LLYN CONWY WATER TREATMENT WORKS

Archaeological Watching Brief

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

Llyn Conwy
Water Treatment Works

Archaeological Watching Brief

Project No. G2215

Report No. 1147

Prepared for: Black and Veatch

October 2013

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REPORT FOR ARCHAEOLOGICAL WATCHING BRIEF (G2215)

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SUMMARY

*Gwynedd Archaeological Trust (GAT) was commissioned by Black & Veatch to complete an archaeological watching brief in advance of the proposed extension to the existing Llŷn Conwy water treatment works (WTW) near Ysbyty Ifan, Conwy County Borough (centred on NGR **SH80934561**) (see plate 1); as located on Black & Veatch Drawing No. **173840-00-0010** (reproduced as Figure 1). The groundworks were completed between the 5th of June and 29th of July 2013.*

No archaeology was identified. No further archaeological mitigation works will be required during the main construction works.

1. INTRODUCTION

Gwynedd Archaeological Trust (GAT) was commissioned by Black & Veatch to complete an archaeological watching brief in advance of the proposed extension to the existing Llŷn Conwy water treatment works (WTW) near Ysbyty Ifan, Conwy County Borough (centred on NGR **SH80934561**) (see Figure 1).

The scheme consisted of the extension of the existing WTW into a large irregular shaped field to the north, see Black & Veatch Drawing No. **173840-00-002187 A** (reproduced as Figure 2). The extension groundworks encompassed an area of *c.*3.8ha and included:

- Bulk earthworks for the new process building;
- Construction of an access road (6.0m wide) linking the current WTW access road to the new process building;
- Construction of a temporary haul road (4.0m wide) linking the current WTW access road to the temporary site compound
- Construction of a temporary site compound at the eastern end of the extension zone;
- An earthworks processing and stockpiling area to the west of the new process building.

The extension zone and environs were assessed by GAT in September 2011 (GAT Report **977**), the results are summarised in para. 2 below.

A mitigation brief was not been prepared for this work by the **Snowdonia National Park Authority Archaeologist** (SNPA), but SNPA recommended a programme of archaeological monitoring (watching brief) during groundworks (see para. 3.0 for a methodology).

Reference was made to the guidelines specified in *Standard and Guidance for Archaeological Watching Brief* (Institute for Archaeologists, 1994, rev. 2001 & 2008).

Plate 1: View of the Existing water treatment works at Llyn Conwy (view from the North)

2. BACKGROUND

2.1 Topography

The GAT assessment report of the proposed WTW (Evans, R. 2011. GAT Report **977**) noted that the study area was located within an upland landscape on the north side of the upper reaches of the Afon Conwy. The extension zone/existing WTW were located on the border between enclosed pasture and upland grazing (see plate 2). The report stated that:

"(A) significant amount of medieval settlement has been identified in the surrounding area. In the late 12th century the land was granted by Llywelyn ab Iorwerth to the Knights Hospitallers, a religious and military Order of Knights, who built a hospitium at Ysbyty Ifan, the centre of the estate. After the reformation the estate came into the hands of the Vaughan's of Pant Glas, and passed to the Mostyn Estate, until it was sold to Lord Penrhyn in 1856" (GAT Report **977**: 02).

The only certain archaeological feature noted on the survey was a drystone fieldwall, probably built in the 19th century which divides the enclosed fields of Blaen y Coed farm from an area of common grazing. The assessment area was considered to have moderate potential for the survival of buried prehistoric and medieval remains.

Plate 2: General view of the topography (view from the Northwest)

2.2 Archaeology

GAT Report **977** identified six features within or within proximity to the extension zone and the existing WTW, along with recommendations for further actions (see figure 3).

Feature 1 **Modern Drainage Channel**
SH 80964544
Period: Modern
A modern drainage channel *c.*2m wide running north-south, which drains the higher ground to the north, with a culvert under the modern trackway to the Water Treatment Works building. Further drainage channels are noted to the east.
GAT Report 977 did not recommend any further assessment or any mitigation measures as the feature was not affected.

