field evaluation programme has been successful in discovering a number of new sites, though the additional work undertaken in 2004 did not reveal any further sites, either through geophysical survey or trial excavation. However, there does remain considerable potential for the further discovery of buried archaeology.

The brief recommended a minimum of 2% trial excavation of available areas. At present the total lies between 1 and 1.5%, and thus a second phase of trial excavation was originally envisaged, that would build upon the results of the earlier phases, and take the total up to 2%. However, given the lack of archaeology found within the trial excavations and during the watching brief carried out on the waste water pipeline, it may be that further trial excavation is not the most appropriate means of finding any undiscovered buried archaeology. Given that all the areas considered to be of medium to high potential have already been sampled, the likelihood is that any undiscovered archaeology is relatively ephemeral and difficult to find through a trial trenching programme. However, it would be easier to locate through wide area stripping, and a programme of strip, map and sample, taking each development area in turn, would be an appropriate method of locating any remaining archaeology. This technique involves the examination of machine-stripped surfaces to identify archaeological remains. The machine stripping is supervised by an archaeologist. Once stripping has been undertaken, areas of

archaeological potential are identified and cleaned by hand. Sample areas are cleaned by hand in apparently negative areas to act as a control. Where complex archaeological deposits are identified during stripping, these will be identified at an early stage in order to formulate a defined area of work. A separate specification for each defined area would be produced. The disadvantage of this method is that the excavation and recording of any archaeology may hold up the construction process, and it is therefore important to allow time within the construction programme for this element.

It is recommended that below-ground disturbance is kept to the minimum required, as this will avoid the costs of dealing with any discovered archaeology at this late stage in the construction process.

Recommendations for known archaeology include full excavation of the three Category B sites if they are going to be affected by construction. The proposed layout will have a major impact on site 42, whereas sites 39 and 41 are avoided by proposed construction though may be impacted upon by landscaping. It is recommended that proposed landscaping designs avoid direct impact upon these two sites.

In certain circumstances it may be possible to carry out construction work over archaeological sites, and to leave the remains preserved *in situ* underground. Given the shallow depth of topsoil, any development would have to take place above the topsoil, without removing it. It would also have to be shown that subsequent compression from the weight above would not impact upon the archaeological remains. This method could be considered where, for example, a road is to pass over an archaeological site.

Attention is drawn to the importance of the two scheduled ancient monuments (Trefignath burial chamber and Ty Mawr standing stone) and the need to preserve their setting.

6.3 Summary of recommendations for mitigatory measures

This lists the sites according to their perceived archaeological value, and summaries the recommended mitigatory measures.

Category A - National importance

8 Ty Mawr Standing stone	Avoidance/Setting issues
14 Trefignath burial chamber	Setting issues

Category B - Regional Importance

38 Early Bronze Age site	Preservation *in situ*/Full excavation
39 Prehistoric/R-B settlement	Avoidance/Full excavation
42 Prehistoric/R-B settlement	Avoidance/Full excavation

Category C - Local Importance

1 Field Boundaries	Basic recording/Reinstatement
2 Ponds	Basic recording/watching brief
3 Road	Basic recording
4 Ty Mawr	Basic recording
7 Well	Detailed recording
10 Pen y Lon	Preservation *in situ* or Full excavation
13 Trefignath farm	Basic recording and watching brief
36 Bonc Deg	Watching brief

Category D - Minor or damaged features

5 Enclosure and structure	Watching brief
6 Tyddyn Pioden	Watching brief
9 Stone	None
11 Possible earthworks	None
40 Cobbled area	None
41 Stone setting	None
43 Possible prehistoric site	None

Category E-Sites needing further investigation
37 Peat deposits Assessment of palaeo-environmental potential

Area mitigation
Strip, map and sample over areas of archaeological potential.

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OS 1:10,000 SH 28 SW, 1971

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Glynne Morris pers. comm. Estate manager, Ty Mawr Estate

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WPE 68/128 Cyttir Bodwedd and Cyttir Tymawr, inclosure in the parish of Holyhead. 1861

W MAPS 52/1 (1845) A plan of the parish of Holyhead and part of Rhoscolyn, Penrhos Estate plan c.1845

7.1.3 Aerial photographs held by Countryside Commission of Wales, Bangor

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Line 3 91 93 frames 51-54, taken 17.8.93

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APPENDIX I

BRIEF FOR ARCHAEOLOGICAL FIELD EVALUATION 2004

DESIGN BRIEF FOR AN ARCHAEOLOGICAL FIELD EVALUATION

Gwynedd Archaeological Planning Service

Site: Land at Tŷ Mawr, Holyhead, Ynys Môn

Client/Applicant: Welsh Development Agency (WDA) / Anglesey Aluminium Ltd.

Agent: Symonds Group Limited

Date: 18 November 2003

National Grid Reference: centred on 225190 381210

This design brief is only valid for six months after the above date. After this period Gwynedd Archaeological Planning Service should be contacted.

It is recommended that the contractor appointed to carry out the archaeological assessment and field evaluation visits the site of the proposed development and consults the Regional Sites and Monuments Record (SMR) for north-west Wales before completing their specification. Gwynedd Archaeological Planning Service cannot guarantee the inclusion of all relevant information in the design brief.

Key elements specific to this design brief have been highlighted.

1.0 Site Location and Description

1.1 For the purposes of this brief the site comprises land at Tŷ Mawr, Holyhead, Ynys Môn (centred on grid reference 225190 381210), as shown on the drawing 56080/MP/05 Rev K.

1.2 This plot of land comprises an area of approximately 50 hectares and is located on a green-field site immediately adjacent to the new A55 Trunk Road, on the southern outskirts of Caergybi (Holyhead).

2.0 Archaeological Background

2.1 An archaeological assessment was carried out by Gwynedd Archaeological Trust in November 2000 for an area of land totalling 65 hectares (Kenney 2000; report no. 389). In the light of its conclusions an archaeological evaluation was carried out in July and August 2001 (Davidson & Hopewell 2001; report 428). A full synthetic report combining the assessment and evaluation was subsequently compiled (Davidson, Hopewell & Kenney 2002; report 459).

2.2 The evaluation comprised a magnetometer survey and the excavation of trial trenches. Approximately 5% of the total area was surveyed using the magnetometer, by means of survey grids across the entire site, totalling 34,800 square metres. Less than 1% of the total area was evaluated by excavation, by means of 20 x 2 metre trenches, totalling 2,755 square metres.

