Archaeology Wales

Glasffrwd Hydro Scheme
Strata Florida, Ceredigion

Archaeological Watching Brief & Evaluation

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Report No. 1433

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Non – Technical Summary

An archaeological watching brief was carried out during groundworks associated with the construction of a hydro scheme along the Glasffrwd valley near Strata Florida, Ceredigion (SN 76176 63958 to SN 74787 65333). A subsequent archaeological evaluation and watching brief was also undertaken on groundworks associated with the installation of overhead wiring to connect the hydro scheme to the national grid. The work was carried out by Archaeology Wales Ltd at the request of Kevin Jones. The work was set as a condition of the planning permission (planning application no. A130773).

Close to the weir intake at the southeast end of the route a stone-lined culvert, identified in previous survey work and potentially medieval in date, was recorded prior to its partial submergence. On the northwest side of the Glasffrwd two post-medieval stone-built field boundary walls were recorded prior to the removal of sections of walling on the pipeline route. Towards the northwest end of the route a post-medieval leat, possible related to mining activity, was partially revealed and recorded. This consisted of a simple concave channel with up-cast material banked along its downslope edge. No finds were recovered and the feature had been previously disturbed, but a late post-medieval date is suggested. One electricity pole foundation pit revealed a thick deposit that may relate to embanked material around the former medieval Strata Florida Abbey Precinct, although no finds or identifiable archaeological material was recovered from the deposit.

No further finds, features or deposits of archaeological significance were noted within the site area.

1 Introduction

1.1 In May 2014 Archaeology Wales Ltd (AW) was commissioned by Mr Kevin Jones to undertake an archaeological watching brief during groundworks associated with the construction of a hydro-scheme along the Glasffrwd brook, near Strata Florida, Ceredigion (NGR SN 76176 63958 to SN 74787 65333, Figures 1 & 2).

1.2 The requirements for an archaeological watching brief were placed as a condition of the planning permission for the development (planning application number A130773) by Ceredigion County Council, on the advice of Dyfed Archaeological Trust Planning Services (DAT-PS), in its capacity as archaeological advisors to the local planning authority. DAT-PS recommended that a Section 23 Grampian Condition be attached to the planning permission, as recommended in Welsh Office Circular 60/96, which states:

> **No development shall take place until the applicant, or their agents or successors in title, has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved in writing by the local planning authority'.**
>
> ***Reason: to protect historic environment interests whilst enabling development***

1.3 An approved Written Scheme of Investigation (WSI) was produced by Archaeology Wales Ltd in accordance with the Standard and Guidance for Archaeological Watching Briefs (CIfA 2014), and was designed to provide an approved scheme of archaeological work that comprised a pre-commencement survey and subsequent archaeological

watching brief to be implemented during the construction works. This was approved by DAT-PS and a copy is included to the rear (Appendix II). The pre-commencement survey was undertaken in May 2014 and forms a separate report (Poucher 2014).

1.4 This was further supplemented by second WSI in October 2015 designed to provide an approve scheme of work comprising an archaeological evaluation and watching brief on groundworks associated with grid connection work associated with the hydro-scheme. The grid connection work was undertaken as permitted development, but recommendations from DAT-PS were sought as the route passed through an archaeologically sensitive area. This WSI was also approved by DAT-PS and a copy is included to the rear (Appendix III).

1.5 The watching brief was undertaken on the main pipeline route in February/March 2015, with further watching brief on the grid connection work in October 2015. The AW project number for the work is 2170.

2 Site Description

2.1 The hydro-scheme route is located to the southeast of Strata Florida Abbey, Ceredigion (NGR SN 76176 63958 to SN 74787 65333, Figures 2 - 4), in the bottom of a reasonably thickly wooded, shallow sided, valley running north-west to south-east. The eastern, upstream, end of the proposed route lies at 311m above Ordnance Datum whilst the western end, approximately 2km to the north west, is located at 204m above Ordnance Datum. The grid connection work connected the powerhouse at the western end of the scheme, to the main electrical grid via overhead wiring. This installed a new line running up to the west of Strata Florida farm and adjusting an existing line to the west of Strata Florida Abbey car park.

2.2 The wooded areas extend to the north and south of the valley slopes, predominantly managed by the Forestry Commission. To the east lie the unenclosed or semi-enclosed upland landscape of Cambrian Mountains, with the land beginning to open out to the west into the enclosed farmland of the Teifi Valley. The surrounding area is one of very sparse population, with dispersed farmsteads, with the settlement of Pontrhydfendigaid *c.*2km to the northwest.

2.4 The upland areas to the east are formed largely of interbedded sandstones and conglomerate of the Llandovery Rocks formation, but as the land falls to the west along the length of the Glasffrwd the underlying geology is also formed by mudstones of the Blaen Myherin Mudstones Formation, interbedded mudstones and sandstones of the Devil's Bridge Formation and mudstones of the Rhayader Mudstones Formation. To the south of the Glasffrwd this is overlain in areas by diamicton, likely to be till from the Devensian glaciation, with general alluvial deposits collecting along the lower valley as the landscape opens out to the northwest (BGS 2015).

3 Archaeological and Historical Background

3.1 There have been several archaeological studies of the surrounding area, due in large part to the proximity of Strata Florida Abbey, an important medieval monastery site to the northwest. Two studies have been undertaken with specific reference to the hydro-scheme. In 2012 an archaeological desk-based assessment (Smith 2012) of the development area was produced. Subsequently, however, additional information about the potential archaeological resource within the area of the development was provided by Professor David Austin of the Strata Florida Research Project. This additional

information highlighted an enhanced archaeological potential along the route of the pipeline, and in particular in the area of the proposed weir intake and powerhouse.

3.2 As a result a further pre-commencement survey was also undertaken, which consisted of a topographical survey of archaeological features along the route (Poucher 2014). The survey, which also included examination of Lidar data and historic mapping, recorded several archaeological features along the route of the hydro scheme (see Figures 3 & 4). At the northwest end of the route, in the area of a proposed powerhouse, evidence of possible medieval trackways with associated banks and ditches were recorded. Close-by, remains of a post-medieval leat, likely associated with mining activity, was also recorded. Midway along the route, further post-medieval mining activity was recorded in the form of mine adits and an associated wall and trackway. A former stone wall field boundary was also recorded in this area. At the southeast end of the route, in the area of the intake weir, a stone-lined culvert and a possible enclosure were recorded, although the enclosure was deemed of possible natural origin.

3.3 In more general terms there is extensive evidence of prehistoric activity in the wider landscape, although only one site, a possible Bronze Age standing stone (PRN 8608), lies within 250m of the pipeline route. To the northwest lies the former Cistercian monastic house of Strata Florida, re-established at its present site in 1184. Although the Abbey site itself lies some 350m away from the pipeline route, like other medieval monastic sites its impact would have been felt across the wider landscape, and it is possible associated features extended to within relatively close proximity of the pipeline route. The overhead line connecting to the main grid also passes closer to the Abbey. The south-eastern extent of the Abbey's former precinct, which consists of a wall and trackway, extends close to the area around the north-western end of the pipeline and the powerhouse. In this area, on the northern side of the river, are extensive remains of a water management system that served the needs of the Abbey, with possible associated remains extending to the south of the river, again in the area of the pipeline and powerhouse locations. It is possible that some of the trackways, banks and ditches recorded close to the northwest end of the pipeline route are associated with activity at the Abbey and may have provided access to extensive monastic holdings to the south.

3.4 Other medieval remains have been noted along the Glasffrwd valley. To the southeast, lies the site of a Holy Well, now a protected Scheduled Ancient Monument (CD183). Close to the intake weir a stone-lined culvert can be seen within the river bank, of unknown origin and date, but it is possible this is linked in some way to the medieval well. Also within 250m of the pipeline route lies a medieval farmstead (PRN 36705) and a deserted rural settlement (PRN 41058), as well as two shelters (PRNs36490 & 41062) and a stone-walled enclosure (PRN 36723) of uncertain date, but possibly medieval in origin. These sites, however, lie beyond the route affected by the hydro scheme.

3.5 To the north of the pipeline route lies the post-medieval farmstead of Pantyfedwen, which includes three Grade II listed buildings, all of which remained unaffected by the development works. A series of former post-medieval field boundaries have also been identified, some of which cross the route of the pipeline. Midway along the route lies a series of metal-mining remains (PRNs 26622 & 36720) cut into the exposed rock faces along a small section of narrow gorge through which the Glasffrwd runs. Their exact date is uncertain given the proximity of the medieval Abbey, but they are listed within the HER as post-medieval in date, and indeed have the superficial appearance of 18th or 19th century trial adits.

4 Aims and Objectives

4.1 The watching brief was undertaken:

- To allow a rapid investigation and recording of any archaeological features that were uncovered during the proposed groundworks within the application area.
- To provide the opportunity, if needed, for the watching archaeologist to signal to all interested parties, before the destruction of the material in question, that an archaeological find has been made for which the resources allocated to the watching brief are not sufficient to support the treatment to a satisfactory or proper standard.

4.2 The archaeological evaluation of the electricity pole and cable trench close to Strata Florida Abbey was undertaken to allow the investigation and recording of any archaeological features that may have been uncovered or disturbed during the groundworks associated with the development.

5 Methodology

The methodology for this archaeological watching brief and evaluation follows the methodology set out within the approved WSIs (Appendix II & III). In brief, this work included the following key elements:

5.1 Watching Brief & Evaluation

5.1.1 The archaeological watching brief was undertaken during vegetation and topsoil stripping works along the length of the pipeline corridor where the pipeline was to be buried or partially buried. The watching brief was also maintained on the stripping of the footprint of the powerhouse and on the disturbance of any upstanding remains along the route. The groundwork was undertaken by a mechanical excavator using a toothless bucket under archaeological observation. Construction groundwork undertaken at the intake weir was however undertaken without an archaeologist present.

5.1.2 The evaluation comprise the archaeological excavation of a trench 0.3m wide and 16m long from an existing pole to the location of a new pole, and the archaeological excavation of the holes for both a new pole and its stay located at SN 74568 65675, both of which measured 1.2m by 0.4m. These areas were initially excavated to remove topsoil deposits, whereupon they were cleaned and recorded, and then machine excavation continued to their final depth under close archaeological supervision. All mechanical excavation were be undertaken using a toothless bucket. All areas were be hand cleaned to prove the presence, or absence, of archaeological features and to determine their significance.

5.1.3 A further archaeological watching brief was undertaken during excavation works for the installation of further poles and stays. This work was undertaken using a mechanical excavator equipped with a toothed bucket as excavation reached bedrock deposits.

5.1.4 The exposed deposits were subsequently recorded by detailed, measured, sketch drawings, high resolution digital photographs (using a 14MP camera) and written records using AW recording systems.

5.1.5 The on-site archaeological work associated with the initial pipeline construction was undertaken by Jerry Bond, subsequent work on the grid connection was undertaken by Hywel Keen and Philip Poucher (AW). The overall management of the project was undertaken by Philip Poucher.

5.1.6 All works were undertaken in accordance with the CIfA's *Standards and Guidance for an archaeological watching brief* (2014) and *Excavation* (2014), and current Health and Safety legislation.

5.2 Finds

5.2.1 Several fragments of late 19th to 20th century pottery were recovered from agricultural topsoil deposits revealed by the grid connection works in the fields around Great Abbey Farm. These finds were noted and subsequently discarded as they were of limited archaeological interest.

5.2.2 One fragment of pottery recovered from an earlier agricultural soil (deposit 113) was thought to be of potential archaeological interest and was subsequently sent to pottery specialist Paul Blinkhorn for examination. His brief report was as follows:

> A single sherd of pottery weighing 25g occurred in context 113. It is a fragment from the base-angle of an internally-glazed bowl in North Devon Gravel-tempered Ware, and of 17th – 18th century date (O'Mahoney 1995, 29). Such pottery is a common find in the region (ibid.). The sherd is in good condition and appears reliably stratified.

5.2.3 No finds were recovered from the route of the pipeline works

5.3 Palaeo-Environmental Evidence

5.3.1 No deposits suitable for environmental sampling were encountered during the course of the excavations.

6 Results (Figures 3 & 4, Photos 1 – 35)

6.1 The pipeline route began at an intake weir construction at the upstream, southeast, end of the route at SN 76107 63980. From this point it ran along low-lying ground on the north bank of the Glasffrwd for *c.*60-80m before cutting into the side of the small valley slope and up along an existing trackway through a small clearing on level ground above the small valley side. The route then passed along a cutting through sloping ground covered in coniferous woodland to approximately SN 75740 64448. From this point the route was cut into the modern deposits associated with, and alongside a substantial forestry trackway to a point south of Pen-Gelli'r Bryn. The route was then cut alongside the roadway, within modern deposits associated with the road up to SN 75293 64870, at which point the route was then surface-mounted to cross the Glasffrwd and continue along the southwest side of the stream. The route continued through wooded ground and was largely laid in a cutting along a former forestry track before eventually dropping down to the site of the powerhouse at SN 74863 65296. The pipeline was subsequently either backfilled or covered over along its entire length with the exception of the exposed pipe crossing the Glasffrwd midway along.

6.2 The grid connection work involved the installation of seven new posts the carry overhead wiring, and the excavation of a 16m long cable trench to connect an existing line. The locations of the poles are given in Figure 4, the line started at the powerhouse and connected to existing overhead lines at SN 74550 65776. One new pole at SN 74567 65675, along with a 16m long cable trench to the east, were archaeologically excavated due to their proximity to Strata Florida Abbey.

6.3 The features and deposits recorded along this route are described below, starting at the weir intake at the upstream end.

Culvert 106 & intake weir (Figure 5, Photos 2 - 4)

6.4 Prior to the installation of the intake weir further recording work was undertaken on a stone-lined culvert on the southern banks of the Glasffrwd at SN 76111 63967. Although the structure itself was undisturbed by the planned construction work the resultant rise in water levels would obscure part of this feature. This culvert was identified and described in a previous study (Poucher 2014), potentially associated with a medieval well (PRN 36494) located on higher ground *c.*170m to the west.

6.5 The culvert (structure 106) consisted of two large unworked river-washed stone slabs set vertically on edge and *c.*0.65m apart. This was capped by a similar large river-washed stone slab. No bonding material was noted. The interior was infilled with stones of varying size along with silty-clay material, no internal cavity or further internal structures were discernible. Surface vegetation and loose topsoil (deposit 112) was removed immediately to the west of the culvert revealing two main deposits. The lower (deposit 114) consisted of a mid-grey silty-clay with occasional sub-rounded stone inclusions. This would appear to represent natural alluvial deposits on the banks of the stream, and the side stones of the culvert appear to be set *c.*0.4m into this deposit, although no construction cut was visible. Overlying this was a layer of mid brown-grey silty-clay (deposit 113) containing a greater frequency of larger sub-rounded stone inclusions. This deposit appears in part to be overlying the culvert remains. The front of the culvert was 1.4m from the edge of the water at the time of recording.

6.6 The construction of the intake weir itself was undertaken at a later date to the main pipeline route. Unfortunately, as a result this work was undertaken without an

archaeologist present, and any exposed deposits associated with the possible enclosure, as described in the previous survey (Poucher 2014), were unrecorded.

Wall 105 (Figure 6, Photos 5 – 8)

6.7 As the route cut through deposits on the relatively level ground to the north of the small Glasffrwd valley, towards the south-east end of the route, it revealed a thin topsoil deposit of dark brown silty-loam (deposit 115). This lay directly on top of a natural subsoil deposit of greyish-brown clays and gravel (deposit 109), containing the occasional sub-rounded and sub-angular stone.