Feature 2 **Dry stone Wall**
SH 81084547
Period: Post-medieval
A dry stone wall, surviving up to 1.3m in height, consists of small to medium shale slabs up to 0.5m long, but no more than 0.2m thick. The wall is up to 0.5m wide. It appears to be a late 19th century field boundary. It is shown on the 25 inch 1st edition Ordnance Survey map of 1889, and is probably associated with estate improvement by the Mostyn or Penrhyn Estates in the 19th century, dividing the fields of Blaen y Coed farm from the upland unenclosed common grazing land.
GAT Report 977 recommended basic recording as a mitigation measure but this feature will not be impacted according to Black & Veatch Drawing No. 173840-00-002187 (A) and further mitigation is no longer recommended.

Feature 3 **Water Treatment Works**
SH 81024555
Period: Modern
A slated and gables building with ball finials over the gables, consisting of a range with a wing at the eastern end. It appears to be a former farm building built in an estate style, but is not noted on the historic maps but is more likely to be a fairly modern building built in an historic style. A number of modern structures associated with the Water Treatment Works surround the building.
GAT Report 977 did not recommend any further assessment or any mitigation measures as the feature was not affected.

Feature 4 ***Trackway***
SH 81044559
Period: Modern
A modern trackway runs northwards from the Water Treatment Works.
GAT Report 977 did not recommend any further assessment or any mitigation measures as the feature was not affected. Black & Veatch Drawing No. 173840-00-002187 (A) indicates that the proposed access road and temporary haul road will not affect the existing trackway.

Feature 5 **Probable Clearance Cairn**
SH 80914552
Period: Probably modern, but may be prehistoric
A probable clearance cairn over an outcrop of rock, about 0.7m high and consisting of large (up to 1.2m by 0.7m) angular shale rubble blocks. It is about 3m in diameter. Whilst this is probably a modern clearance cairn, it could relate to prehistoric funerary and ritual activity.
GAT Report 977 recommended a pre-groundworks archaeological evaluation of the feature. GAT has been informed by SNPA that a watching brief as mitigation will provide an appropriate response. Black & Veatch Drawing No. 173840-00-002187 (A) indicates that this feature will be within the earthworks processing and stockpiling area and is likely to be removed during groundworks.

Feature 6 **Probable Clearance Cairn**
SH 80904555
Period: Probably modern
A natural rock outcrop with probable clearance stones associated with it.
GAT Report 977 recommended a pre-groundworks archaeological evaluation of the feature. GAT has been informed by SNPA that a watching brief as mitigation will provide an appropriate response. Black & Veatch Drawing No. 173840-00-002187 (A) indicates that this feature will be within the earthworks processing and stockpiling area and is likely to be removed during groundworks.

The report also recommended a watching brief during groundworks as an appropriate mitigation response.

3. METHODS AND TECHNIQUES

A **partial** watching brief was recommended by GAT for this scheme. This was undertaken during the initial groundworks, including topsoil removal and bulk earthworks for the process building (the latter as far as the glacial horizon or the limit of excavation).

Through close liaison between the archaeologist and the site agent, six strategic points during the initial groundworks were identified as appropriate for archaeological watching brief. The aim of each site visit was to observe the exposed areas of glacial horizon, prior to their further disturbance and to undertake periods of watching brief in order to observe the removal of the upper deposits. The site visits were spaced across the entire period of works in order that a sample of excavation was observed in all sub-areas.

The watching brief was undertaken between the *5th of June and 29th of July 2013.* The weather and ground conditions ranged from clear and dry to wet and extremely muddy. The deposits were removed using a tracked excavator with a toothless ditching bucket (see plate 3).

Details of the written record:

- A written record of deposits was made on GAT pro-formas.

Details of the photographic record:

- A photographic record was completed using a digital SLR camera set to maximum resolution in the JPEG format.
- Scales were used where appropriate
- Adobe Photoshop was used for any post processing work required
- A complete table of metadata with details of each image, including descriptions and directions of shot was produced using Microsoft Access

The archive is held by GAT under project number (**G2215**).