3.5 The *specification* should contain, as a minimum, the following elements:

- Non-technical summary.
- Details of the proposed works as precisely as is reasonably possible, indicating clearly on a plan their location and extent.
- A research design which sets out the site specific objectives of the archaeological works.
- Reference to the relevant legislation.
- Health and Safety considerations.
- Monitoring procedures.
- Field methodology.
- Methods of recording, including the collection and disposal strategy for artefacts and ecofacts.
- Arrangement for immediate conservation of artefacts.
- Post-fieldwork methodology.
- The level and grade of all key project staff.
- Details of all specialists.
- A timetable for the proposed works including contingency costs (if appropriate).
- The intended method of publication.
- Archive deposition.

4.0 Archaeological field evaluation detail

4.1 The purpose of the **archaeological field evaluation** is to determine the location, extent, date, character, condition, significance and quality of any surviving archaeological remains liable to be threatened by the proposed development, in order to make an assessment of their importance, leading to one or more of the following:

- the formulation of a proposal for further archaeological investigation within a programme of research;
- the formulation of a strategy to ensure the recording, preservation or management of the archaeological resource.

4.2 In the light of the previous evaluation, this stage of work should address the following elements:

- Evaluation by excavation of the total development plot, excluding rocky outcrops, to a minimum sample level of 2%. Where non-destructive methods of field evaluation, such as geophysical survey, are effective, then sampling should be guided by these results.
- Defining the extent of the two late Prehistoric/Romano-British settlements, and a late Prehistoric/Romano-British metalworking site.

- Defining the extent and status of four sites identified as a result of the previous evaluation: a peat deposit, area of burnt clay, area of stone cobbling and adjoining pits.

4.3 Non-destructive methods of field evaluation should be considered, although the effectiveness of any technique should be established before undertaking work over the whole area. Survey techniques include geophysical survey, remote sensing, geochemical survey, earthwork survey and field scanning. The techniques adopted should be chosen in the light of:-

- local topography,
- previous magnetometer results,
- comparison with recent work carried out on similar soils.

4.4 Destructive methods of field evaluation should be considered for a representative sample of all areas where archaeological remains are potentially threatened by the proposed development. Techniques include augering, hand-excavated test pits, hand-excavated trenches, machine-stripped and manually excavated test pits, machine-stripped and manually excavated trenches. The sampling strategy should be devised in the light of:-

- local topography,
- the non-destructive field evaluation results,
- the trial trenching already carried out on land at Tŷ Mawr,
- comparison with recent work carried out in the vicinity of the development plot, in particular excavation along the route corridor of the A55,
- and recent research on archaeological decision-making processes and sampling strategies (see Hey, G. & Lacey, M. 2001. *Evaluation of Archaeological Decision-making Processes and Sampling Strategies*. Oxford: Kent County Council).

4.5 The evaluation should carefully consider any artefactual and environmental information and provide an assessment of the viability (for further study) of such information. It will be particularly important to provide an indication of the relative importance of such material for any subsequent decision making regarding mitigation strategies.

4.6 All aspects of the evaluation shall be conducted in accordance with Institute of Field Archaeologists guidance (see general requirements below). The use of metal detectors on site to aid the recovery of artefacts is encouraged. Recording will comprise appropriate plans, elevation and photographs.

5.0 Results

5.1 The results must be presented in a report and should be detailed and laid out in such a way that data and supporting text are readily cross-referenced. The SMR Officer must be contacted to ensure that any sites or monuments not previously recorded in the SMR are given a Primary Recognition Number (PRN) and that data structure is compatible with the SMR. The historical development of the site must be presented in phased maps and plans comprising clearly, the outline of the site.

5.2 A deposit model should be presented graphically in plan and, where appropriate, in profile and at a scale that is commensurate with subsequent use as a working document.

5.3 Within the report an attempt should be made to indicate areas of greater or lesser archaeological significance and the sites should be ranked in level of overall archaeological significance and the sites should be ranked in level of overall archaeological importance (locally, regionally and nationally). All relevant aerial photographs, re-plots and historic maps must be included and be fully referenced.

5.4 The archaeological contractor must ensure that sufficient resource is made available for a post-excavation programme to result in an archive report. The report should specifically include the following:

- a copy of the design brief
- a location plan
- all located sites plotted on an appropriately scaled plan of the development
- a gazetteer of all located sites, including full dimensional and descriptive detail
- a full bibliography of sources consulted
- a drawn, written and photographic record of any archaeological structures and deposits that may be revealed
- preparation of full archive report.

6.0 General requirements

6.1 The archaeological evaluation must be undertaken by an appropriately qualified individual or organisation, fully experienced in work of this character. Details, including the name, qualifications and experience of the project director and all other key project personnel (including specialist staff) should be communicated to the Gwynedd Archaeological Planning Service and all written work attributed to an author(s).

6.2 Contractors and subcontractors are expected to conform to standard professional guidelines. The following are of particular relevance in this instance: -

- English Heritage's 1991 Management of Archaeological Projects (MAP2).
- The Institute of Field Archaeologists 1985 (revised 1997) Code of Conduct.
- The Institute of Field Archaeologists 1990 (revised 1997) Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology.
- The Institute of Field Archaeologists 1994 (revised 1999) Standard and Guidance for Archaeological Watching Briefs.

- The Institute of Field Archaeologists 1994 (revised 1999) Standard and Guidance for Archaeological Field Evaluation.
- The Institute of Field Archaeologists 1995 (revised 1999) Standard and Guidance for Archaeological Excavation.
- The Institute of Field Archaeologists 1996 (revised 1999) Standard and Guidance for the Archaeological Investigation and Recording of Standing Buildings or Structures.
- The Institute of Field Archaeologists 1999 Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials.
- Museum and Galleries Commission 1994 Standards in the Museum Care of Archaeological Collections.
- United Kingdom Institute for Conservation 1990 Guidelines for the Preparation of Excavation Archives for long-term storage.

6.3 Many people in North Wales speak Welsh as their first language, and many of the archive and documentary references are in Welsh. Contractors should therefore give due consideration to their ability to understand and converse in Welsh.

6.4 Care must taken in the siting of offices and other support structures in order to minimise the impact on the environment. Extreme care must also be taken in the structure and maintenance of spoil heaps for the same reasons and to facilitate a high quality reinstatement. This is particularly important in relation to pasture land.

6.5 The archaeological contractor must satisfy themselves that all constraints to ground works have been identified, including the siting of live services, Tree Preservation Orders and public footpaths. Gwynedd Archaeological Planning Service bears no responsibility for the inclusion or exclusion of such information within this brief.