6.8 At SN 75937 64203 the pipeline cut through the line of a stone-built field boundary wall (wall 105). This wall, marked on current maps, runs in a northeast – southwest direction and is dry-stone built of large unworked angular local stone, un-coursed, which were visible on its southern face. Smaller stones set in a pale grey-brown sandy clay were visible on its northern face. These smaller, clay-bonded, stones would appear to constitute the main core of the wall (deposit 108). This section of walling is partly tumbled and covered in a 0.1m to 0.2m thick dark-brown peaty-loam (deposit 107). The wall itself was at most 0.7m high and laid on top of the natural greyish-brown gravelly-clay (deposit 109). No datable material was recovered in association with the wall.

6.9 A short distance to the northeast a short south-easterly return along the wall was visible, partly hidden in the undergrowth, with more regular coursing noted in its construction. Maps, both current and historic, indicate the wall continues in a north-easterly direction. This difference in alignment and construction may indicate the exposed section of wall represented part of an infilled opening.

Wall 104 (Photos 9 – 11)

6.10 Exposed deposits along the pipeline route through the sloping ground to the northwest of this point revealed undisturbed natural subsoil deposits of light orange-brown sandy-clay (deposit 116), overlaid by a thin topsoil of mid grey-brown clayey-silt (deposit 117).

6.11 At SN 75786 64391 the route passed through the corner of a stone-walled enclosure (structure 104). The wall was dry-stone constructed, 1.2m high, 0.8m wide. It was constructed of large unworked and roughly squared local stone, roughly coursed with an inner core of smaller, un-bonded, stone, capped with large flat stone slabs. The wall was built directly on top of natural deposit 116. No dateable material was recovered in association with the wall.

6.12 The wall formed part of a rectangular enclosure approximately 110m NE – SW, by 60m, occupying sloping ground on the northern valley slopes. The enclosure is marked on the Caron parish tithe map of 1843 and would appear to represent a post-medieval field enclosure. The extent of the enclosure is still marked on current maps, with the wall standing in varying states of repair although the enclosure itself is clearly abandoned and the area covered in coniferous plantation.

Pen-Gelli'r Bryn & stream crossing

6.13 To the northwest of the enclosure represented in part by wall 104 the pipeline route ran alongside forestry track and tarmac road to the south of Pen-Gelli'r Bryn as far as

the point at which it crossed the Glasffrwd. The groundworks revealed only modern construction material associated with the trackway (deposit 118) and road (deposit 119), no deposits of archaeological interest were revealed. The route alongside the roadway also avoided remains of post-medieval field boundary walls and a trackway identified within the previous pre-commencement survey in the wooded area alongside the Glasffrwd to the west (Poucher 2014).

6.14 At the point at which the route crossed the Glasffrwd the pipeline was to be surface mounted and completed at a later date to the initial clearance and groundworks. As a result the work at the crossing was undertaken without an archaeologist present. Later inspection revealed that remains of the mine adit PRN 36720 remained undisturbed although concrete footings for the surface mounted pipe are likely to have disturbed some remains of the small walling identified along the rock face above the mine adit.

Southwest river-bank & Leat 103 (Figure 7, Photos 12 – 16)

6.15 On the western bank of the Glasffrwd at the point the pipeline crossed the stream the pipe itself was surface mounted, although the bank material was partially cleared to allow passage. This revealed a loose grey-brown topsoil (deposit 120) overlying a mid orange-brown sandy-clay subsoil (deposit 121). No features of archaeological interest were revealed by this clearance work.

6.16 To the northwest the route passed through an area of modern trackways before taking a slightly higher, more westerly route than indicated in the previous survey (Poucher 2014). This took it along the route of a rough modern forestry track. Topsoil stripping uncovered a route 3m wide, and revealed a topsoil of loose, very dark brown silty loam (deposit 100). This undulated along the route and varied between 0.1m to 0.3m thick. Below was a natural subsoil deposit of mottled pale reddish brown and grey-brown silty clay (deposit 101) with areas of finer clay and patches of gravel. Stone inclusions also varied greatly from small gravel to very large sub-rounded boulders. No finds were recovered from this deposit.

6.17 At SN 74929 65182 the pipeline route crossed that of a post-medieval leat identified and mapped during the pre-commencement survey (Poucher 2014). The leat itself consisted of a slightly curving linear feature running in a roughly east – west direction, cut into the subsoil 101. The cut (Cut 103) was relatively shallow, 1.2m to 1.4m wide, concave in profile with a gentle break-of-slope onto a concave base and 0.3m deep. No structural or lining material was noted, and the base of the cut had become infilled with 0.1m of topsoil (deposit 100), although the line had also clearly been previous disturbed and partially truncated by the establishment of the forestry track. The leat faded on the western half of the stripped area, although the route can be traced again within the trees a short distance to the west. On the north to northeast (downslope) edge of the leat a bank of up-cast material *c.*3m wide and 0.1m to 0.45m deep runs the length of the leat. Although truncated and disturbed in the area of the forestry track, it effectively doubles the depth of the leat from its base to the top of the bank (up to 0.7m deep). The up-cast material (deposit 102) consists of loose, pale reddish-brown sandy-clay and appears to represent redeposited natural subsoil (deposit 101) material. No finds were recovered from the area within and around the leat.

Powerhouse (Figure 8, Photos 17 – 19)

6.18 No further features of archaeological interest were noted in the stripped area between the leat and the location of the powerhouse at SN 74863 65296. The location of the

powerhouse had been shifted slightly further to the east from the location indication in the pre-commencement survey (Poucher 2014), taking it slightly further away from an area of banks and ditches that may be medieval in origin. The area for the powerhouse was cleared, revealing typical topsoil deposits (deposit 100) overlying a layer 0.2m to 0.3m thick of pale grey-brown silty clay (deposit 110) containing the occasional gravel and rounded stone, but no finds. Underlying this was a patchy layer of very loose grey-brown rounded gravels and fine grits (deposit 111). Both deposits would appear to be natural fluvial deposits associated with the nearby stream on the lower-lying ground at the valley base. Typical subsoils (deposit 101) were revealed underlying the gravels (deposit 111). No features of archaeological interest were revealed.

Grid Connection work, evaluated area (Figure 9, Photos 20 – 28)

6.19 In relatively close proximity to Strata Florida Abbey a new wooden electricity pole and associated stay were erected at SN 74568 65675, and a 16m long cable trench (0.3m wide) was excavated to redirect and underground wiring from an existing pole to the east. Due to their proximity to the Abbey these areas were excavated under archaeological supervision, and then hand-cleaned and recorded.

6.20 These excavations revealed a topsoil deposit of mid grey-brown clayey-silt with the occasional medium to large sub-rounded stone (deposit 200). Two small fragments of 19th to 20th century pottery were identified and discarded. This layer was 0.2m to 0.3m thick and overlay a similar deposit of mid brown silty-clay (deposit 201), 0.2m to 0.3m thick. One fragment of north Devon gravel-tempered ware, of 17th to 18th century date, was recovered. Both deposits appeared to represent agricultural soils, the upper deposit presumably relating to more recent agricultural ploughing across the area.

6.21 Below these agricultural soils was a 0.2m thick layer of mid grey-brown sandy-silt containing a large number of medium to large sub-rounded stone and boulders, with the stone generally getting smaller and more compact to the east (deposit 202). The eastern 11m of the cable trench contained a series of finer grey to green-grey sandy gravels and fine orange-brown clayey-sands (deposit 203) underlying these larger stony layer to a depth of *c.*0.7m below current ground levels. These deposits all appeared to represent episodes of naturally occurring fluvial activity, originating from the line of a stream to the east. All deposits overlay a layer of mid brown-orange sandy-clay intermixed with gravels (deposit 204) that appeared consistently at depths of between 0.6m and 0.7m across all but the easternmost 8m of the cable trench, where the base of deposit 203 was not reached.

6.22 Two areas of modern deposits were also recorded. At the eastern end of the cable trench part of the concrete construction of the adjacent road bridge was revealed (structure 205), underlying topsoil 200. Mid-way along the cable trench topsoil 200 also overlay a 0.1m thick layer of dark grey gravel (deposit 206) approximately 5m wide that was clearly modern in origin. This in turn was overlying a 0.4m thick deposit of mid grey sandy-silt with abundant medium to large sub-rounded and sub-angular stone (deposit 207), approximately 10m wide, that appears to have acted as hard-core for the surface as represented by deposit 206. These deposit are located in front of a gateway access from the adjacent car park area, presumably therefore relating to an area of hardstanding at the field entrance contemporary to the construction of the adjacent car park.

Pole SN 74610 65596 (Photos 29 – 30)

6.23 An area measuring 1.5m by 0.4m and up to 2m deep was excavated for a new pole to the south of Great Abbey farm. This revealed a 0.3m thick topsoil deposit (deposit 200) of mid grey-brown clayey-silt with common sub-rounded stone inclusions. One fragment of modern pottery was identified within this deposit. Due to the depth of the excavation underlying deposits could not be closely examined, but underlying the topsoil was a 0.2m thick deposit of mid brown silty-clay with the occasional stone inclusion (deposit 208). Underlying this were alternating bands of very loose mid-brown to mid-grey sandy gravels (deposit 209), some containing large sub-rounded stone inclusions. These deposits, the base of which were not reached, appear to represent fluvial activity.

6.24 No finds, features or deposits of archaeological interest were revealed.

Pole SN 74633 65537 (Photos 31 – 32)

6.25 To the southeast a new pole and associated stay were excavated at the edge of the field, with the pole foundation measuring 1.2m by 0.5m within the field, and the stay excavated on the opposite (river) side of the stone field wall. Within the field topsoil (deposit 210) was typically 0.1m to 0.15m thick, although heavily disturbed through tree-root activity. The underlying natural subsoil (deposit 211) consisted of a mid reddish-brown clayey-silt with frequent rounded stone inclusions. At a depth of *c.*1.5m the natural subsoils changed to a mid-brown clayey-silt with more frequent and smaller stone inclusions (deposit 212). Both deposit 211 and 212 appear to be fluvial in origin.

6.26 Within the pit for the associated stay topsoil reached a depth of 0.3m, and contained one fragment of modern pottery. Underlying this was a 0.3m thick deposit of very stony, mid reddish-brown silty-clay that appeared to represent a continuation of deposit 211. Further gravel and stone deposits, representing river terrace deposits, were noted below deposit 211.

6.27 No finds, features or deposits of archaeological interest were revealed.

Pole SN 74696 65477 (Photo 33)

6.28 Another new pole foundation was excavated in the centre of the field, again measuring 1.2m by 0.5m. Topsoil (deposit 210) overlay a similar, although slightly stonier, layer of mid brown clayey-silt (deposit 213), which combined were 0.4m thick. The underlying natural subsoils consisted of mid reddish-brown clayey-silt (deposit 214) with frequent stone inclusions, generally larger than seen in deposits within the previous foundation pit closer to the river.

6.29 No finds, features or deposits of archaeological interest were revealed.

Pole SN 74764 65403 (Photo 34)

6.30 This foundation pit, measuring 1.2m by 0.5m, was excavated immediately adjacent to the stone field wall. Underlying a 0.2m thick topsoil (deposit 210) was a layer of wall construction rubble (deposit 215) consisting of large unworked stone blocks within a light brown sandy gravel. This deposit largely blended into the underlying natural fluvial deposits of mid brown sandy-silt with abundant stone inclusions (deposit 216). This deposit did however appear distinct from the typical reddish-brown natural deposits recorded in the previous two foundation pits.

6.31 No finds, features or deposits of archaeological interest were revealed.

Pole SN 74829 65332 (Photo 35)

6.32 This foundation pit was excavated towards the southeast corner of the field, and measured 1.2m by 0.5m. Below 0.1m of topsoil (deposit 217) was a 0.6m thick deposit of mid reddish-brown clayey-silt (deposit 218) with frequent small stone inclusions, heavily root disturbed. Below this layer was a gravel and stone deposit in a mid-grey sandy-clay matrix (deposit 219). The excavated area soon became inundated with water after a depth of *c.*1.5m. Deposit 219 would appear to represent typical river terrace deposits as noted within the other foundation pits. Deposit 218 may represent finer material built up as regular fluvial activity on lower-lying ground around the edges of the nearby Glasffwrd, however it also lies in close proximity to the line of a possible field boundary bank that may represent the line of the medieval Abbey precinct. No finds or evidence of human activity were recovered from this deposit however.

6.33 No further finds, features or deposits of archaeological interest were revealed.

Pole SN 74857 65309

6.34 Two adjacent foundation pits were excavated, each measuring approximately 2m by 1m, on the western banks of the Glasffrwd close to the site of the powerhouse. These were excavated through 2m of modern overburden (deposit 220), spread across the area subsequent to the construction of the adjacent powerhouse and outlet into the Glasffrwd. River gravels (deposit 221) were revealed below the modern overburden but these were soon inundated with water.

6.35 No finds, features or deposits of archaeological interest were revealed.

7 Conclusions

7.1 An archaeological watching brief was undertaken in February/March 2015 during groundworks associated with the installation of a hydro scheme along the Glasffrwd valley, near Strata Florida, Ceredigion. A subsequent archaeological evaluation and further watching brief was also undertaken in October 2015 during groundworks associated with the connection of the hydro scheme to the national grid. Observed groundworks associated with the hydro scheme consisted of the machine stripping of topsoil deposits and some excavation of underlying deposits along the route of the pipeline and location of a powerhouse. The evaluation consisted of the archaeological excavation of an electricity pole foundation and adjoining cable trench, with a watching brief maintained on the excavation of the foundations for a further six new electricity poles.

7.2 The hydro scheme had previously been subject to an archaeological desk-based assessment (Smith 2013), with subsequent input from Professor Austin of the Strata Florida Research Project, and a detailed pre-commencement survey of the route corridor (Poucher 2014). These studies identified several features of archaeological interest along the route along with a general potential for archaeological features associated with the nearby medieval Strata Florida Abbey.

7.3 Close to the weir intake and start of the pipeline route a stone-lined culvert had previously been examined, and this was further recorded. The culvert (structure 106) is of unknown date and function, although it may be related to a medieval well (PRN 36494) located *c.*170m to the west. A possible enclosure was also previously identified adjacent to the weir intake. Unfortunately however, construction of the weir was undertaken without an archaeologist presence and therefore potential deposits associated with this enclosure were not recorded. However, it may be of note that the provenance of the enclosure as an archaeological feature is uncertain, and no evidence of archaeological features were visible within the disturbed ground around the weir intake examined subsequent to its installation.

7.4 Two pipeline route exposed and removed sections of two stone walls on the northeast side of the Glasffrwd, Wall 104 and Wall 105. The walls were of differing construction, indicating they were construction at different times and possibly belonging to different farms, but both are visible on 19th and 20th century maps and would appear to represent post-medieval field boundary walls.

7.5 The point at which the pipeline crossed to the opposite bank of the Glasffrwd a mine adit had previously been identified within a small gorge through which the stream passed. A tumbled wall and associated trackway had also been previously recorded on the banks above the mine adit. As the pipeline was to be largely surface mounted at this point an archaeologist was not present during groundworks, however it would appear a small section of the tumbled wall was removed during groundwork, the mine adit however remained undisturbed.

7.6 Towards the northwest end of the pipeline route the line of a post-medieval leat, possibly associated with mining activity, had previously been identified as crossing the route of the construction corridor. This leat (Leat 103) was exposed, consisting of a simple shallow concave, curvilinear cut, at most 0.7m deep, with a bank of up-cast material along its northern (downslope) edge. The leat at this point had been disturbed and partially truncated by a previous forestry track, but no lining or structural material was noted, and it appeared to be filled with topsoil material, suggesting the feature was not of great antiquity and is likely to be late post-medieval or early modern in date. No associated finds were recovered to confirm dating however.