Plate 3: Working shot of the earthworks processing and stockpiling area (view from the Southeast)

4. RESULTS

4.1 Results of the Watching Brief

No archaeology was identified during the watching brief on the groundworks. The deposits identified were consistent with an upland site of this type. They comprised a thin topsoil, some 0.15m in thickness, of firm dark brown silt, containing occasional sub-rounded cobbles. On the more level areas of the site a thin subsoil of soft, very dark brown silt-peat, 0.05m thick was observed. The glacial horizon comprised a soft mid orange-brown clay-silt containing moderately frequent sub-angular gravel and cobbles and occasional quartz fragments. Occasional fractured rock outcrops were observed in places.

The area immediately surrounding the existing water treatment works was shown to be disturbed to a depth of more than 0.5m. Significant deposits of made ground, associated with the construction of the original structure were identified to northeast of the main building and to the northwest of the tarmac access track. It is probable that such disturbance surrounds the entire original structure, though not all sides were investigated as part of this project (see figure 1).

Occasional modern field drains were observed running northeast/southwest and east/west across the site as a whole See plate 4). These features were filled with gravel and appeared to have been excavated using a mechanical excavator, based on the very regular nature of the cuts and near vertical sides.

Plate 4: Modern field drain (view from the East)

4.2 Results of the Basic Recording

The post medieval dry stone wall (feature 2, plate 5) observed in the assessment survives in a slightly ruinous condition, standing to a maximum height of 1.3m, with a width of 0.5m. It consists of small to medium shale slabs up to 0.5m long and up to 0.2m thick and has remnants of stock proofing along the top. This wall has not been maintained in recent years but the boundary has been re-enforced with modern fencing. The section of this wall which falls within the development zone (some 120m in total) was demolished as part of the groundworks.

Plate 5: Dry stone wall - feature 2 (view from the South)

The two probable clearance cairns (features 5 & 6, plate 6) identified during the assessment were demonstrated to be fractured rock outcrops, cleared into slight cairns.

Plate 6: Probable clearance cairn - feature 5 (view from the East)

5. CONCLUSIONS

The study area is located on the border between enclosed pasture and upland grazing, on the north side of the upper reaches of the Afon Conwy. The subsurface deposits identified during the watching brief were consistent with this upland setting, being somewhat thin and stony with areas of peat and fractured stone outcrop. The archaeological assessment of the area deemed the potential for the discovery of archaeological remains within the development zone to be moderate. A significant amount of medieval settlement has been identified in the surrounding area however the only upstanding feature identified within the development zone was a post medieval dry stone wall (feature 2).

The archaeological watching brief carried out during the initial groundworks for the extension to the Llyn Conwy water treatment works did not identify any archaeology. Due to the nature of a partial watching brief there is always the possibility that archaeology may be missed, particularly small features and artefacts; wet weather and poor ground conditions, which where experienced during parts of this project, exacerbate this risk. However the clear identification of the field drains indicates that the potential for identifying features of any substance was high, thus the likelihood of features having been missed is relatively low. With the exception of the field drains little evidence of significant agricultural improvement was observed, indicating that the potential for the survival of features was also high.

Based on the results of this watching brief we may conclude that no significant development of this landscape has been undertaken, with the exception of the water treatment works. We may infer that there is still considerable potential for the survival of archaeology within the wider study area, although none was identified within the confines of these works.