6.6 Any changes to the specifications that the archaeological contractor may wish to make after approval by this office should be communicated to Gwynedd Archaeological Planning Service and approved.

6.7 Human remains must be left *in situ*, covered and protected when discovered. No further investigation should normally be permitted and Gwynedd Archaeological Planning Service and the local Coroner must be informed immediately. If removal is essential it can only taken place under appropriate Home Office and environmental health regulations.

6.8 Arrangements for the long-term storage and deposition of all artefacts must be agreed with the landowner and Gwynedd Archaeological Planning Service before the commencement of investigation.

6.9 The involvement of Gwynedd Archaeological Planning Service should be acknowledged in any report or publication generated by this project.

6.10 A full archive including plans, photographs, written material and any other material resulting from the project should be prepared in accordance with standard guidance. All plans, photographs and descriptions should be

8.6 *Evaluation*
A limited programme of non-intrusive and/or intrusive fieldwork which determines the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts within a specified area or site; and, if present, defines their character and extent, relative quality and preservation. It enables an assessment of their worth in a local, regional, national or international context, as appropriate. The programme of work will result in the preparation of a report and archive.

8.7 *Sites and Monuments Record (SMR)*
A documentary record of known sites in a given area. In north-west Wales the SMR is curated by the curatorial division of the Gwynedd Archaeological Trust.

8.8 *Specification*
The Association of County Archaeological Officers (1993) defines a *specification* as a schedule of works outlined in sufficient detail to be quantifiable, implemented and monitored.

8.9 *Watching brief*
A formal programme of observation during non-archaeological excavation works in order to identity, investigate and record any Archaeological Remains which may be present, in accordance with the Archaeological Standards.

9.0 Further information

9.1 This document outlines best practice expected of an archaeological assessment but cannot fully anticipate the conditions that will be encountered as work progresses. If requirements of the brief cannot be met they should only be excluded or altered after gaining written approval of the Gwynedd Archaeological Planning Service.

9.2 Further details or clarification of any aspects of the brief may be obtained from the Development Control Archaeologist at the address below.

Emily La Trobe-Bateman
Development Control Archaeologist

Gwynedd Archaeological Planning Service, Craig Beuno, Ffordd Y Garth, Bangor, Gwynedd LL57 2RT

Telephone: 01248 370926
Fax: 01248 351867
Email: emily@heneb.co.uk

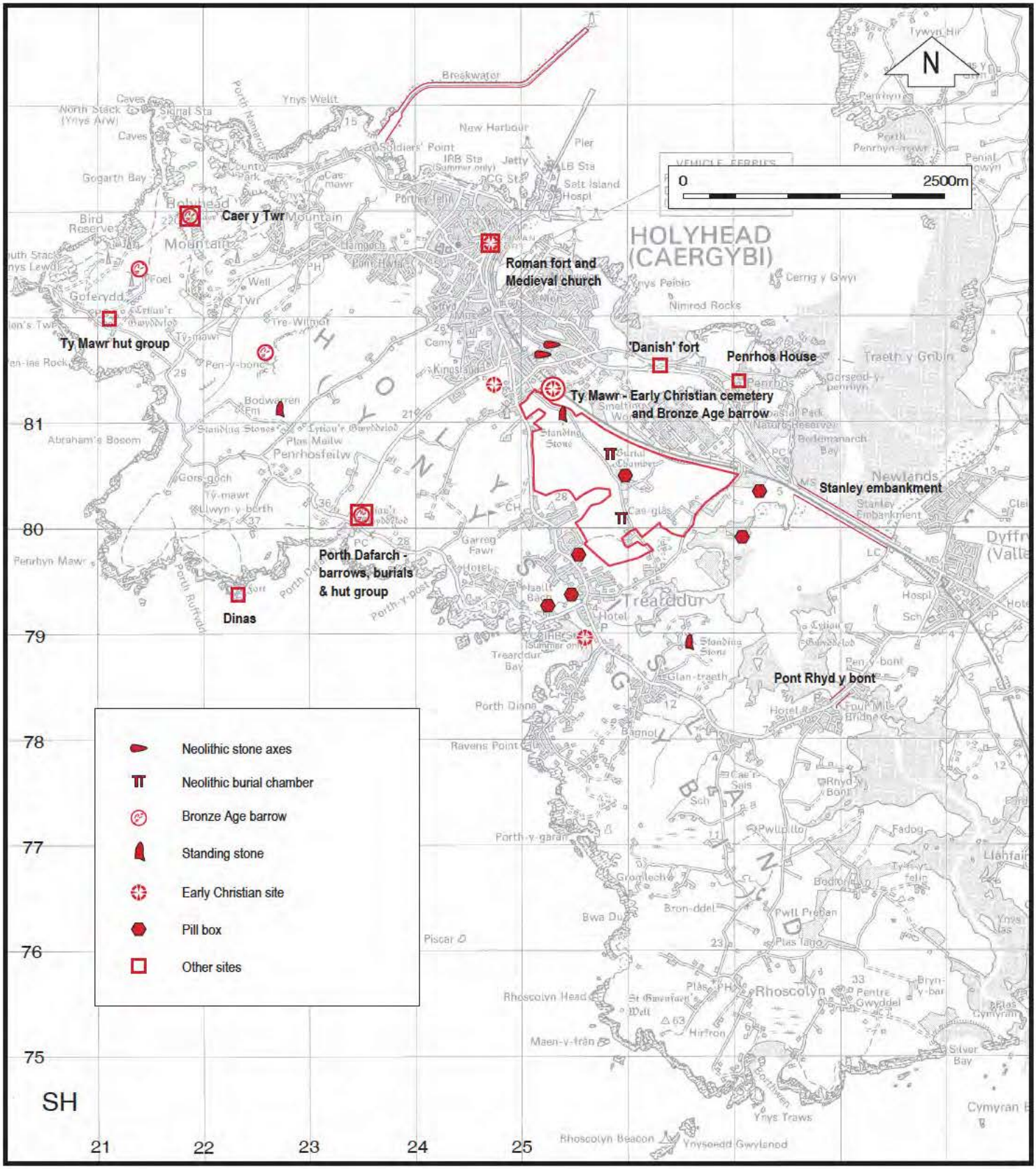

Fig 1. Location of sites in proximity to study area.