7.7 A series of banks, ditches and trackways were identified close to the powerhouse location at the northwest end of the pipeline route, some potentially medieval in origin. Construction works associated with the powerhouse revealed only natural alluvial deposits however, and these identified features remained undisturbed.

7.8 Associated with the grid connection works one electricity pole foundation at revealed a 0.6m deep deposit (deposit 218) that was not recorded elsewhere. This foundation was located on the projected line of the medieval Abbey Precinct boundary, and may therefore be related to banking material associated with that boundary. No finds or other evidence of structural material was recovered however.

7.9 No further finds, features or deposit of archaeological interest were revealed during the remaining groundworks.

8 Sources

Anon 1843 *Caron Parish Tithe Map*

Chartered Institute for Archaeologists 2014 *Standard and Guidance for an Archaeological Watching Brief*

Chartered Institute for Archaeologists 2014 *Standard and Guidance for Excavation*

O'Mahoney, C 1995 *Pottery, Ridge Tile and Ceramic Water Pipe, Excavations at Carmarthen Greyfriars 1983-1990*. Topic Report **2**. Dyfed Archaeological Trust

Poucher, P 2014 *Glasffrwd, Strata Florida, Ceredigion: Archaeological Survey* Archaeology Wales Report No. 1232

Smith, C 2013 *Glasfrwyd, Strata Florida, Ceredigion: Desk Based Assessment & Site Walkover* Archaeology Wales Report No.1159

Figure 1: Location plan, site shown in red. 1;50,000 @ A4.

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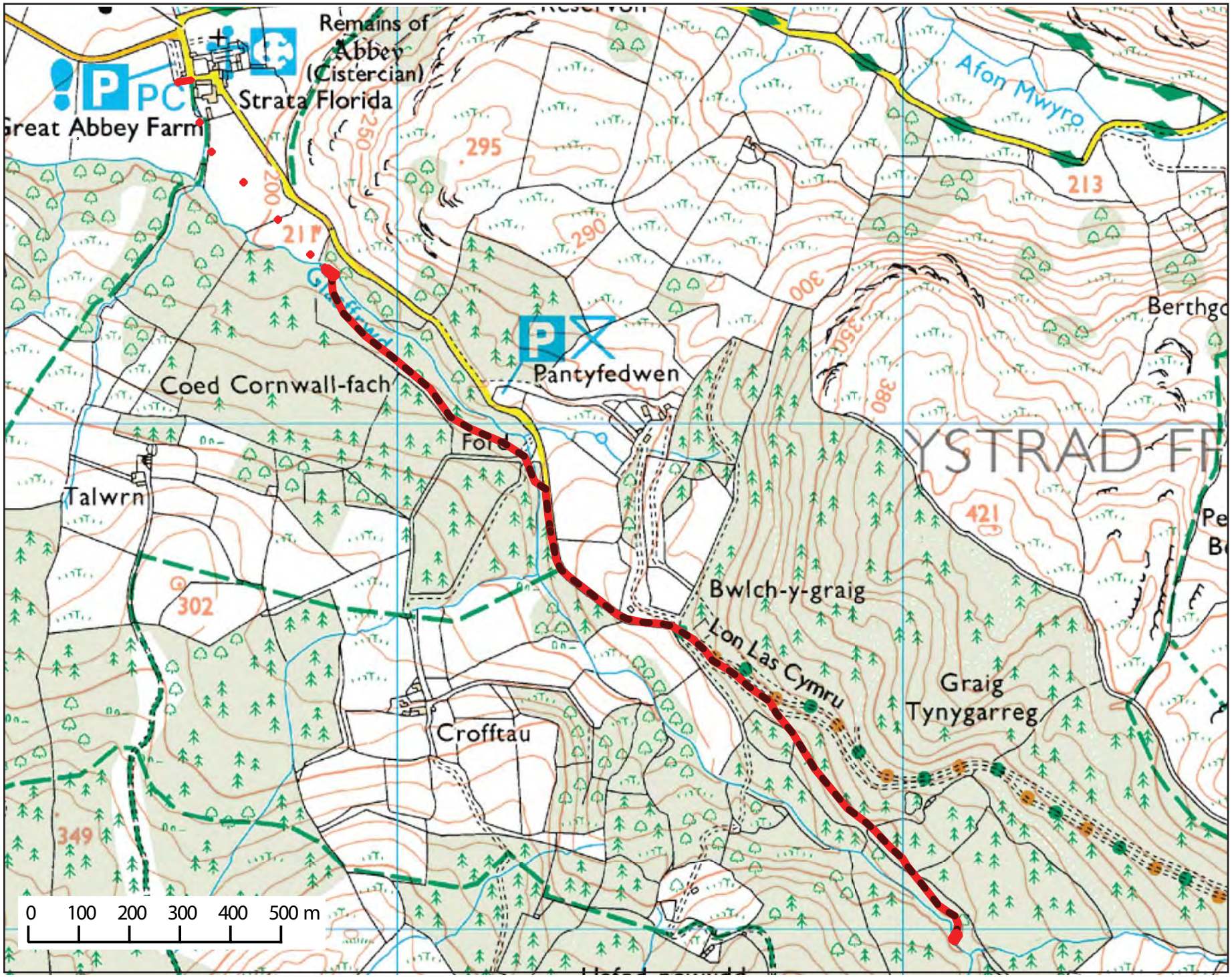

Figure 2: Location plan at 1;10,000 (@ A4). Pipeline route is shown as a red dotted line, grid connection poles shown in red to the northwest.

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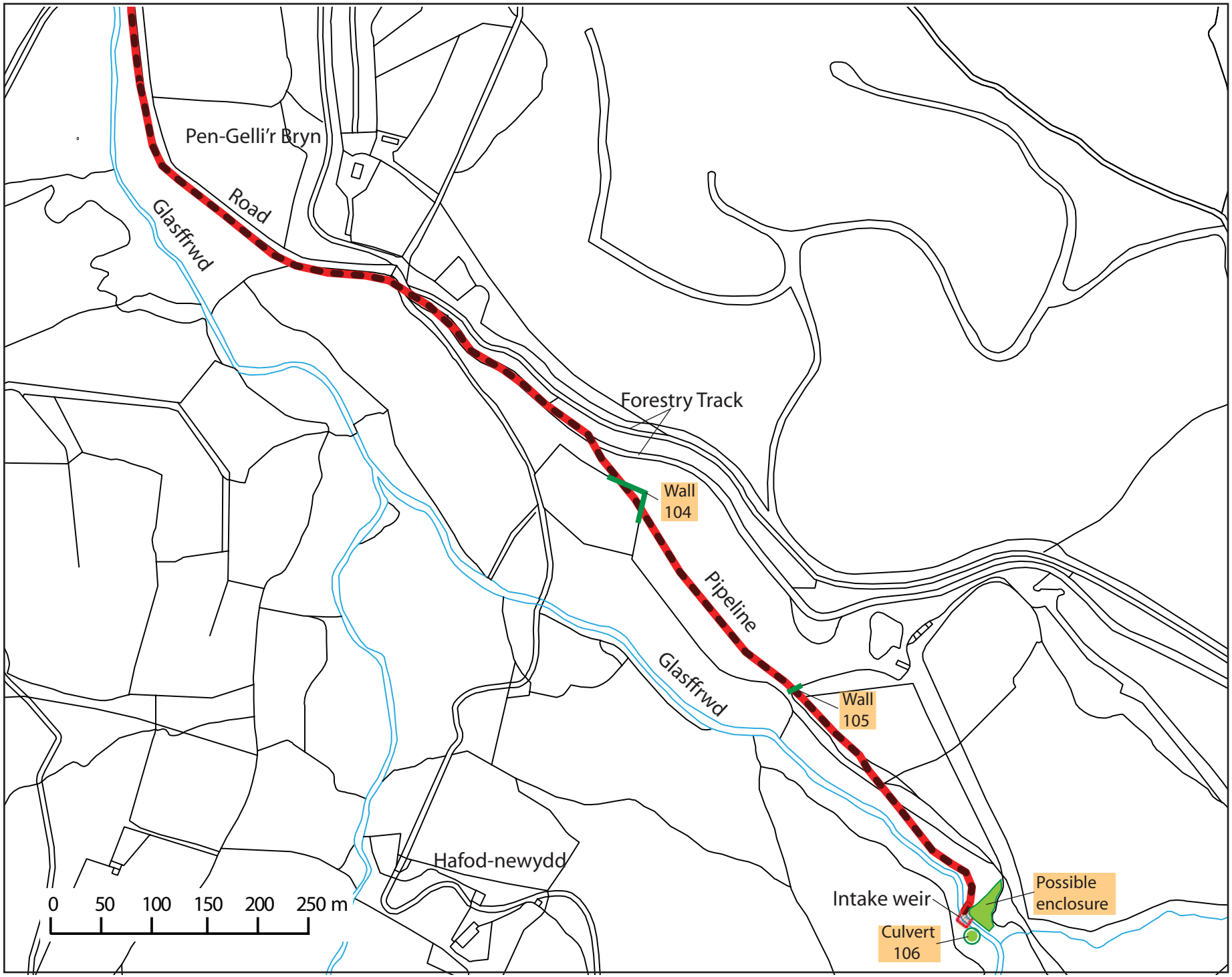


Figure 3: Known and recorded archaeological sites described within the report.
Southeast section.

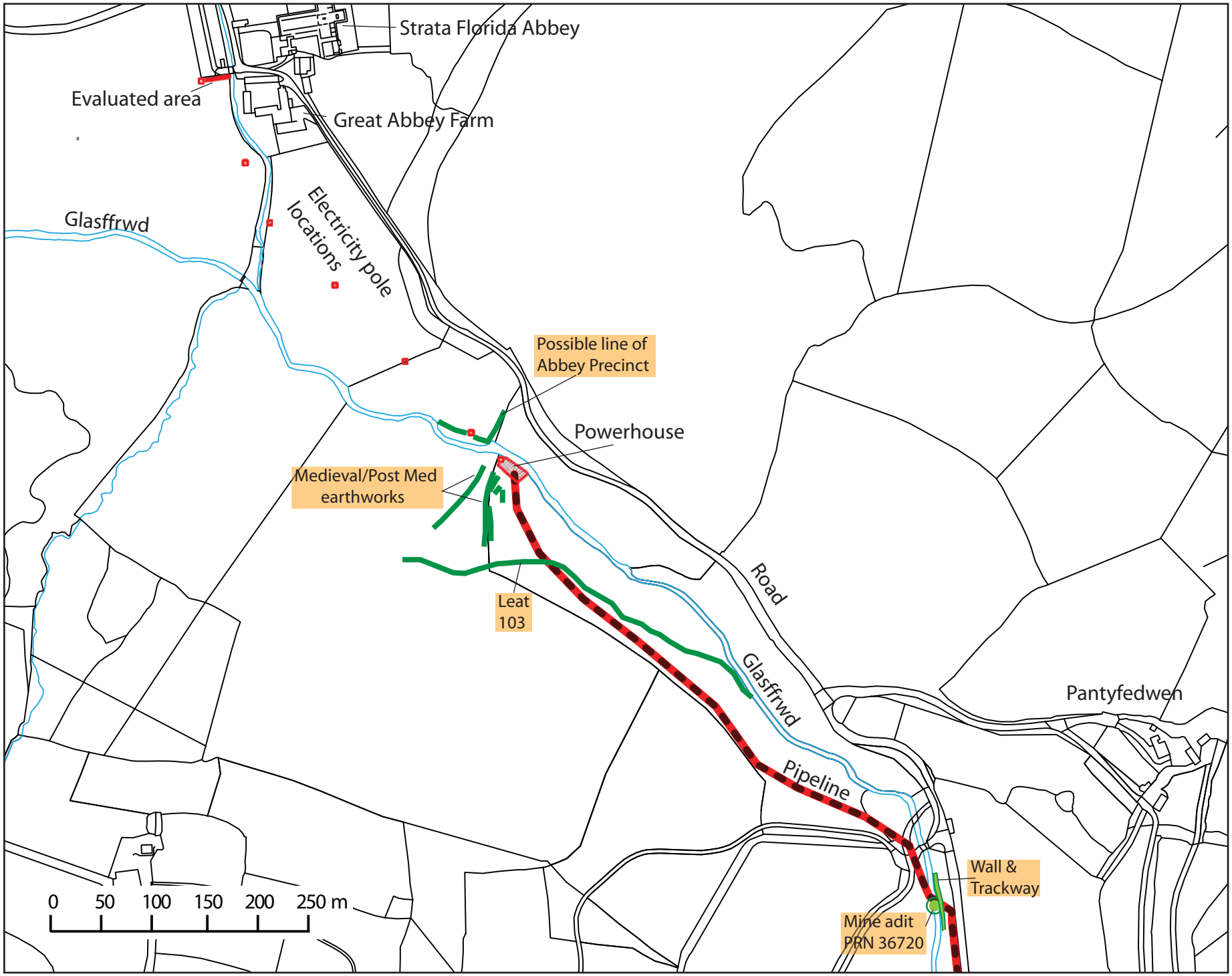


Figure 4: Known and recorded archaeological sites described within the report.
Northwest section.