6. BIBLIOGRAPHY

Client drawings: *Black & Veatch* Drawing No. **NP2900364-107** & ***173840-00-0010***

Evans, R. 2011. GAT Report **977**. G2215 LLYN CONWY WATER TREATMENT WORKS, YSBYTY IFAN, GWYNEDD: ARCHAEOLOGICAL ASSESSMENT

Gwynedd Archaeological Trust: Historic Environment Record

Standard and Guidance for Archaeological Watching Brief (Institute for Archaeologists, 1994, rev. 2001 & 2008)

Figure 1 - *Reproduction of Black & Veatch Drawing No. 173840-00-0010*

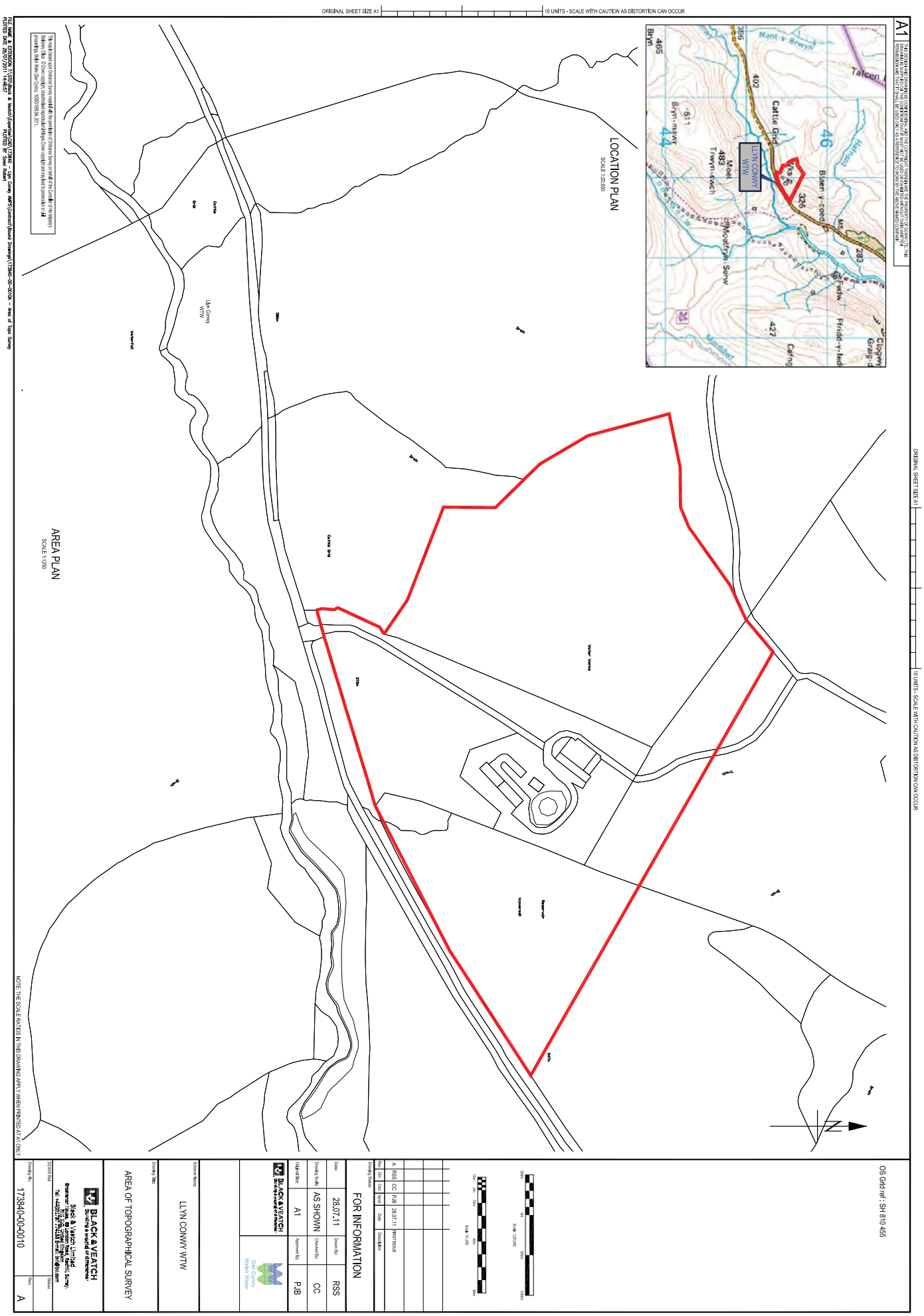


Figure 2 - *Reproduction of Black & Veatch Drawing No. 173840-00-002187*