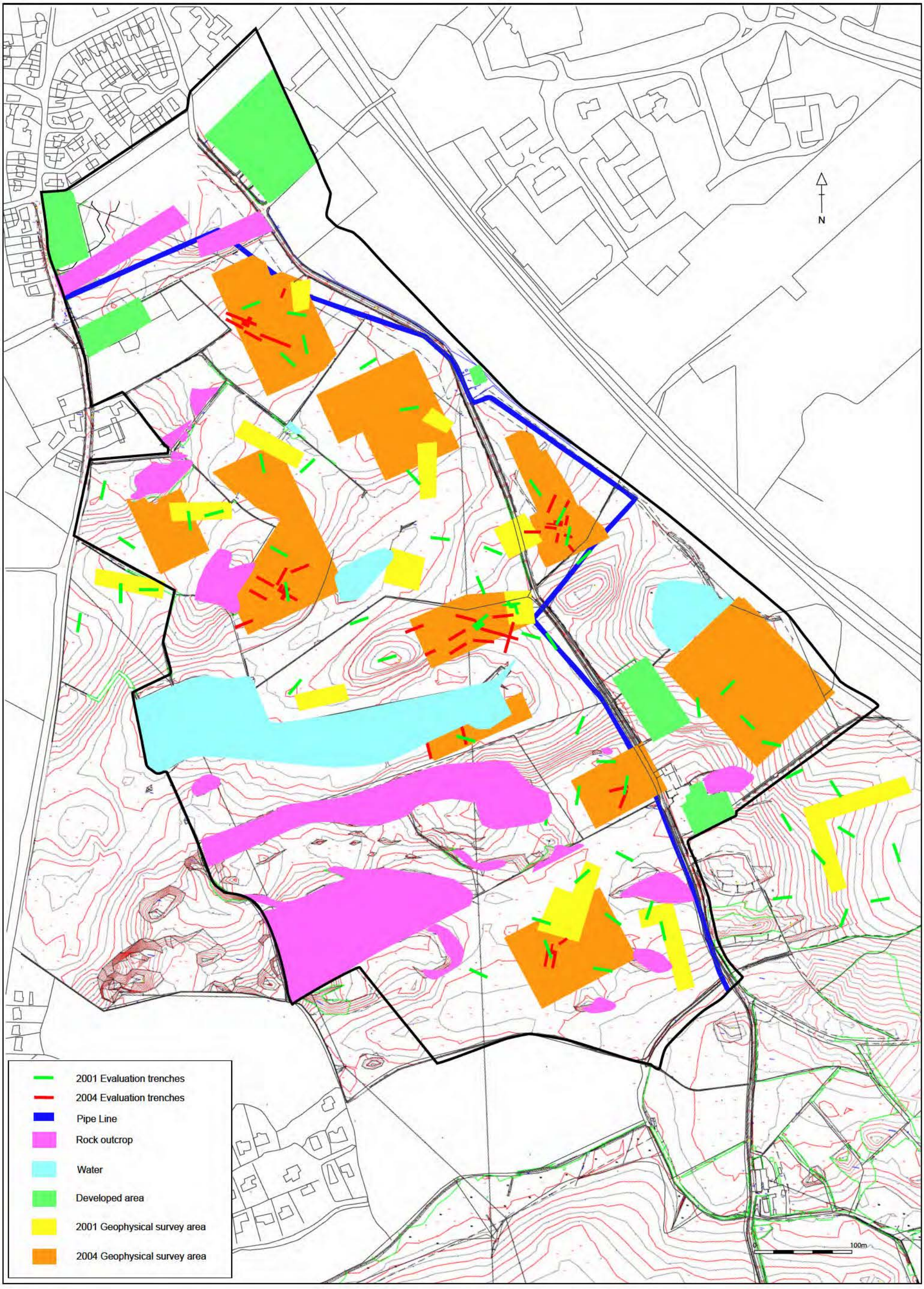

Figure 2. Topographical plan and geophysical survey area.