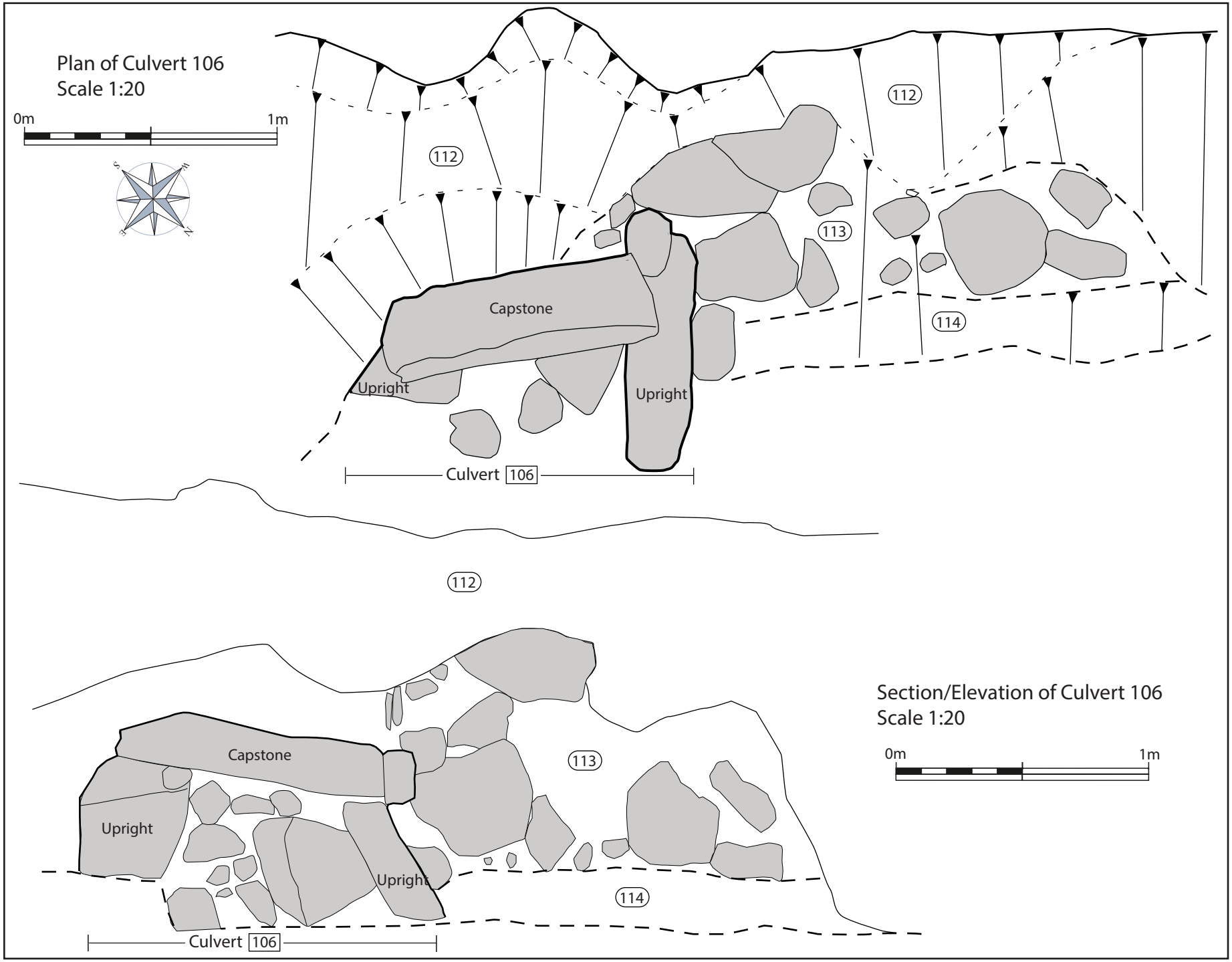
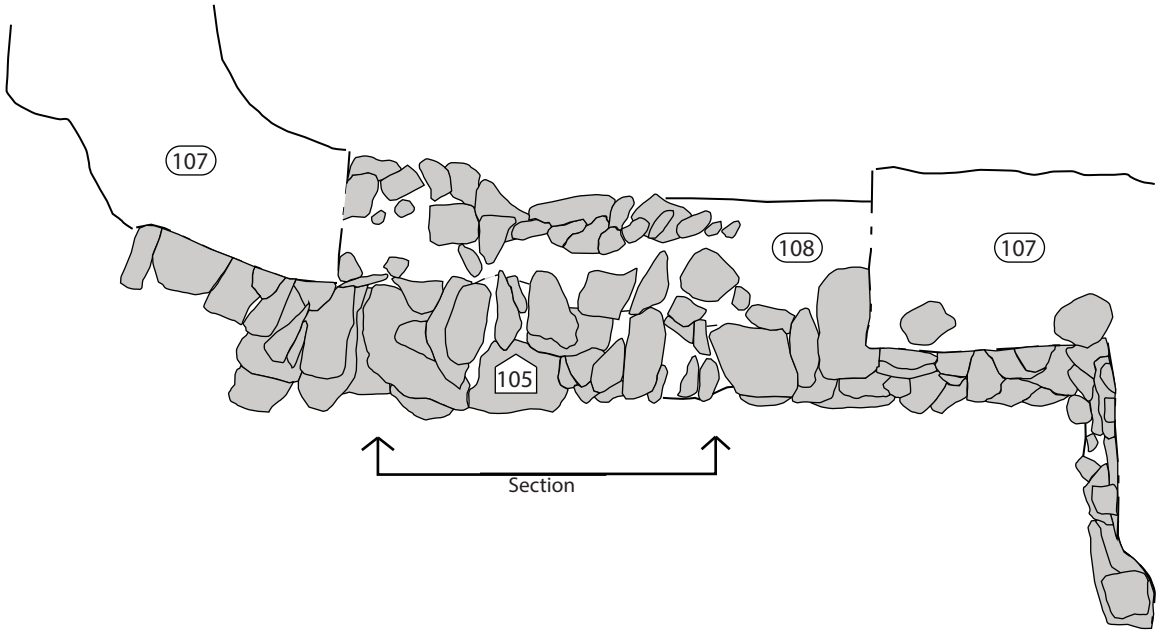


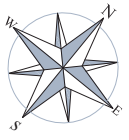
Figure 5: Plan and section of culvert 106 and surrounding deposits.

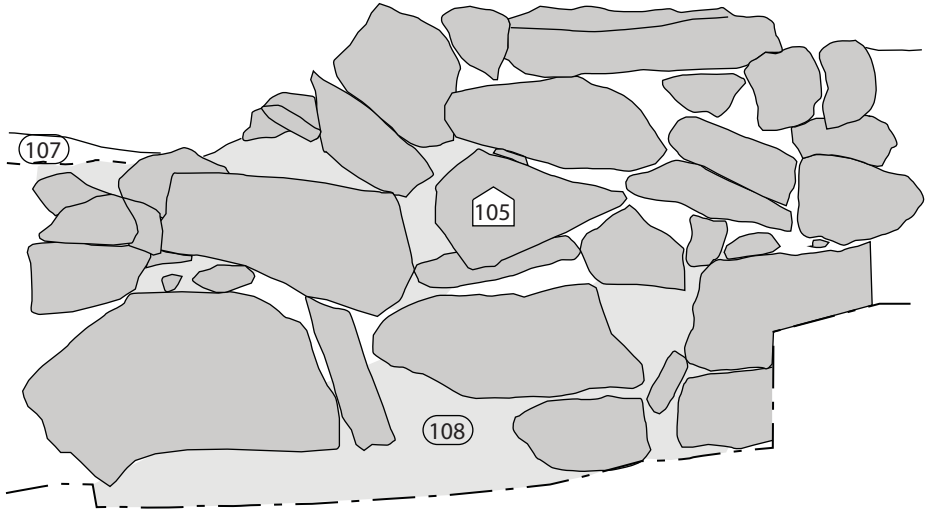


Plan of Wall 105

0m 1m

Scale 1:50





Southeast facing elevation of wall 105

0m 1m

Scale 1:20

Figure 6: Plan and elevation of wall 105.

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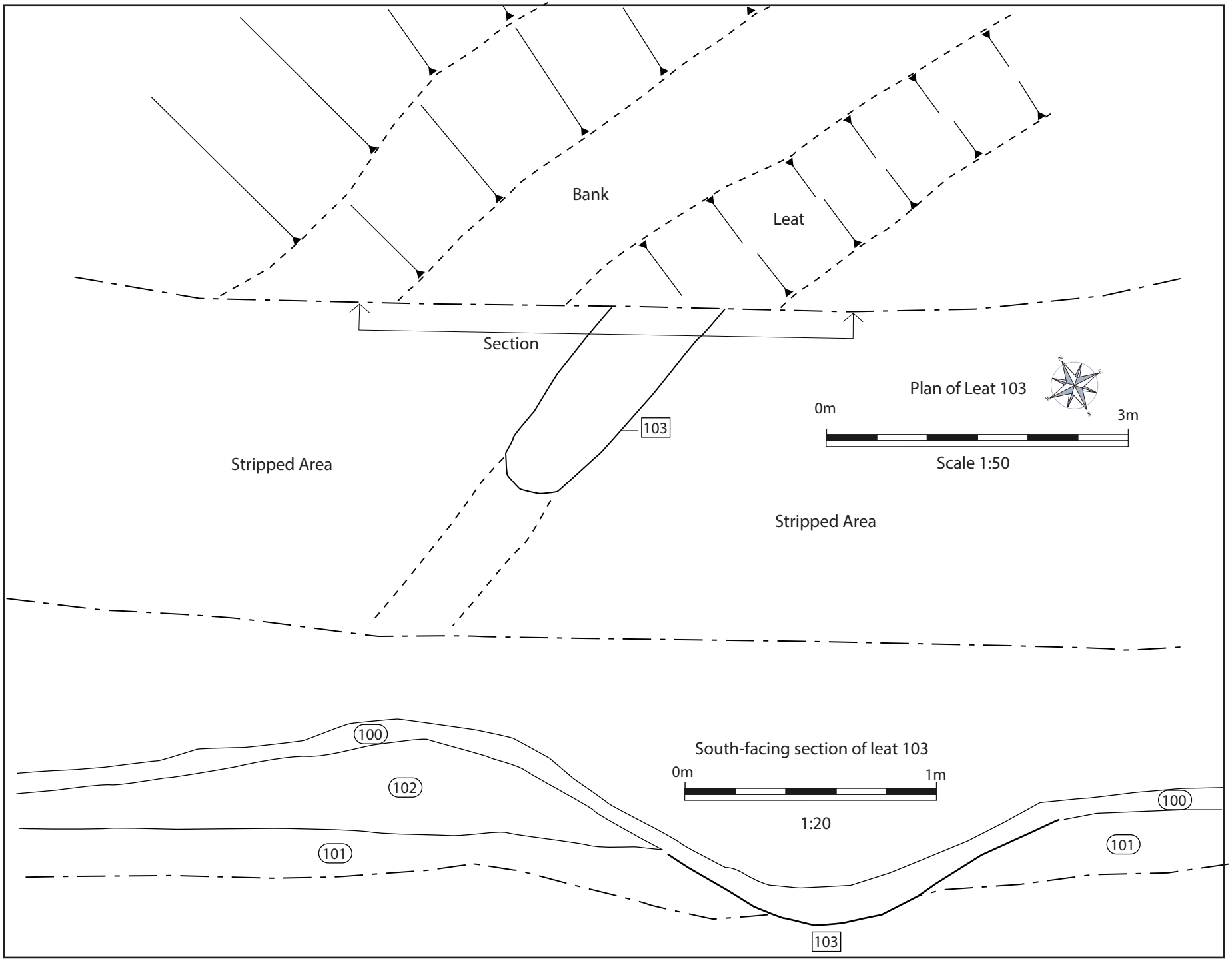
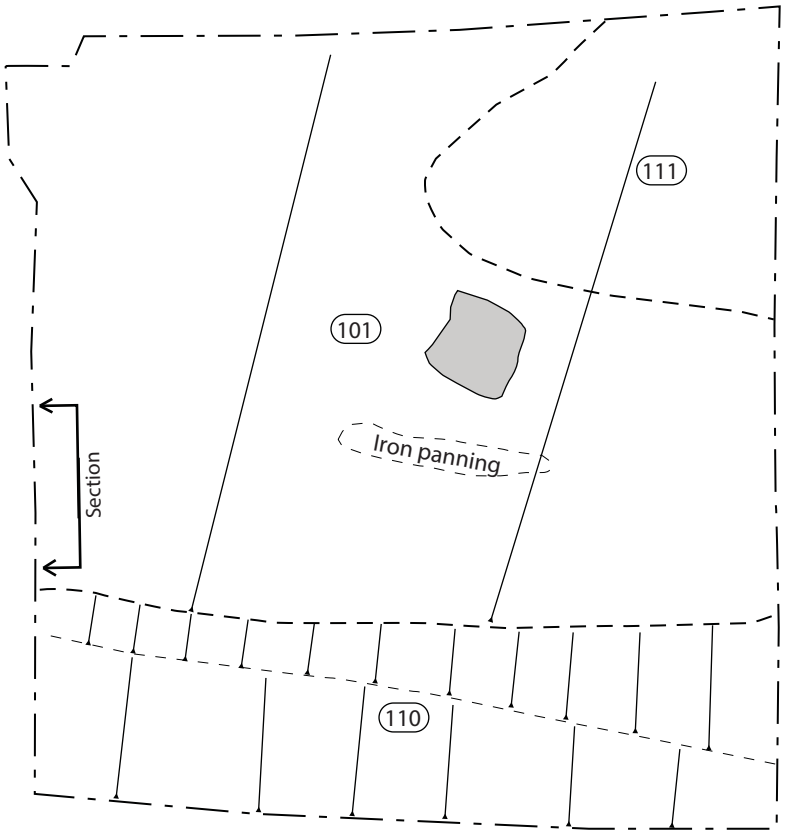


Figure 7: Plan and section of Leat 103.



Plan of area cleared for powerhouse (above)

0m 2m

Scale 1:50

Representative section, southeast facing (below)

0m 0.5m

Scale 1:10

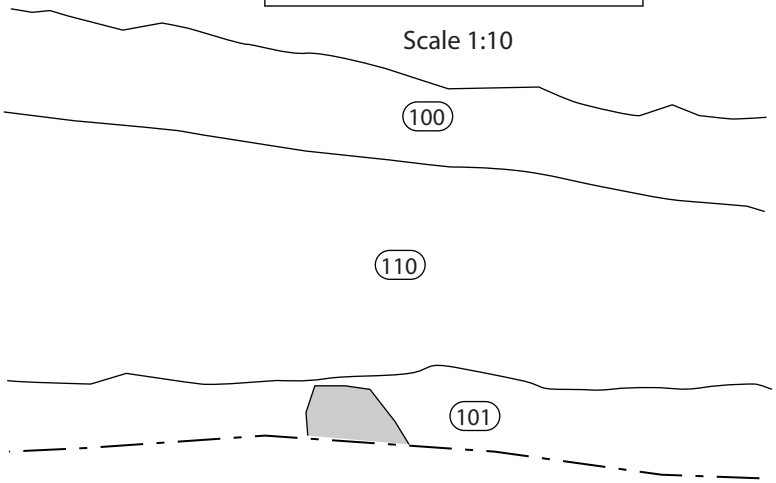


Figure 8: Plan and representative section of the area cleared for the powerhouse.

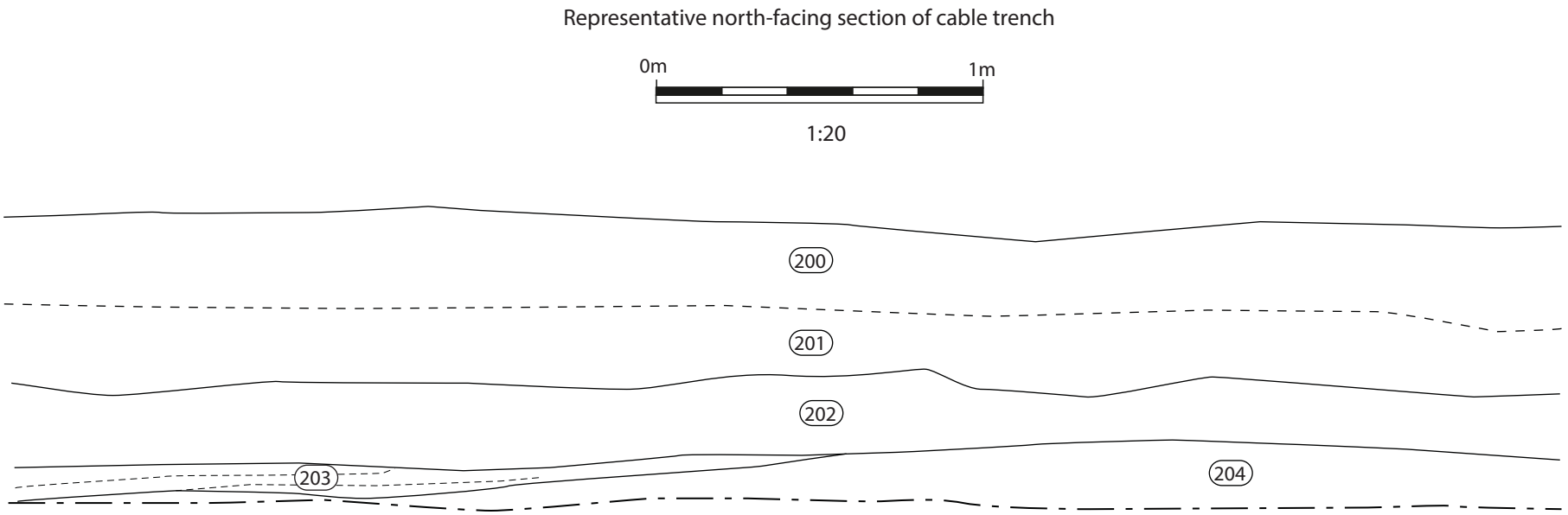


Figure 9: Representative section of cable trench deposits

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Photo 1: Remains of Strata Florida Abbey.