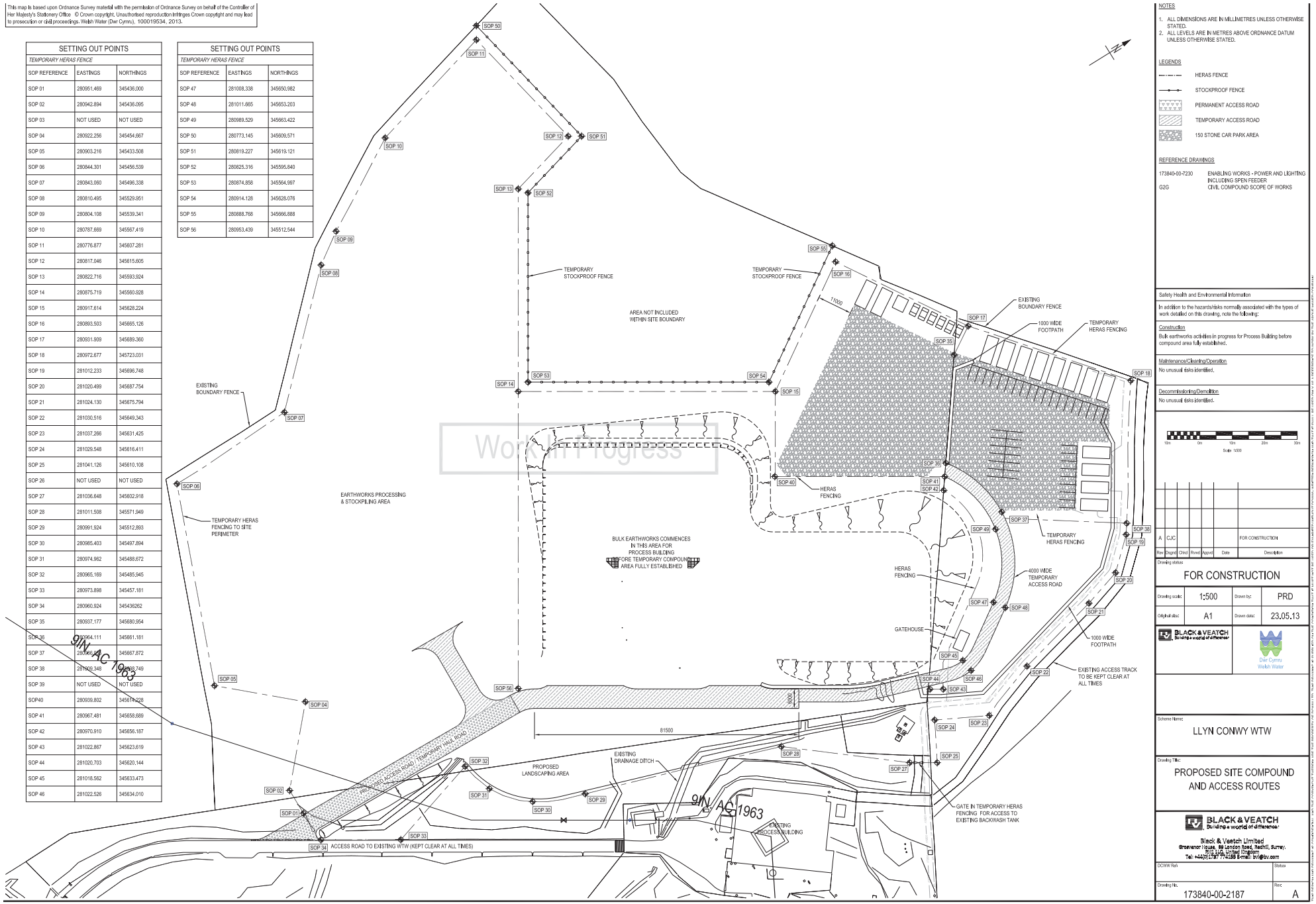
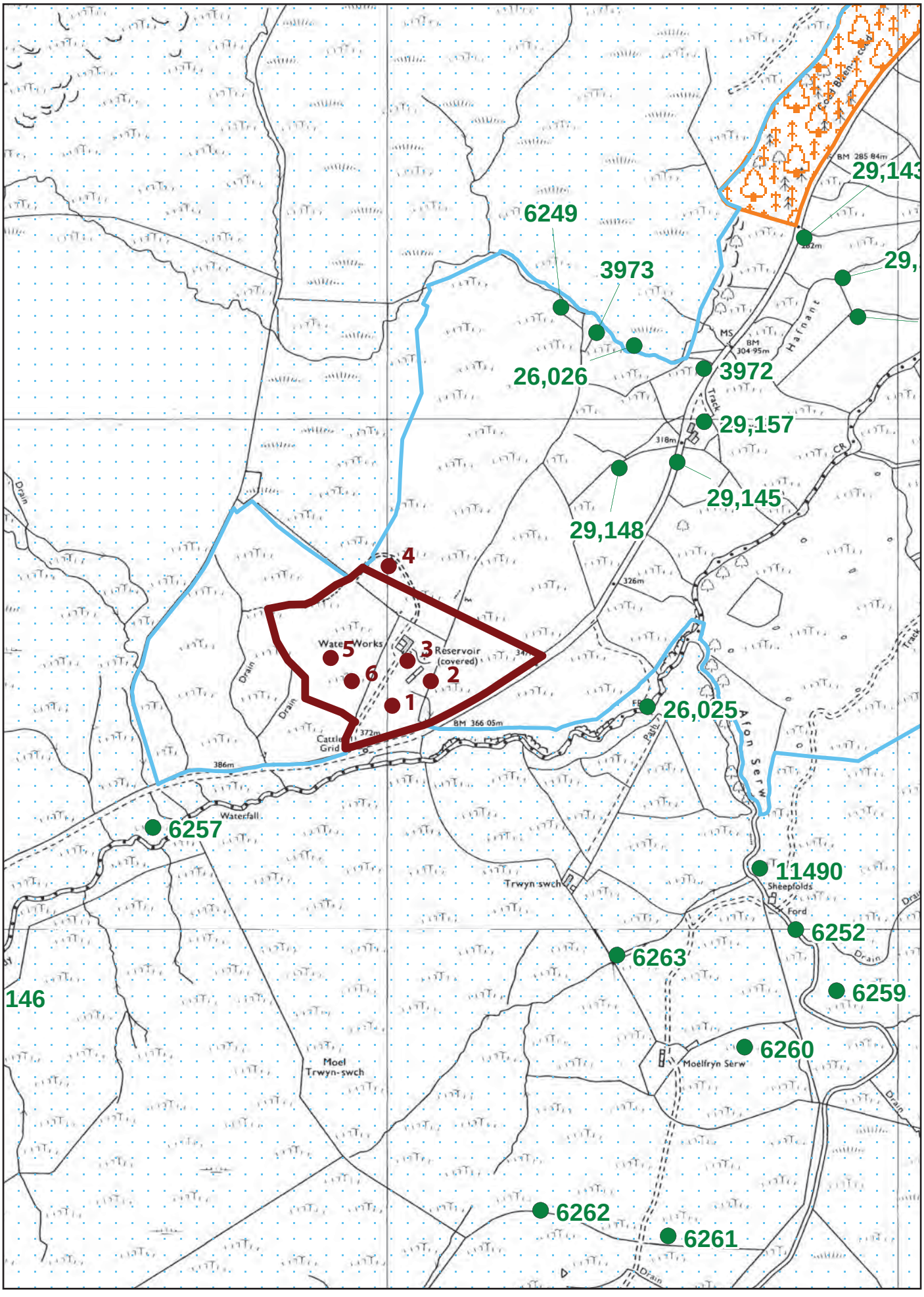


Figure 3 - Reproduction of figure 1 from GAT Report **977** showing the location of the six features identified within or within proximity to the extension zone and the existing WTW.



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