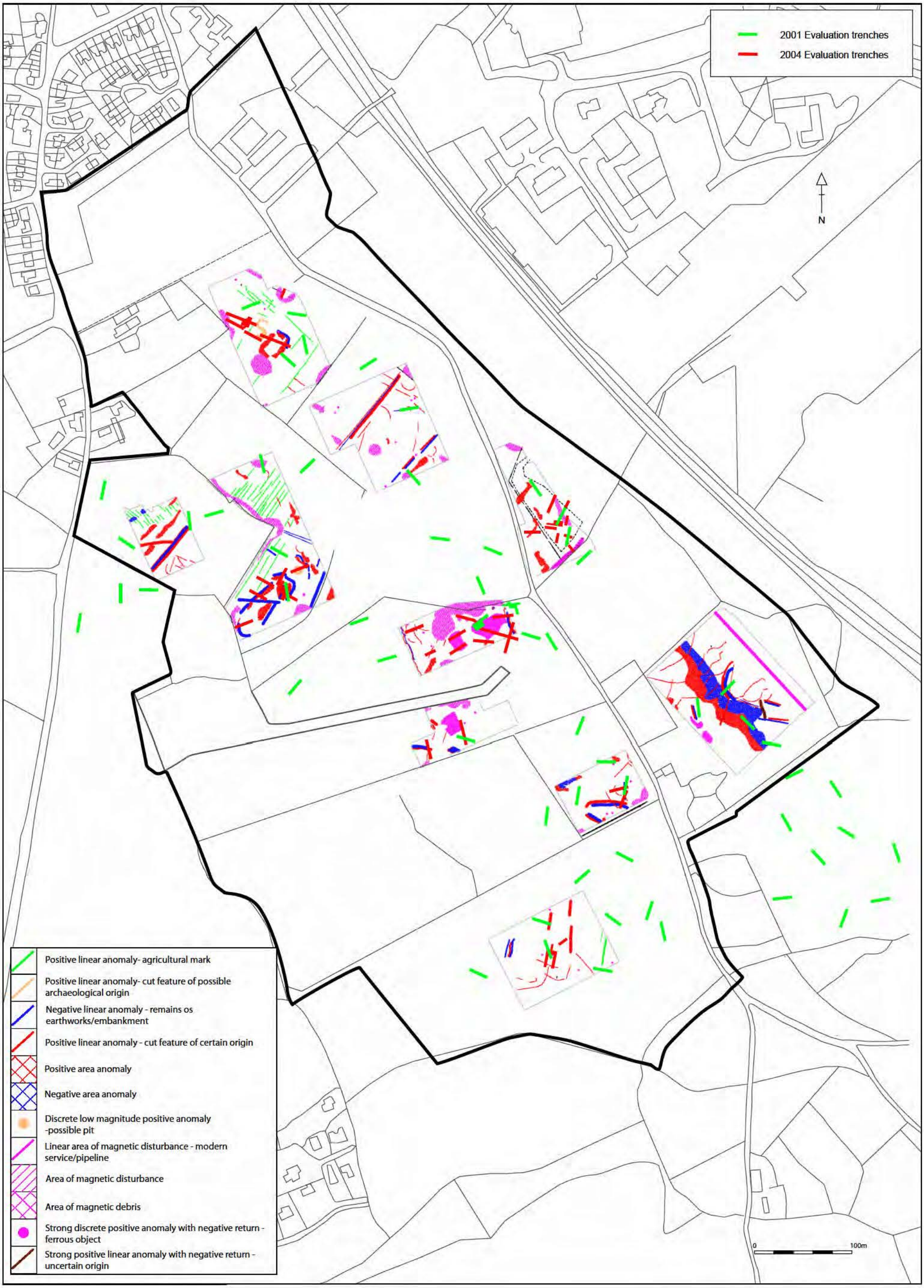

Figure 3. Location of geophysical survey and trial excavation

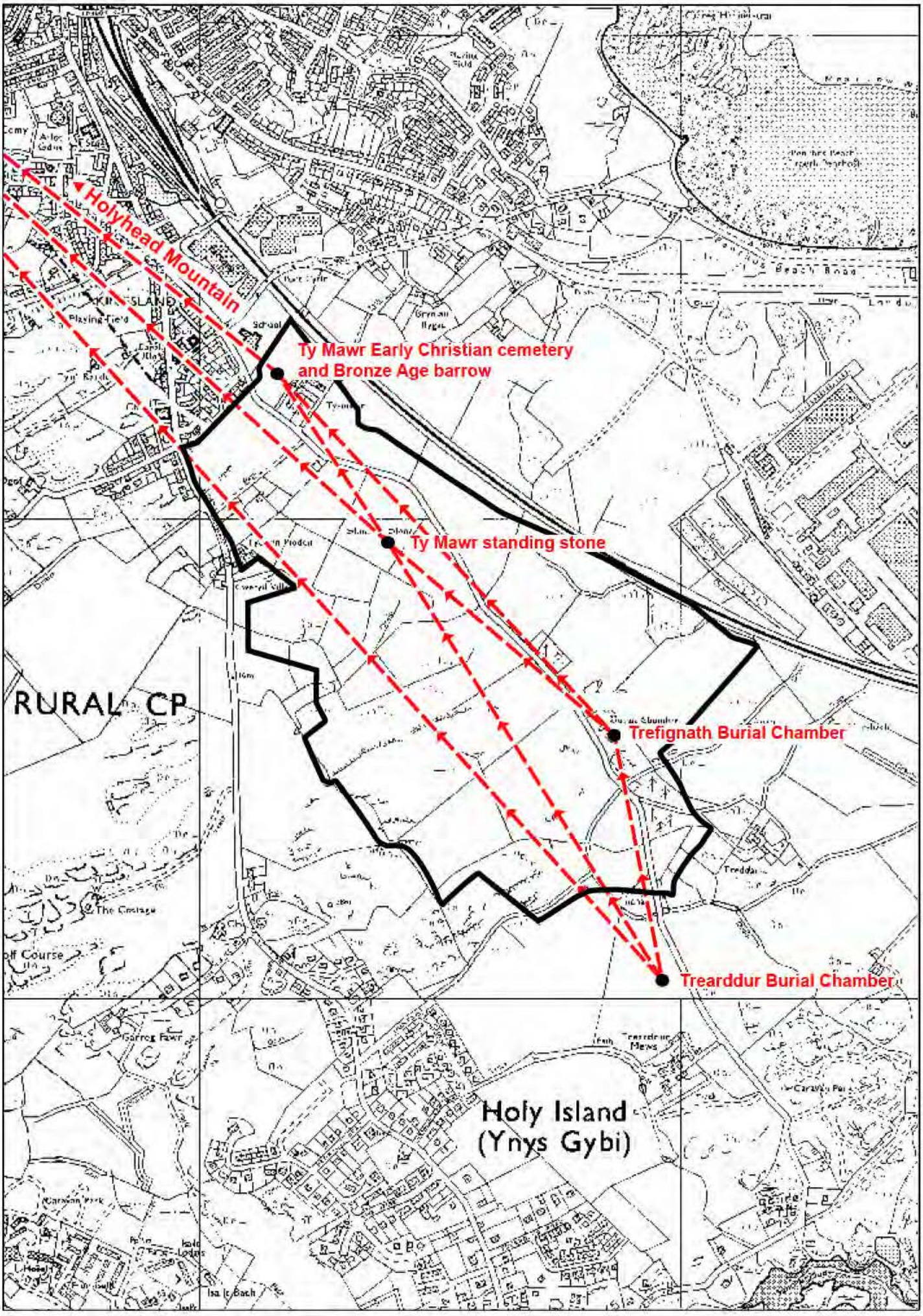