Photo 2: View NW, overlooking a possible enclosure or natural terrace alongside the Glasffrwd close to the weir intake, prior to any development works. 1m scales.

Photo 3: Southeast facing shot of Culvert 106. 1m & 2m scales.

Photo 4: Closer view of Culvert 106. 2m scale.

Photo 5: Pre-excavation, northwest facing, shot of Wall 105. 2m & 1m scales.

Photo 6: Northwest facing shot of Wall 105. 2m & 1m scales.

Photo 7: Southeast facing shot of the opposite face of Wall 105. 2m & 0.5m scales.

Photo 8: Northeast facing shot along Wall 105. 2m & 0.5m scales.

Photo 9: Northwest facing shot of Wall 104. 2m & 1m scales.

Photo 10: NNE facing shot of section of Wall 104 to be removed. 2m & 1m scales.

Photo 11: Section through Wall 104. 1m scales.

Photo 12: Northwest facing shot down the pipeline route along a former forestry track towards the northwest end of the route. 2m & 1m scales.

Photo 13: Initial topsoil stripping of the route as shown in Photo 12, showing natural deposit 101. 2m & 1m scales.

Photo 14: ESE facing shot along the remains of a leat identified within the pre-commencement survey. 1m scales.

Photo 15: Northeast facing shot of the leat (Cut 103) exposed within the pipeline corridor route, showing the dark fill of the leat cut and embanked material (deposit 102) to the left. 2m & 1m scales.

Photo 16: ESE facing shot of Leat 103 with surviving remains extending into the woodland beyond. 2m & 1m scale.

Photo 17: North facing shot looking down to the location of the powerhouse with the Glasffrwd behind. 2m & 1m scales.

Photo 18: North facing shot of the area exposed for the powerhouse. 2m & 1m scale.

Photo 19: Northwest facing shot of a representative section of area stripped for the powerhouse. 2m & 0.3m scale,

Photo 20: Northeast facing shot of the new electricity pole installation and cable trench excavation, both of which were archaeologically evaluated.

Photo 21: West facing shot along the cable trench excavation.

Photo 22: South facing shot of the cable trench, taken at an acute angle due to the narrow width of the trench. Shows topsoil overlying natural fluvial deposits. 1m scale.

Photo 23: As photo 22, taken further to the west.

Photo 24: East facing shot of cable trench, showing modern concrete associated with the adjacent stream bridge. 1m scale.

Photo 25: South facing shot of the cable trench section, showing the modern hard-core surface (deposit 205) and underlying make-up layers (deposit 206). 1m scale.

Photo 26: East facing shot of the section of pole foundations at SN 74568 65675. 1m scale.

Photo 27: North facing shot of the pole foundations at SN 74568 65675. 1m scale.

Photo 28: East facing shot of the excavations for the stay associated with the pole at SN 74568 65675. 1m scale.

Photo 29: South facing shot of the pole foundations at SN 74610 65596. 1m scale.

Photo 30: South facing shot of the pole foundations at SN 74610 65596. 1m scale.

Photo 31: West facing shot of the pole foundations at SN 74633 65537. 1m scale.

Photo 32: South facing shot of the stay associated with the pole foundations at SN 74633 65537. 1m scale.

Photo 33: South facing shot of the pole foundations at SN 74696 65477. 1m scale.

Photo 34: South facing shot of the pole foundations at SN 74764 65403. 2m scale.

Photo 35: South facing shot of the pole foundations at SN 74829 65332. 2m scale.

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APPENDIX I:
Context Descriptions

Context Descriptions

Context Number	Context Type	Description	Dimensions (Length x width x thickness)
100	Layer	• Topsoil • Loose, very dark brown silty-loam with rare small-medium rounded stone. Largely leaf litter and roots • Occasional modern pottery fragment, not retained	Across site, 0.1m to 0.3m thick
101	Layer	• Natural subsoil towards NW end of route • Moderate, mottled pale reddish brown and grey-brown silty clay with areas of finer clay and patches of gravel. Stone inclusions also varied greatly from small gravel to very large sub-rounded boulders • No finds	Extent unknown
102	Bank	• Up-cast/embanked material associated with Leat 103 • Loose, light reddish-brown sandy-clay with rare small-medium sub-rounded stone inclusions • No finds	Length unrecorded, 3m wide, 0.45m thick
103	Cut	• Leat • Curvilinear, parallel sides, orientated east-west to NE-SW • Gentle concave sides, gentle break of slope onto a concave base. • Single fill (topsoil)	Length unrecorded, 1.2m to 1.4m wide, 0.1m deep
104	Structure	• Field enclosure wall • Linear, orientated north – south with an ESE-WNW return • Dry-stone constructed, very large mixed unworked and roughly squared local stone, roughly coursed with vertical faces • Inner core of medium unworked local stone, no bonding material. Capped with very large flat slabs of unworked local stone. • Built onto subsoil 116	Length unrecorded, 0.8m wide, 1.2m high.
105	Structure	• Field boundary wall • Linear, orientated NE – SW • SE face 95% very large unworked local stone, uncoursed, largely dry-stone construction • NW face 25% large-very large unworked local stone, uncoursed, set in clay bonding material (deposit 108)	Length unrecorded, 1.2m wide, 0.7m high
106	Structure	• Stone-lined culvert • NE face visible, two very large uprights (c.0.4m x 0.5m x 1m) set 0.65m apart, capped with very	>1m x 1.4m, 0.8m high

		large capstone (1.1m x 0.4m x 0.2m), all unworked and unbonded • Interior blocked with stone and sediment	
107	Layer	• Topsoil build-up on Wall 105 • Loose, very dark brown peaty-loam with very rare small angular and rounded stone inclusions • No finds	>7m x 1m, 0.1 – 0.2m thick
108	Deposit	• Bonding material within Wall 105 • Fairly compact, mid grey-brown clay (redeposited natural) • No finds	>7m x 1m, 1m thick
109	Layer	• Natural subsoil around wall 105 • Compact, mid grey-brown clay & gravel with common small-large sub-rounded and sub-angular stone inclusions • No finds	Extent unknown
110	Layer	• Natural alluvial deposits around powerhouse location • Loose, light grey-brown silty-clay with common small-medium sub-rounded stone • No finds	Across site, 0.2m – 0.3m thick
111	Layer	• Natural alluvial deposits around powerhouse location • Very loose, mid grey-brown sandy gravel • No finds	>2m x >2m
112	Layer	• Topsoil • Moderate, mid grey-brown silty-clay with common small-medium sub-rounded stone. • Covers culvert 106 • No finds	Extent unknown, 0.5m thick
113	Layer	• Uncertain • Fairly compact, mid brown-grey silty-clay with abundant large-very large sub-angular stone • Stony deposit over culvert 106 • No finds	>2.5m, 0.9m thick
114	Layer	• Natural alluvial • Fairly compact, mid grey silty-clay with common medium sub-rounded stone inclusions • Underlying culvert 106 • No finds	>2.5m, >0.25m thick
115	Layer	• Topsoil to the SE of wall 105 • Loose, dark brown silty-loam with rare small-medium rounded stone. • No finds	Across site, 0.15m thick
116	Layer	• Natural subsoil on hillslope • Fairly compact, light orange-brown sandy clay with common medium sub-rounded stone inclusions • No finds	Extent unrecorded

117	Layer	• Topsoil on hillslope • Loose, dark grey-brown clayey-silt with rare small-medium rounded stone. • No finds	Across site, 0.2m thick
118	Layer	• Forestry track make-up layers	
119	Layer	• Road construction debris	
120	Layer	• Topsoil on western riverbank • Loose, mid grey-brown clayey-silt with common small-medium rounded stone. • No finds	Across site, 0.25m thick
121	Layer	• Subsoil on western riverbank • Fairly compact, mid orange-brown sandy-clay with common medium sub-rounded stone inclusions • No finds	Extent unrecorded
		•	
200	Layer	• Topsoil in field to the south of Strata Florida car park • Loose, mid grey-brown clayey-silt with the occasional medium to large sub-rounded stone • Two small fragments of 19th to 20th century pottery, identified and discarded.	Across field, 0.2m – 0.3m thick
201	Layer	• Earlier plough-soil in field south of Strata Florida car park • Moderate, mid brown silty-clay with rare small-medium sub-rounded stone inclusions • One fragment of north Devon gravel-tempered ware, of 17th to 18th century date	Across field, 0.2m – 0.3m thick
202	Layer	• Natural alluvial deposit • Loose, mid grey-brown sandy-silt containing a large number of medium to large sub-rounded stone and boulders, with the stone generally getting smaller and more compact to the east • No finds	Across site, 0.4m thick
203	Layer	• Interbedded alluvial deposits • Loose, series of finer grey to green-grey sandy gravels and fine orange-brown clayey-sands • No finds	Extent unrecorded
204	Layer	• Natural subsoil • Moderate, mid brown-orange sandy-clay intermixed with gravels • No finds	Extent unrecorded
205	Structure	• Concrete associated with road bridge	
206	Layer	• Modern surface deposit • Moderate, dark grey gravel	? x 5m, 0.1m thick
207	Layer	• Hard-core for surface 206	? x 10m, 0.4m thick

		• Loose, mid grey sandy-silt with abundant medium to large sub-rounded and sub-angular stone • No finds	
208	Layer	• Natural subsoil • Moderate, mid brown silty-clay with rare sub-rounded stone inclusions • No finds	>1.5m x >0.4m, 0.2m thick
209	Layer	• Natural alluvial deposits • Very loose, alternating bands of mid-brown to mid-grey sandy gravels, some containing abundant large sub-rounded stone inclusions. • No finds	Extent unrecorded
210	Layer	• Topsoil within field south of Gt Abbey Farm • Loose, mid grey-brown clayey-silt with the occasional medium to large sub-rounded stone • One fragment of modern pottery, not retained	Across field, 0.3m thick
211	Layer	• Natural subsoil • Moderate, mid reddish-brown clayey-silt with frequent rounded stone inclusions • No finds	>1.5m x >0.4m, 1.1m thick
212	Layer	• Natural subsoil • Loose, mid-brown clayey-silt with frequent small-medium sub-rounded stone inclusions • No finds	Extent unrecorded
213	Layer	• Earlier ploughsoil • Moderate, mid grey-brown clayey-silt with frequent medium to large sub-rounded stone • No finds	>1.5m x >0.4m, 0.2m thick
214	Layer	• Natural subsoil • Moderate, mid reddish-brown clayey-silt with frequent medium-large sub-rounded stone inclusions • No finds	Extent unrecorded
215	Layer	• Construction debris • Loose, light brown sandy gravel with very abundant large-very large sub-angular stone inclusions • No finds	>1.2m x >0.5m, c.0.4m thick
216	Layer	• Natural subsoil • Loose, mid brown sandy-silt with abundant medium-large sub-rounded stone inclusions • No finds	Extent unrecorded
217	Layer	• Topsoil within field to the SE of Gt Abbey Farm • Moderate, mid grey-brown clayey-silt with common medium to large sub-rounded stone • No finds	Across field, 0.1m thick
218	Layer?	• Subsoil, possible bank material	Extent unrecorded, 0.6m thick

		• Moderate, mid reddish-brown clayey-silt with frequent small sub-rounded stone inclusions, heavily root disturbed • No finds	
219	Layer	• Natural subsoil • Loose, gravel and stone deposit in a mid-grey sandy-clay matrix • No finds	Extent unrecorded
220	Layer	• Modern overburden • Loose, mid grey sandy clay with abundant medium-large sub-angular stone inclusions	>2m x >1m, 2m thick
221	Layer	• Natural subsoil • Loose river gravels in a mid grey-brown sandy clay matrix	Extent unrecorded

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APPENDIX II:
Written Scheme of Investigation
Main pipeline

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WRITTEN SCHEME OF INVESTIGATION

FOR A PRE-COMMENCEMENT SURVEY AND ARCHAEOLOGICAL WATCHING BRIEF

ON

Glasffrwd Hyrdo Scheme, Strata Florida, Ceredigion

Prepared for:

Kevin Jones

9th May 2014
Amended 28th July 2014

Archaeology Wales Limited
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NON TECHNICAL SUMMARY

This Written Scheme of Investigation (WSI) details the proposal for a pre-commencement survey before groundworks and potential archaeological excavation and an archaeological Watching Brief during groundworks associated with the construction of a hydro scheme between Blaen-Glasffrrwd and Pantyfedwen, Strata Florida, Ceredigion. The proposed scheme of works involves a three stage methodology. Stage one comprises a pre-commencement survey involving examination of Lidar data along with topographic survey of features along the route, followed by consultation and micro-adjustment of the planned works to avoid or reduce the impact on any identified archaeological remains. Stage two comprises an archaeological watching brief during groundworks associated with the planned works - adequate time will be allowed to provide the supervising archaeologist time to clean and identify the extent and nature of any archaeological features and for excavation and recording to take place. Stage three comprises the compilation of an illustrated report. It has been prepared by Archaeology Wales Limited for their client, Mr Kevin Jones.

1. Introduction and archaeological background

The scope of the construction work to be undertaken at the site (NGR SN 76176 63958 to SN 74787 65333, Figures 1 & 2) includes the installation of an energy generating hydro scheme parallel with the course of the Glasffrwd Brook. A weir intake to the west of Blaen Glasffrwd will divert water from the brook into a 400mm diameter pipe. The pipe will run for approximately 2km to the north-west where it will enter a powerhouse structure before being discharged back into the brook. The pipe will be largely surface mounted, though where the gradient of the land dictates it necessary, i.e.to prevent the pipe rolling, it will be sat within a 600mm wide by 300mm deep cut (partially buried). One 40m section parallel with the road will see the pipe buried 1m deep (in bedrock) within a 600mm wide trench. The planning application number is A130773 and the planning authority is Ceredigion County Council.

This WSI has been prepared by Philip Poucher, Project Manager, Archaeology Wales Ltd (henceforth - AW) at the request of Kevin Jones. It provides information on the methodology that will be employed by AW during a pre-commencement survey and archaeological watching brief at the site.

The methodology set out in this WSI will be agreed with the planning services division of the Dyfed Archaeological Trust (henceforth - DAT-HM) prior to the commencement of groundworks due to be carried out on the site. A previous desk-based assessment for the scheme has been produced, subsequently however, additional information about the potential archaeological resource within the area of the development was provided, on the basis of which DAT-HM recommended a Section 23 Grampian or pre-commencement condition, as recommended in Welsh Office Circular 60/96, which states:

> **No development shall take place until the applicant, or their agents or successors in title, has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved in writing by the local planning authority'.**
>
> ***Reason: to protect historic environment interests whilst enabling development***

All work will be undertaken in accordance with the standards and guidelines of the Institute for Archaeologists (2011).

2. Site description and historic background

The proposed route is located to the south east of Strata Florida Abbey, Ceredigion (NGR SN 76176 63958 to SN 74787 65333), in the bottom of a reasonably thickly wooded, shallow sided, valley running north-west to south-east. The eastern end of the proposed route lies at 311m above Ordnance Datum whilst the western end, approximately 2km to the north east, is located at 204m above Ordnance Datum. The surrounding area is one of very sparse population, made up predominantly by woodland managed by the Forestry Commission.