Figure 4. Key view points and lines of site between prehistoric monuments

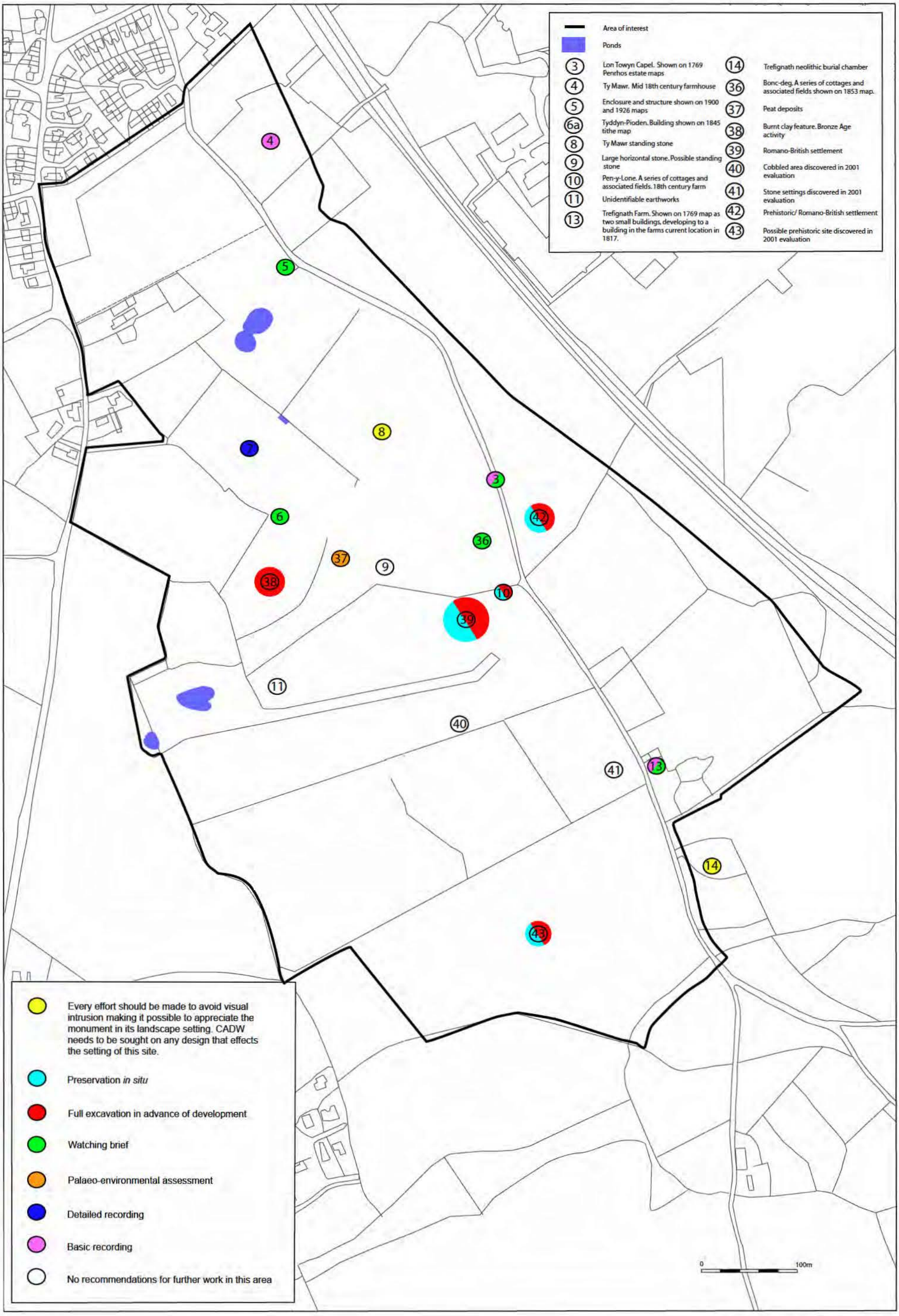

Figure 5. Site location and recommendations.

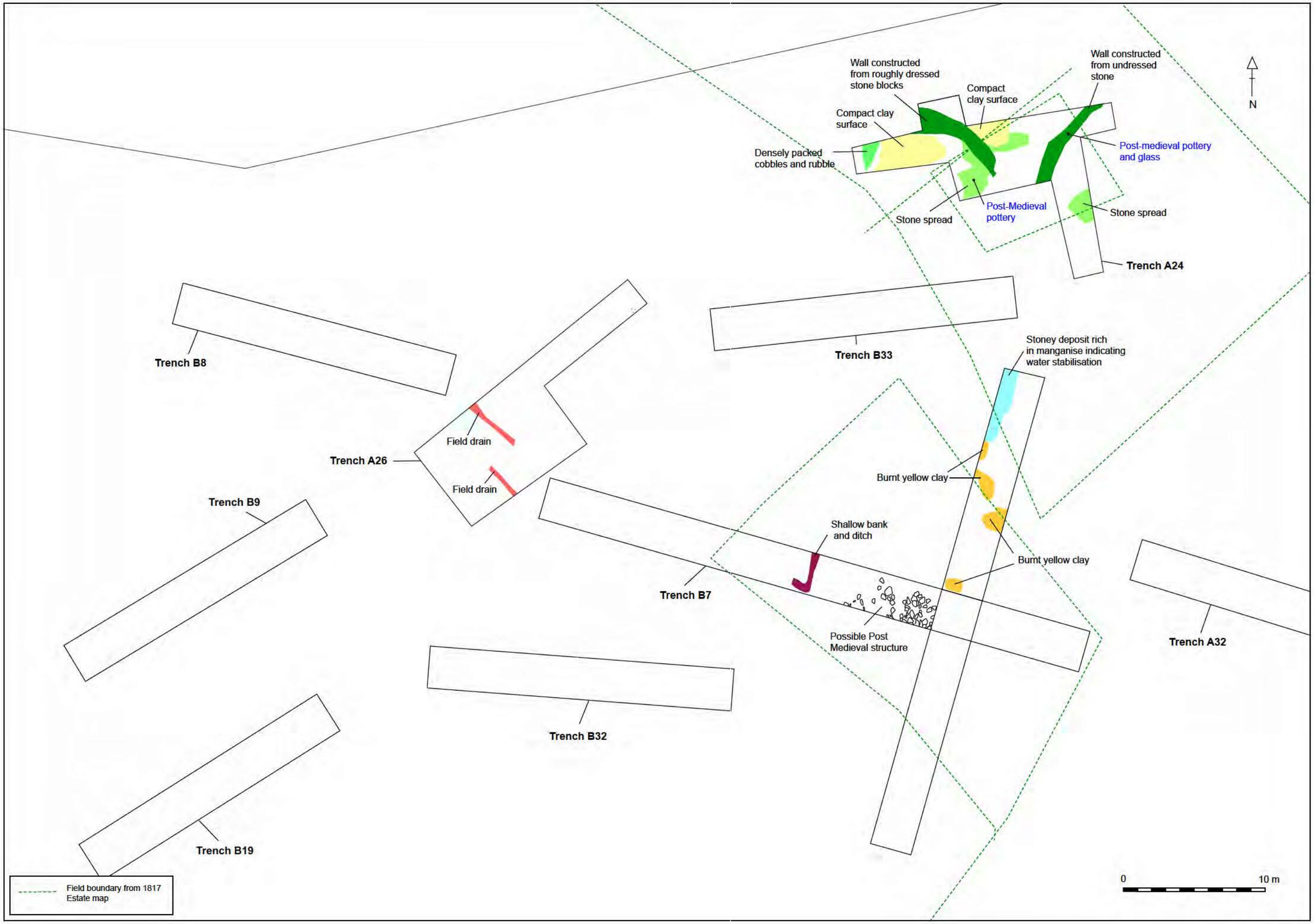

Figure 7. Site 10

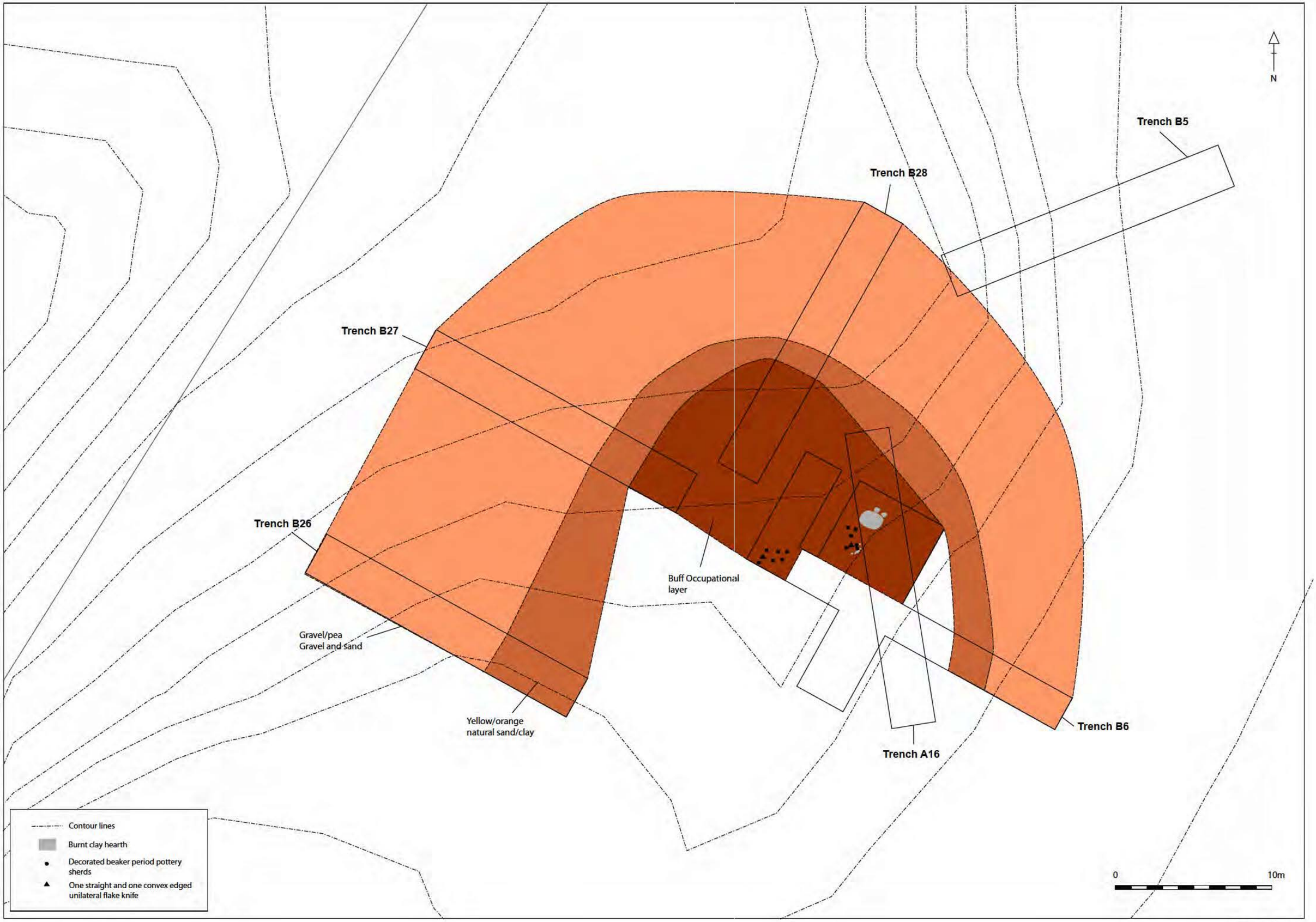

Figure 8. Site 38

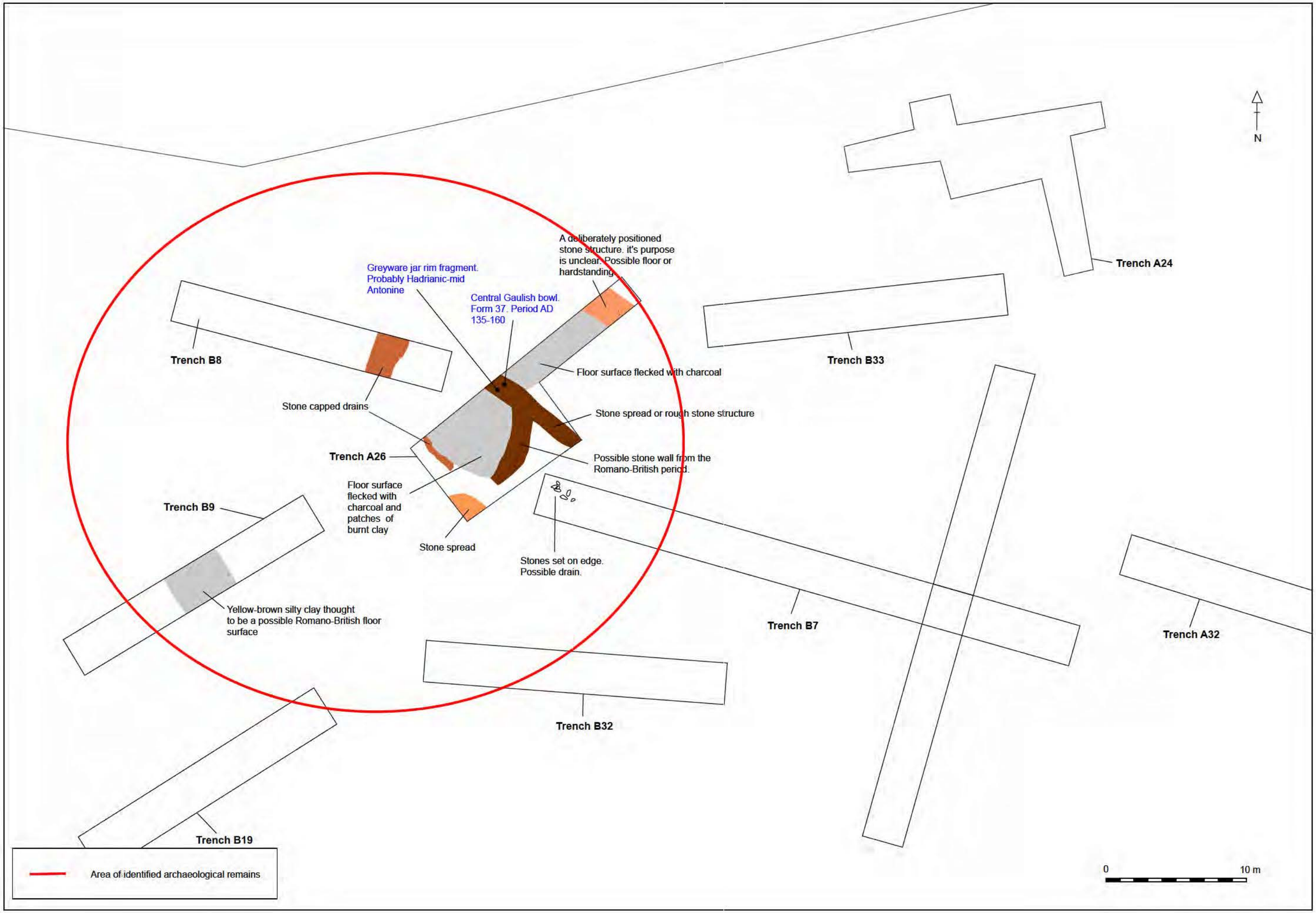

Figure 9. Site 39

N

Trench B16

Trench B54

Trench A54

Trench B15

Three oxidised mortarium bodysherds and one rimsherd dated to the second century, possibly Antonine. Possible gaming piece and blank for a spindal whorl (B13).

Stone culvert

Eroded oxidised bowl rim of possible Roman date (A54)

Sherd from large crucible dated to the Roman period (B13)

Area of burnt stones and charcoal

Buff/yellow clay floor

Area of burnt stones and charcoal

Stone culvert

Stone culvert

Trench B13

Buff/yellow clay floor

Buff/yellow clay floor

A Mancetter mortarium rimsherd dated to *c*AD 170-200 (B13).