A desk-based assessment (Smith 2013) has been produced, which examines the historic background to the site. Subsequent to this Professor David Austin of the Strata Florida Project has highlighted some further archaeological potential within the site area.

There is extensive evidence of prehistoric activity in the wider landscape although only one site, a possible Bronze Age standing stone (PRN 8608), lies within 250m of the pipeline route. To the northwest lies the former Cistercian monastic house of Strata Florida, re-established at its present site in 1184. Although Strata Florida lies beyond the 250m search area around pipeline route, examined during the desk-based assessment, monastic sites such as this had an impact over wide landscape areas during the medieval period, and it is possible features associated with Strata Florida extend into the site area. The south-eastern extent of the Abbey's former precinct, which consists of a wall and trackway, extends into the area around the north-western end of the pipeline and powerhouse location. On the northern side of the river in this area are extensive remains of a water management system that served the needs of the Abbey, with some associated remains extending to the south of the river, again in the area of the pipeline and powerhouse locations.

Other medieval remains are noted along the course of the pipeline. To the southeast lies the site of a Holy Well, now a protected Scheduled Ancient Monument (CD183), and also within 250m of the pipeline route lies a medieval farmstead (PRN 36705), a deserted rural settlement (PRN 41058) as well as two shelters (PRNs36490 & 41062) and a stone-walled enclosure (PRN 36723) of uncertain date, but possibly medieval in origin. These sites however will remain largely unaffected by the hydro scheme, with the possible exception of the stone-walled enclosure (PRN 36723) which lies close to the proposed route of the pipeline. A further, previously unrecorded, walled enclosure of uncertain date lies in the area of the intake weir at the south-eastern end of the pipeline route, and therefore may also be affected by the planned works. Midway along the route lies a series of metal-mining remains (PRNs 26622 & 36720) listed within the HER as post-medieval in date, although their exact date is uncertain.

To the north of the pipeline route lies the post-medieval farmstead of Pantyfedwen, which includes three Grade II listed buildings, all of which will remain unaffected by the planned works. A series of former post-medieval field boundaries have also been identified potentially crossing the route of the proposed pipeline.

3 Proposed archaeological work

The proposed archaeological work relates to the whole of the site, i.e. all of the application area. The primary objective will be to further assess and mitigate the impact of the development proposals on the historic environment through a staged approach. The aim of the work will be to establish and make available information about the archaeological resource revealed during a pre-commencement survey and archaeological watching brief during groundworks associated with the construction. This work will include the following elements:

- A pre-commencement survey including examination of existing survey data (including Lidar Digital Terrain Modelling), information held by 3rd parties along with a topographical survey of any identified archaeological features visible along the route of the pipeline. This will result in the production of an initial report illustrating the results of the survey work facilitating further consultation with DAT-HM to allow for any adjustments of the pipeline route to be undertaken (Stage 1). This consultation will take place prior to any development work requiring an archaeological watching brief taking place.
- An archaeological watching brief during groundworks associated with the development, adequate time will be allowed to provide the supervising archaeologist time to clean and identify the extent and nature of any archaeological features and for excavation and recording to take place.
- The production of an illustrated report and the deposition of the site archive (Stage 3)

4 Pre-Commencement Survey Methodology (Stage 1)

General

Lidar data, at 2m and 1m resolution (the best available for the area), will be studied and analysed for the area of the pipeline route. Lidar data is particularly effective at locating ephemeral earthworks not visible to the naked eye. As the site runs through wooded areas a Digital Terrain Model (DTM) will be used which produces a bare-earth model, removing vegetation and standing buildings. Features identified by the analysis of Lidar data will be mapped in a GIS computer program.

Further research will include re-examining map data as well as locating and examining any further detailed historic and current map sources and aerial photographs for the area. Contact will also be attempted with both Professor David Austin of the Strata Florida Project and the RCAHMW who have undertaken survey work in the area to examine any additional information that they may hold.

The route of the pipeline will be re-walked (it was initially walked during the production of the Desk-Based Assessment) and any identified archaeological features identified along the route will be topographically surveyed using Topcon GRS1 survey equipment. All features will also be mapped in a GIS computer program and tied into the Ordnance Survey grid.

An initial brief illustrated report will be produced, combining the additional research and topographic surveys along the route of the pipeline.

This report will aim to illustrate and record the visible archaeological resource that may be affected by the planned scheme, allowing appropriate mitigation measures to be proposed in consultation with DAT-HM. Such mitigation measures may include the micro-adjustment of the pipeline route to avoid or reduce the impact on

identified archaeological features. This consultation will take place prior to any development work requiring an archaeological watching brief taking place.

5 Watching Brief Methodology (Stage 2)

Objectives
The aims of the watching brief, as defined by the IfA (2011) are:

- To allow a rapid investigation and recording of any archaeological features that are uncovered during the proposed groundworks within the application area.
- To provide the opportunity, if needed, for the watching archaeologist to signal to all interested parties, before the destruction of the material in question, that an archaeological find has been made for which the resources allocated to the watching brief are not sufficient to support the treatment to a satisfactory or proper standard.

General
The archaeological watching brief will be undertaken by AW staff using current best practice.

All work will be carried out by a suitably qualified archaeologist with relevant level membership of the Institute for Archaeologists (IfA) and will follow the IfA Standard and Guidance for an archaeological watching brief (2011).

The name of the attending archaeologist will be provided to DAT-HM prior to the watching brief taking place.

Detailed
The archaeological Watching Brief will not be undertaken until further consultation has been undertaken with DAT-HM following the Stage 1 Pre-Commencement Survey work in order to determine and agree the precise watching brief or other mitigation requirements. The Watching Brief will be carried out by a suitably qualified archaeologist during groundworks associated with the planned development that may disturb topsoil or subsoil deposits along the route of the pipeline and in the area of the intake weir and powerhouse. The mechanical excavation will be undertaken by a machine using a toothless ditching bucket wherever possible.

If archaeological features, finds or deposits are uncovered, work will be stopped in the area of the exposed feature in order that the supervising archaeologist can clean and identify the extent and nature of the feature and for excavation and recording to take place.

All archaeological deposits that are identified will be mapped, cleaned, recorded and sample excavated. The developer will provide a safe working area and sufficient time to record and excavate all features to the satisfaction of AW and DAT-HM. The excavation of identified features will not be compromised by the construction programme.

Contingency Arrangements
In the event of significant archaeological features being discovered all activities in this area of the site can be temporarily suspended. This will allow a period of

consultation with DAT-HM and if required the opinion of specialists. Following such consultation, recommendations will be presented to the Developer and the Local Planning Authority.

The methodology and timescale of additional archaeological work to investigate such features will be presented and included in the Developers Programme; the feature will be fenced off and secured thus allowing the site programme to continue.

The Developer will be made aware of the additional cost and resources required should further archaeological excavation be required after consultation with DAT-HM and specialists, so such resources could be adequately accounted for.

Recording

Recording will be carried out using AW recording systems (pro-forma context sheets etc), using a continuous number sequence for all contexts.

Plans and sections will be drawn to a scale of 1:50, 1:20 and 1:10 as required and related to Ordnance Survey datum and published boundaries where appropriate.

All features identified will be tied in to the OS survey grid and fixed to local topographical boundaries. The location of all features will also be recorded using Topcon GRS1 survey equipment.

Photographs will be taken in digital format, using a 14MP camera with photographs stored in Tiff format. Should significant remains be identified that require excavation, photographs will also be taken in black and white and colour slide (35mm film).

The archaeologist undertaking the watching brief will have access to the AW metal detector and be trained in its use.

Artefacts

Archaeological artefacts recovered during the course of the excavation will be cleaned and labelled using an accession number, which will be obtained from the local museum. A single number sequence will be allocated to all finds. The artefacts will be stored appropriately until they are deposited with a suitable local museum.

All finds of gold and silver will be removed to a safe place and Natural Resources Wales, Cadw and the local coroner informed, within the guidelines of the Treasure Act 1996.

Any finds which are considered to be in need of immediate conservation will be referred to a UKIC qualified conservator (Phil Parkes at Cardiff University).

Human remains

In the event of burials or cremations being found all work will be halted in the area of the burials and their extent and nature established. The client, DAT–HM and the Ministry of Justice will be informed and a methodology of excavation agreed which will adhere to Ministry of Justice Guidelines.

Environmental and technological samples

Environmental samples will be taken where necessary when significant deposits are located. Technological samples will be taken where necessary when significant deposits are located.

Specialists

In the event of certain finds/features etc. being discovered, the site archaeologist may have to seek specialist opinion for assistance. Such specialists will be accessed either internally within AW itself or from an external source. A list of external specialists is given in the table below.

Type	Name	Tel No.
Flint	Dr Amelia Pannett	02920 899509
Animal bone	Jen Kitch	07739 093712
CBM, heat affected clay, Daub etc.	Rachael Hall	01305 259751
Clay pipe	Hilary Major	01376 329316
Glass	Andy Richmond	01234 888800
Cremated and non-cremated human bone	Malin Holst	01759 368483
Metalwork	Kevin Leahy	01652 658261
Neo/BA pottery	Dr Alex Gibson	Bradford University
IA/Roman pottery	Jane Timby	01453 882851
Post Roman pottery	Mr Stephen Clarke	
Charcoal (wood ID)	John Carrot	01388 772167
Waterlogged wood	Nigel Nayling	University of Wales (Lampeter)
Molluscs and pollen	Dr James Rackham	01992 552256
Charred and waterlogged plant remains	Wendy Carruthers	01443 233466

Monitoring

Any changes to the specification that the contractor may wish to make after approval will be communicated to DAT–HM for approval on behalf of the Planning Authority.

Representatives of DAT–HM will be given access to the site so that they may monitor the progress of the all aspects of the fieldwork. DAT–HM will be kept regularly informed about developments, both during the site works and subsequently during any potential post-excavation.

6 Post-Fieldwork Programme (Stage 3)

Conservation

After agreement with the client/landowner and DAT–HM arrangements will be made for the long term conservation and storage of all artefacts in an appropriate local or county museum.

Archive

The site archive will be prepared in accordance with MAP 2, Appendix 3 (English Heritage 1991). It will comprise all the data recovered during the fieldwork and shall be quantified, ordered and indexed and will be internally consistent. The archive will be deposited with the finds in a suitable local museum, contact will be made initially with Ceredigion County Museum, Aberystwyth to arrange the deposition of the archive. If no finds are present contact will be made with the County Archives Service in Aberystwyth to arrange deposition of the paper archive.

Reporting
The results of the watching brief will be submitted in an illustrated and bound report, which will include the following material:

- Non-technical summary
- Location plan showing the area/s covered by the watching brief, all artefacts, structures and features found
- Plan and section drawings with ground level, ordnance datum and vertical and horizontal scales.
- Written description and interpretation of all deposits identified, including their character, function, potential dating and relationship to adjacent features. Specialist descriptions and illustrations of all artefacts and soil samples will be included as appropriate.
- An indication of the potential of archaeological deposits which have not been disturbed by the development
- Statement of local, regional and national context of the remains
- A detailed archive list at the rear listing all contexts recorded, all samples finds and find types, drawings and photographs taken. This will include a statement of the intent to deposit, and location of deposition, of the archive.

A summary of the project results, excluding any confidential information, may be prepared for wider dissemination (e.g. Archaeology in Wales and special interest and period-specific journals).

Archive Format & Deposition
The full site archive will be deposited within one month of the completion of the client report.

The paper/drawing/digital archive will be deposited at the appropriate regional archival store (contact will be made with the County Archive Service in Aberystwyth) and the finds will be deposited with the appropriate local museum (contact will be made with the County Museum in Aberystwyth). AW will agree the location and timing of the deposition of the archive before the contract commences.

The archive will include all site notes, finds, documents, drawings, photographs, digital data and a copy of the final report and any prior draft versions. All of these items will be clearly quantified in tabular from in an 'archive deposition statement' located at the rear of the clients report, and their ultimate location and proposed date of deposition stated.

7 Resources and timetable

Standards
The watching brief will be undertaken by AW staff using current best practice.

All work will be undertaken to the standards and guidelines of the IFA.

Staff
The survey work will be carried out by Louis Stafford and Philip Poucher. The archaeological watching brief will be undertaken by suitably qualified AW staff, the name of the attending archaeologist will be provided to DAT-HM in advance of the work being undertaken. Reporting will be undertaken by Philip Poucher.

Equipment
The project will use existing AW equipment.

Timetable of archaeological works
Once all mitigation measures have been agreed with DAT-HM the development will be undertaken at the convenience of the client and the archaeological watching brief will be undertaken intermittently on groundworks identified in consultation with DAT-HM that may affect the archaeological resource. DAT-HM will be informed in advance of the proposed development timetable.

Insurance
AW is an affiliated member of the CBA, and holds Insurance through the CBA insurance service. An insurance cover letter is attached to the rear.

Health and safety
All members of staff will adhere to the requirements of the *Health & Safety at Work Act*, 1974, and the Health and Safety Policy Statement of AW.