Possible wall

Stone spread

Trench B14

Area of burnt stones and charcoal

Trench A51

Possible redeposited natural clay

Stone lined pit or post hole

Possible ditch

Mixed stone with quartz, fire cracked stone and manganese

Buff/yellow clay floor

Mixed stone with manganese

Buff/yellow clay floor

Trench B12

Possible cob wall

Buff/yellow clay floor

Possible redeposited natural clay

Trench B11

Area of Fe slag

Area of identified archaeological remains

Stone capped drain

0

10m

Figure 10. Site 42

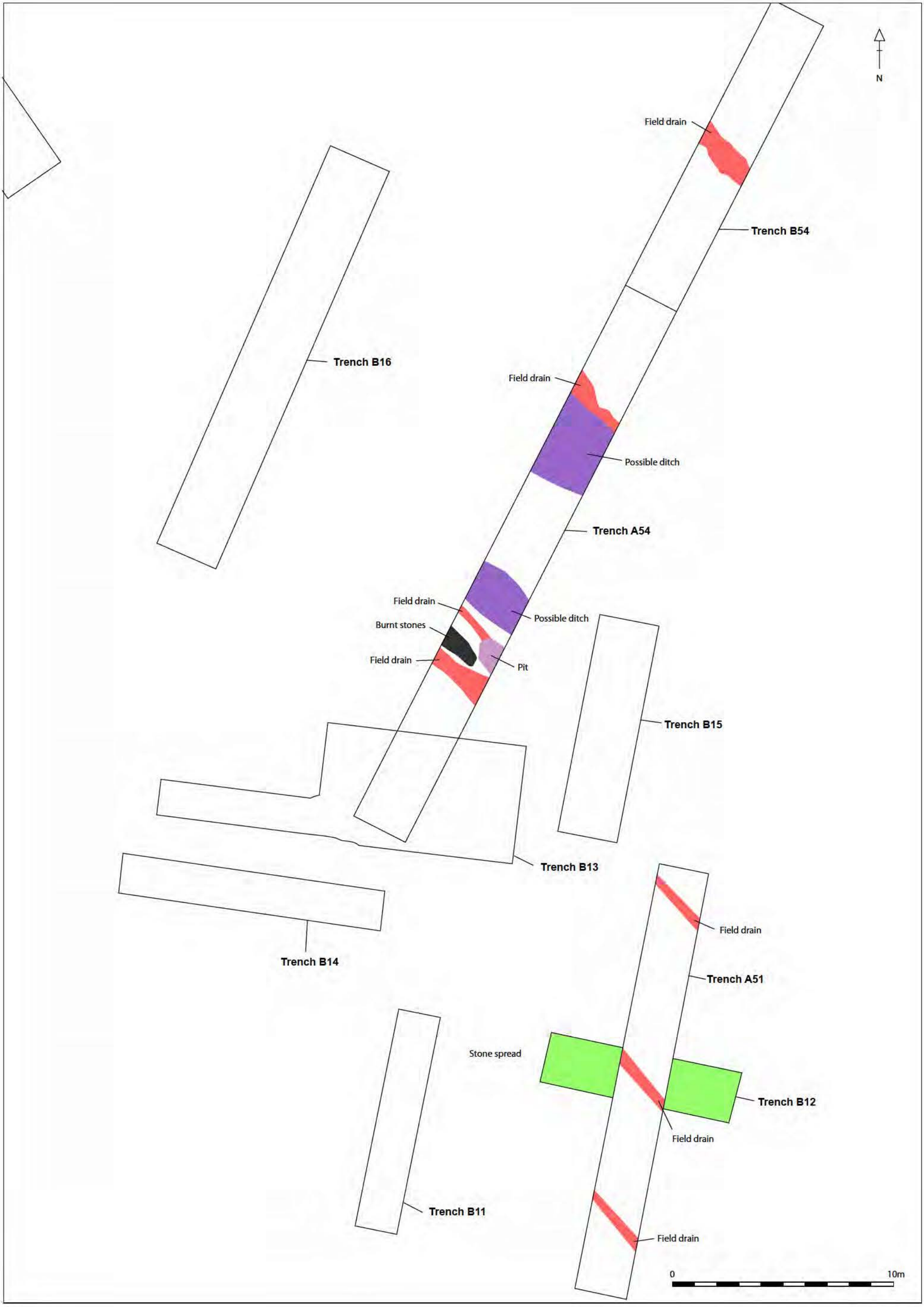

Figure 11. Site 42

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GWYNEDD

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ARCHAEOLOGICAL
TRUST

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