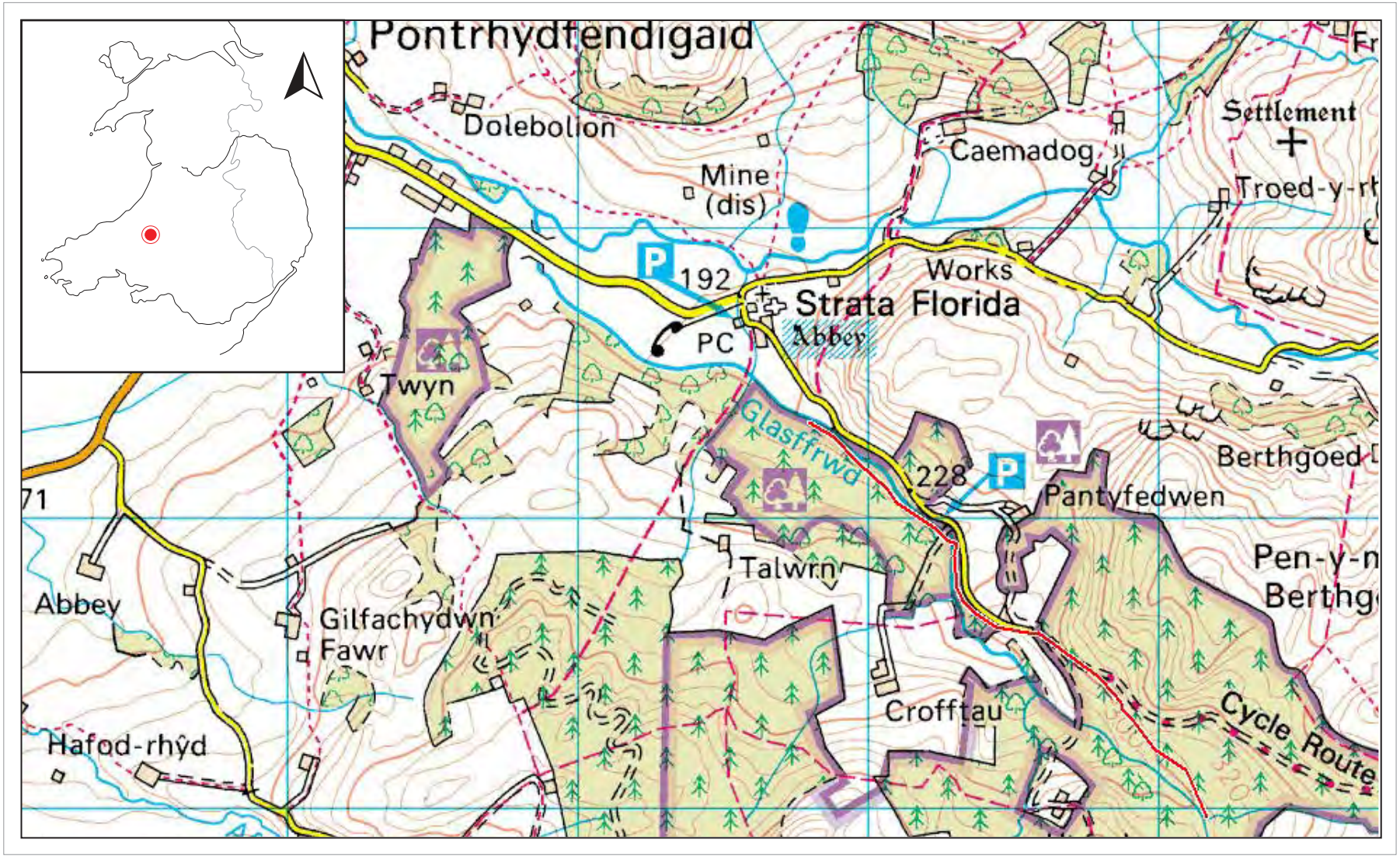

Fig 1: Map showing location of assessment area

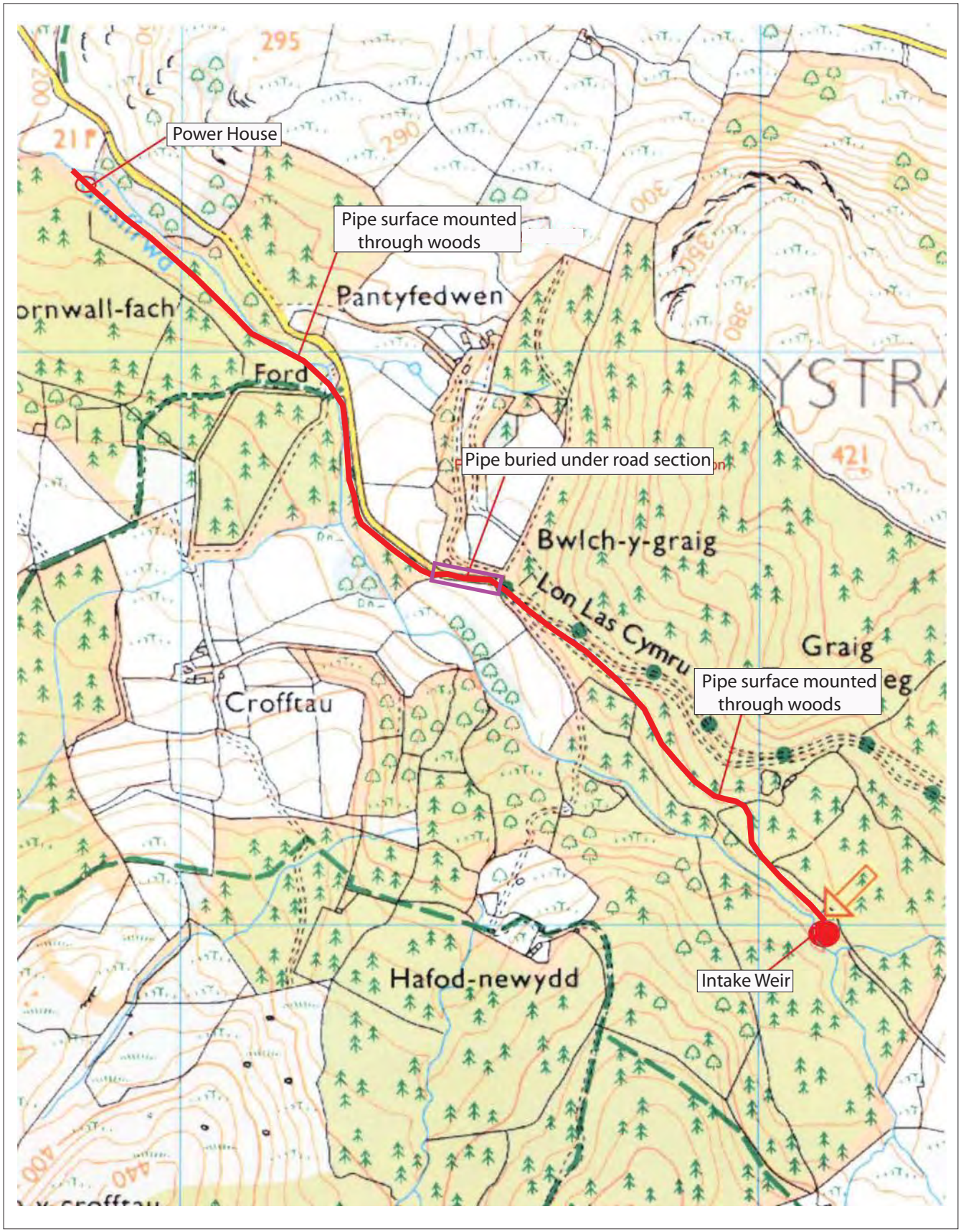

Fig 2: Detailed location map showing exact route of proposed pipeline. Purple box defines extent of fully buried section whilst remainder will be surface mounted or partially buried as ground conditions permit.

towergate insurance

To Whom It May Concern

Our Ref: TM/

01 November 2013

Dear Sir / Madam

Our Client: Archaeology Wales Ltd

We act as Insurance Brokers for the above mentioned client and confirm the following cover is in force:

Public Liability

Limit of Indemnity - £5,000,000 any one event in respect of Public Liability

INSURER	Aviva Insurance Ltd
POLICY TYPE	Public Liability
POLICY NUMBER	24765101CHC/000365
EXPIRY DATE	05/12/2014

Employers Liability

Limit of Indemnity - £10,000,000 any one occurrence.

The cover has been issued on the insurers standard policy form and is subject to their usual terms and conditions. A copy of the policy wording is available on request.

INSURER	Aviva Insurance Ltd
POLICY TYPE	Employers Liability
POLICY NUMBER	24765101CHC/000365
EXPIRY DATE	05/12/2014

Professional Indemnity

Limit of Indemnity - £1,000,000 in respect of each and every claim

INSURER	Royal & Sun Alliance Insurance Plc
POLICY TYPE	Professional Indemnity
POLICY NUMBER	RKK865819/1190
EXPIRY DATE	05/12/2014

The cover has been issued on the insurers standard policy form and is subject to their usual terms and conditions. A copy of the policy wording is available on request.

The Insurance evidenced by this Certificate is subject to the terms, and conditions and exclusions of the applicable policies which is paramount. This certificate is issued as a matter of information only and evidences coverage as at the date of the certificate. This certificate confers no rights to the holder and imposes no liability on the Insurer. The Insurer assumes no responsibility to the holder of the certificate to provide any notice of any material change in or cancellation of these policies.

Yours faithfully,

Tariq Mian Cert CII
Towergate Insurance, Fareham

Archaeology Wales

APPENDIX III:
Written Scheme of Investigation
Grid connection

ARCHAEOLOGY WALES
Revealing the past, informing the future

Archaeology Wales Ltd
Rhos Helyg, Cwm Belan, Llanidloes, Powys SY18 6QF
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E: info@arch-wales.co.uk
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Written Scheme of Investigation

for an Archaeological Excavation & Watching Brief at

at Strata Florida, Pontrhydfendigaid

Ceredigion

Prepared for:
Kevin Jones & Western Power Distribution (SW)

Project No: 2170

Date: October 2015

Archaeology Wales Limited
Rhos Helyg, Cwm Belan, Llanidloes, Powys, SY18 6QF
Tel: +44 (0) 1686 440319
Email: admin@arch-wales.co.uk

NON TECHNICAL SUMMARY

This Written Scheme of Investigations details a proposal for the archaeological excavation of a cable trench and electricity pole stand, and an archaeological watching brief on the remaining stands, on at land near Strata Florida Abbey, Pontrhydfendigaid, Cerdigion. It has been prepared by Archaeology Wales Limited for Kevin Jones and Western Power Distribution (SW).

1. Introduction

The proposed development is to connect a recently constructed hydro-electric scheme at Glasffrwd Brook to the main grid via a 11kv overhead line, along a route that runs to the west of Strata Florida Abbey, Pontrhydfendigaid, Ceredigion, SN 74563 65675 (Henceforth – the site). A planning application has been submitted and approved for the development. The groundworks will comprise the installation of six new upright poles (Figure 2), for which holes will be dug measuring at most 1m by 0.3m, and 1.8m deep (labelled C – I on Figure 2). Similar sized holes will also be dug for stays on two poles (labelled C & E on Figure 2). A 16m long trench, 0.6m wide, will be excavated to extend an underground earth wire (from point J to C on figure 2).

Dyfed Archaeological Trust – Planning Services (Henceforth DAT-PS), in its capacity as archaeological planning advisor to Ceredigion County Council (Henceforth – CCC), have recommended an archaeological watching brief is undertaken at the site, with groundworks in an archaeological sensitive area archaeologically excavated (labelled C & J on Figure 2).

The purpose of the proposed work is to provide CCC with the information they are likely to request in respect of the development, the requirements for which are set out in Planning Policy WALES, March 2002, Section 6.5, and Welsh Office Circular 60/96. The work is to record any remains of potential archaeological interest to ensure that they are fully investigated and recorded if they are disturbed or revealed as a result of any activities associated with the development.

This Written Scheme of Investigations (WSI) has been prepared by Philip Poucher, Project Manager, Archaeology Wales Ltd (Henceforth - AW) at the request of Western Power Distribution & Kevin Jones. It provides information on the methodology which will be employed by AW during the proposed work.

All work will be undertaken by suitably qualified staff and in accordance with the standards and guidelines of the Chartered Institute for Archaeologists (2014).

2 Previous Results

A variety of work has already been undertaken in association with the area developed as part of the hydro-scheme within Glasffrwd Brook. Prior to the development of the Hydro-scheme (planning application no. A130773) an archaeological desk-based assessment was undertaken (Smith 2013) along with a detailed archaeological survey of the route (Poucher 2014). During the course of the groundworks associated with the development an archaeological watching brief was maintained by Archaeology Wales Ltd. A report on the results of this watching brief has not yet been produced, it is proposed that the results of the current scheme of works be combined within a single comprehensive report.

This work has served to highlight the general archaeological potential of the development area, which is largely associated with Strata Florida Abbey, a major medieval monastic centre. The main visible abbey complex lies a short distance to the east of the line of this development, although many associated features have been recorded as both earthworks and buried features within the surrounding landscape. The line of the development will pass through the medieval Abbey precinct.

3 Proposed archaeological work

The primary objective is to allow the investigation and recording of any archaeological features that are to be uncovered or disturbed during the groundworks associated with the development. This work will include the following elements:

- The archaeological excavation of groundworks associated with points C and J, as marked on Figure 2. This will comprise the archaeological excavation of a trench 0.6m wide and 16m long from an existing pole to the location of a new pole, and the archaeological excavation of the holes for both the new pole (point C) and its stay, both of which will measure 1m by 0.3m.
- An archaeological watching brief during groundworks associated with the development, adequate time will be allowed to provide the supervising archaeologist time to clean and identify the extent and nature of any archaeological features and for excavation and recording to take place.
- The production of an illustrated report incorporating the results of previous watching brief work on the hydro-scheme and the deposition of the site archive. This previous work has already been undertaken in accordance with an approved Written Scheme of Investigation.

4 Archaeological Excavation Methodology

The objectives of the archaeological excavation are to establish the presence or absence of archaeological features and deposits within the designated area (Points C to J on Figure 2) and to fully investigate and record any such features and deposits prior to their potential removal during the development works to provide preservation through record. Should significant archaeological features be uncovered further consultation between the AW, the developer and DAT-PS will be undertaken to assess the need for further potential mitigation strategies.

The work will include an assessment of the regional context within which the archaeological evidence rests and will aim to highlight any relevant research issues within national and regional research frameworks.

The work will result in a fully illustrated report that will include a fully representative description of the information gained from the excavation and watching brief

The excavation will comprise the excavation and recording of the line of a cable trench between an existing pole (point J) and the location of a new pole (point C). This trench will measure 0.6m wide and 16m long. It will also include the excavation and recording of both the location of the new pole (point C) and its stay, both of which will measure 1m by 0.3m.

Preliminary work

The archaeological project manager in charge of the work will satisfy him/herself that all

constraints to ground works have been identified, including the siting of live services.

Excavation

All area to be excavated will initially be excavated to the top of the archaeological horizon by machine under close archaeological supervision. All mechanical excavation will be undertaken using a toothless bucket. All areas will be hand cleaned using hoes and/or pointing trowels to prove the presence, or absence, of archaeological features and to determine their significance. In each area the excavation of all archaeological features will be undertaken, to elucidate the character, distribution, extent and importance of the archaeological remains. If significant archaeological features are uncovered further consultation will be undertaken with DAT-PS, the developer and if required, specialists, prior to further development works in that area.

In each area sufficient excavation will be undertaken to ensure that the natural horizons are reached and proven. If safety reasons preclude manual excavation to natural, hand augering may be used to try to assess the total depth of stratification within each area. The depth of the excavation will conform to current safety requirements. If excavation is required below 1.2m the options of using shoring or stepped trenching will be discussed with DAT-PS.

Plans and sections will be drawn to a scale of 1:50, 1:20 and 1:10 as applicable, and these will be related to Ordnance Survey datum and published boundaries where appropriate.

Recording will be carried out using Archaeology Wales recording systems (pro-forma context sheets etc), using a continuous number sequence for all contexts in accordance with the AW technical manual – Procedures for Excavation and Site Recording 2011.

Written, drawn and photographic records of an appropriate level of detail will be maintained throughout the course of the project. Photographs will be taken in digital *RAW format, using a 14MP camera. These will be converted to Tiff format for archiving. Should significant remains be identified that require excavation, photographs will also be taken in black and white and colour slide (35mm film).

All features identified will be tied in to the OS survey grid and fixed to local topographical boundaries and related to the developer's site plan. The location of all features will also be recorded using a Topcon GTS725 total station or similar surveying equipment.

5 Watching Brief Methodology

General

The archaeological watching brief will be undertaken by AW staff using current best practice.

All work will be carried out by a suitably qualified archaeologist with relevant level membership of the Chartered Institute for Archaeologists (CIfA) and will follow the CIfA Standard and Guidance for an archaeological watching brief (2014).

Detailed

The Watching Brief will be carried out by a suitably qualified archaeologist during any groundworks associated with the development, this will comprise the excavation of areas for the installation of the poles and any stays (typically in holes 1m by 0.3m, and

up to 1.8m deep), where the sub-soil is likely to be exposed or cut into. The mechanical excavation will be undertaken by a machine using a toothless ditching bucket unless ground condition render this impossible.

If archaeological features, finds or deposits are uncovered, work will be stopped in the area of the exposed feature in order that the supervising archaeologist can clean and identify the extent, nature and significance of the feature and for recording to take place.

All archaeological deposits that are identified will be mapped (as outlined in 'Recording' below), cleaned, recorded and fully excavated. The developer will provide a safe working area and sufficient time to record and excavate all features to the satisfaction of AW and DAT-PS. Full excavation of identified features will not be compromised by the construction programme.

Contingency Arrangements

In the event of significant archaeological features being discovered all activities in this area of the site can be temporarily suspended. This will allow a period of consultation with DAT-PS and if required the opinion of specialists.

Following such consultation, recommendations will be presented to the Developer and the Local Planning Authority.

Recording

Recording will be carried out using AW recording systems (pro-forma context sheets etc), using a continuous number sequence for all contexts.

Plans and sections will be drawn to a scale of 1:50, 1:20 and 1:10 as required and related to Ordnance Survey datum and published boundaries where appropriate.

All features identified will be tied in to the OS survey grid and fixed to local topographical boundaries. This can be achieved through measured triangulation from various points within the site boundary due to the proximity of field boundaries and agricultural buildings and their known locations. If required this could be further supplemented using a Topcon GTS725 total station.

Photographs will be taken in digital format with an appropriate scale, using a 14MP camera with photographs stored in Tiff format.

The archaeologist undertaking the watching brief will have access to the AW metal detector and be trained in its use.

6 General Methodology

Monitoring

DAT-PS will be contacted prior to the commencement of ground works, and subsequently once the work is underway.

DAT-PS will be provided with notice of the start date, a projected timetable and a copy of the Health and Safety Risk Assessment if required.

Any changes to the specification that the contractor may wish to make after approval will be communicated to DAT-PS for approval on behalf of the Planning Authority.

If it is felt necessary to expand on the excavation area – i.e. divert the route of the cable

trench or relocate pole locations, this will be undertaken after discussion with DAT-PS and the client.

Representatives of DAT-PS will be given access to the site so that they may monitor the progress of the excavation and watching brief. DAT-PS will be kept regularly informed about developments, both during the site works and subsequently during post-excavation.

Artefacts

Archaeological artefacts recovered during the course of the excavation will be cleaned and labelled using an accession number which will be obtained from the local museum. A single number sequence will be allocated to all finds. The artefacts will be stored appropriately until they are deposited with the museum.

All artefacts recovered during the project will be retained and related to the contexts from which they were derived. All typologically distinct and closely datable finds will be recorded three-dimensionally.

The excavation will carefully consider any artefactual or economic information and provide an assessment of the viability, for further study, of such information.

Any finds which are considered to be in need of immediate conservation will be referred to a UKIC qualified conservator (Phil Parkes of Cardiff Conservation Services).

A catalogue by context of all artefactual material found, quantified by number, weight, or both, and containing sketches of significant artefacts will be compiled.

Pottery will be analysed to the standards outlined in "Guidelines for the Preparation of Pottery Archives" as prepared by the Study Group for Roman Pottery in consultation with the IFA. All other material will be analysed following the advice given in the Institute of Field Archaeologists: Guidelines for Finds Work.

The requirements for the conservation of artefacts will be unpredictable until after the completion of the fieldwork. The archaeological contractor will ensure, however, that at least minimum acceptable standards are achieved (the UK Institute of Conservation's Guidelines for the Treatment of Finds from Archaeological Site should be used as guidance).

All finds of gold and silver will be removed to a safe place and DAT-PS, the client and the local coroner informed, within the guidelines of the Treasure Act 1996.

Environmental and technological samples

Samples will be taken where necessary when significant deposits are located. Minimum sample size will be 10 litres (where possible). Where the minimum sample size is not achievable, then 100% of the deposit will be sampled.

Samples will be retained for processing. The level of post-excavation processing will be dependent on the results of the fieldwork and following discussion with an environmental specialist and DAT-PS.

Any features containing deposits of environmental or technological significance will be sampled. If required, the project manager should arrange, through a suitably qualified expert the assessment of the environmental potential of the site through examination of suitable deposits. The assessment of potential should consider the guidelines set out in the English Heritage publication 'Guidelines for Environmental Archaeology' March 2002.

The requirements for the conservation of samples will be unpredictable until after the

completion of the fieldwork. The archaeological contractor will ensure, however, that at least minimum acceptable standards are achieved (the UK Institute of Conservation's Guidelines for the Treatment of Finds from Archaeological Site should be used as guidance).

Human remains

Human remains will be left in situ, covered and protected when discovered. No further investigation should normally be permitted and DAT-PS and the local Coroner must be informed immediately. After discussion, it may be appropriate to take bone samples for C14 dating. If removal is essential it can only take place under the appropriate Ministry of Justice and Environmental Health regulations.

Specialists

In the event of certain finds/features etc. being discovered, the site archaeologist may have to seek specialist opinion for assistance. Such specialists will be accessed either internally within AW itself or from an external source should any such analysis be deemed necessary. A list of specialists is given in the table below. Specialist reports will be added to the finished report as an addendum.

Type	**Name**	**Tel No.**
Flint	Amelia Pannett	02920 899509
Animal bone	Jen Kitch	07739 093712
CBM, heat affected clay, Daub etc.	Rachael Hall	01305 259751
Clay pipe	Hilary Major	01376 329316
Glass	Andy Richmond	01234 888800
Cremated and non-cremated human bone	Malin Holst	01759 368483
Metalwork	Kevin Leahy	01652 658261
Neo/BA pottery	Dr Alex Gibson	Bradford University
IA/Roman pottery	Jane Timby	01453 882851
Post Roman pottery	Mr Paul Blinkhorn	
Charcoal (wood ID)	John Carrot	01388 772167
Waterlogged wood	Nigel Nayling	University of Wales (Lampeter)
Molluscs and pollen	Dr James Rackham	01992 552256
Charred and waterlogged plant remains	Wendy Carruthers	01443 233466
Palaeoenvironmental sampling and analysis	Dr Martin Bates	University of Wales (Lampeter)

7 Method statement for the production of an illustrated report and the deposition of the site archive

Report preparation

The report will contain the following:

• A fully representative description of the information gained from the excavation and watching brief, even if there should be negative evidence. This will also include the information obtained from the archaeological watching brief undertaken on the groundworks associated with the hydro-scheme within Glasffrwd Brook.

• A concise non-technical summary of the project results.

• At least one plan showing the sites location in respect to the local topography, as well as the position of all excavated areas.

• Plans indicating all archaeological features. All plans and sections should be related to Ordnance Datum.

• Written descriptions of all features and deposits excavated and their considered interpretation.

• A summary report on the artefactual and ecofactual assemblage and an assessment of its potential for further study, prepared by suitably qualified individuals or specialists.

• A statement of the local and regional context of the archaeological remains identified.

Copies of the report will be sent to the client, DAT-PS, and for inclusion in the HER. Digital copies will be provided in pdf format if required.

A summary report of the work will be submitted for publication to a national journal (e.g. *Archaeology in Wales*) no later than one year after the completion of the post-excavation work.

The site archive

A project archive will be prepared in accordance with the National Monuments Record (Wales) agreed structure and be deposited within an appropriate local museum on completion of site analysis and report production. It will also conform to the guidelines set out in MoRPHE (English Heritage, 2006).

Arrangements will be made with the local museum before work starts. Wherever the archive is deposited, this information will be relayed to the HER.

Although there may be a period during which client confidentiality will need to be maintained, the report and the archive will be deposited not later than six months after the completion of the work.

Other significant digital data generated by the survey (i.e. AP plots, EDM surveys, CAD drawings, GIS maps, etc.) will be presented as part of the report on a CD/DVD. The format of this presented data will be agreed with the curator in advance of its preparation.

8 Resources and timetable

Standards

All stages of the project will be undertaken by AW staff using current best practice. All work will be undertaken to the standards and guidelines of the IfA.

All work will be undertaken in accordance with the AW technical manual – Procedures for Excavation and Site Recording 2011.

Staff

The project will be undertaken by suitably qualified AW staff. Overall management of the project will be undertaken by Philip Poucher.

The site will be supervised by Andrew Shobbrook. Site assistants are likely to be Hywel Keen and Jerry Bond.

Equipment

The project will use existing Archaeology Wales equipment.

Timetable of archaeological works

The work is provisionally scheduled to start on Thursday 22nd October, although excavation works may be brought forward to Friday 16th October, and is expected to last two to three days.

The site report will follow within three months of completion of the fieldwork.

Insurance

Archaeology Wales is an affiliated member of the CBA, and holds Insurance through the CBA insurance service.

Arbitration

In the event of any dispute arising out of this Agreement (including those considered as such by only one of the parties) either party may forthwith give to the other notice in writing of such a dispute or difference and the same shall be and is hereby referred for decision in accordance with the Rules of the Chartered Institute of Arbitrators' Arbitration scheme for the Institute for Archaeologists applying at the date of this Agreement.

Health and safety

All members of staff will adhere to the requirements of the Health & Safety at Work Act, 1974, and the Health and Safety Policy Statement of Archaeology Wales.

AW will produce a detailed Risk Assessment before any work is undertaken.

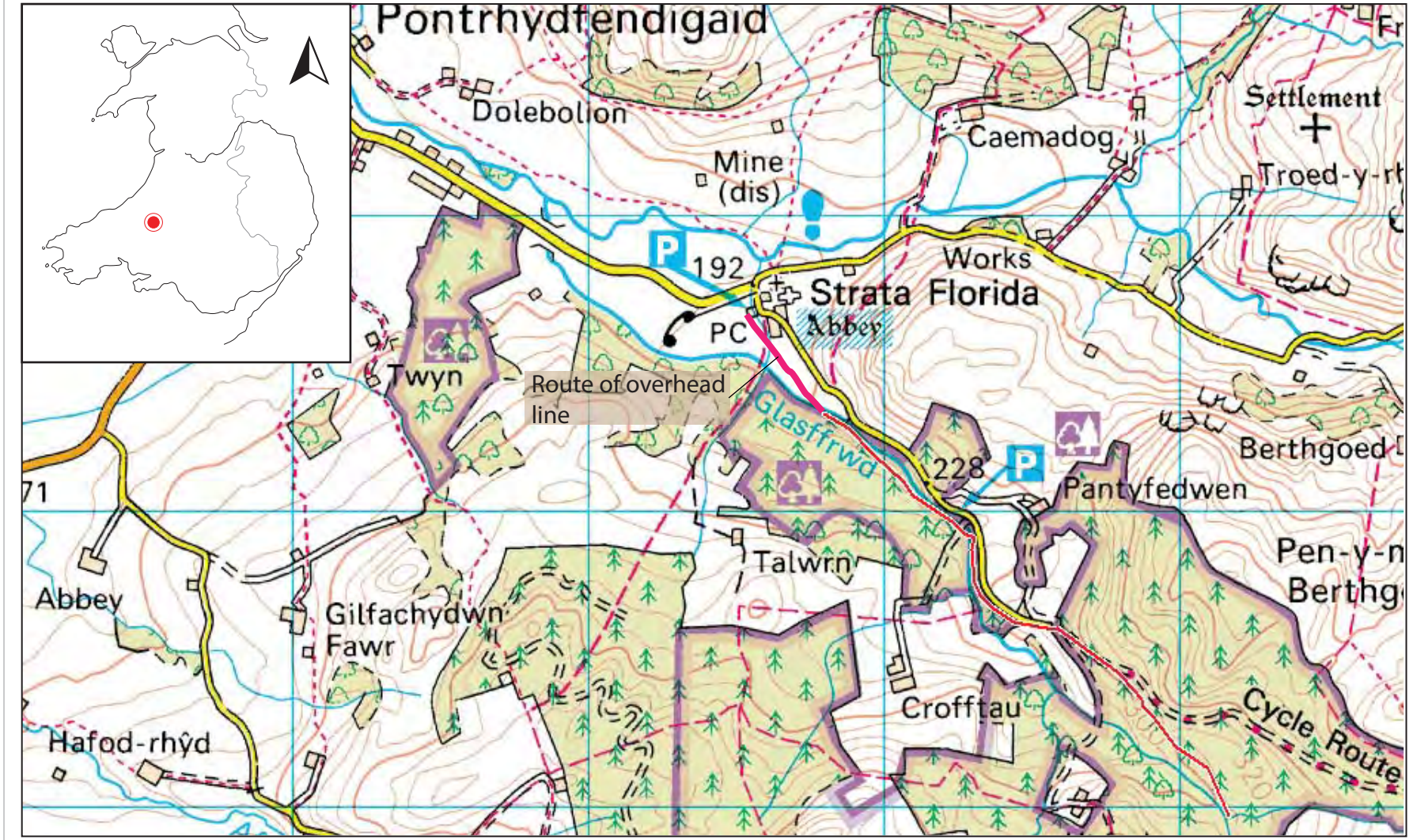

Fig 1: Map showing location of assessment area

PLEASE NOTE: This plan ONLY shows assets owned by Western Power Distribution. Electricity assets owned by IDNO's (Independent Network Operators) MAY be present in this area. Information is given as a guide only and it's accuracy cannot be guaranteed.

COMMUNITY OF YSTRAD FFLUR
CEREDIGION COUNTY COUNCIL

SUBJECT TO ANY REASONABLE DEVIATION AS MAY BE NECESSARY, SUCH DEVIATION NOT TO EXCEED30 METRES EITHER SIDE OF LINE

Work by WPD

At C Erect 11 metre (med) pole pin angle. Install angle stay. Erect 25kva tx . Lay Hv earth. Install lv stay. Erect 1 span 2x50mm ABC from C to J.

At E Erect 11 metre (med) pole Pin angle. Install stay.

At I Erect 11metre (stout) term pole. Erect 9.5metre (stout) lame leg. Install term stay. Erect 315Kva tx. Lay 4c 300w/con Lv cable to plant room. Lay Hv & Lv earth.

At D,F,G & H Erect 11 metre (med) intermediate pole.

A-B-J Dismantle 3 span 11kv 2w 0.017

A, C ,E to I Erect 10spans 11kv 3x25mm cu.

At J Dismantle tx

Work done by consumer

Provide adequate plant/ metre room. All on site cable trench & back fill.

Figure 2: Development Plans

REV.	DATE	SCHEME PROGRESS BLOCK	DRN	CHK'D
.	14/4/15	Scheme Drawing	JME	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
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WESTERN POWER DISTRIBUTION
Serving the Midlands, South West and Wales

TITLE
- Abbey Farm
- Pontrhydfendigaid
- Ystrad Meurig

UNDERGROUND CABLES: 132KV, 33KV, 11KV, L.V., SERVICE, STREET LTG., HV EARTH, LV EARTH, EARTH ELECTRODE
SERVICES CABLE SIZES AS SHOWN

OVERHEAD LINES: 132KV, 33KV, 11KV, L.V., SERVICE, STREET LTG.
PYLON, POLE, STAY

DUCT & ALKATHENE TUBE
HOUSE METER POSITIONS - EXTERNAL, INTERNAL
SURF TELECOMS S—S
PILOT CABLES P—P
PROPOSALS, ALTERATIONS, DISMANTLED
TRAFFIC SENSITIVE AREA YES/NO

DEVELOPER.
BUILDER.
ARCHITECT Drg. No.
O.S. MAP. SN7465
SCALE 1:2500 @ A3
PARISH. Ystrad Fflur
11kV DIAG.
LV. DIAG.
PLAN No. JME2040983

Enq No. 2040983 | *1 of 1*

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Archaeology Wales

APPENDIX IV:
Archive Cover Sheet

ARCHIVE COVER SHEET

Glasffrwd Hydro Scheme, Strata Florida, Ceredigion

Site Name:	Glasffrwd Hydro Scheme
Site Code:	SFH/15/WB & SFH/15/EV
PRN:	-
NPRN:	-
SAM:	-
Other Ref No:	-
NGR:	NGR SN 76176 63958 to SN 74787 65333
Site Type:	Varied
Project Type:	Watching Brief & Evaluation
Project Manager:	Philip Poucher
Project Dates:	March - September 2015
Categories Present:	Prehistoric to Modern
Location of Original Archive:	AW
Location of duplicate Archives:	RCAHMW, Aberystwyth
Number of Finds Boxes:	0
Location of Finds:	N/A
Museum Reference:	
Copyright:	AW
Restrictions to access:	None

Archaeology Wales

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