

Archaeological Watching Brief:
Edwards Yard, Llandarcy, Neath Port Talbot

June 2024



Report No. 2295

By
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Prepared for G.D.Harries

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Summary

This report results from a programme of archaeological monitoring and recording undertaken by Archaeology Wales Ltd (henceforth – AW) at the request of Archaeological Planning Heneb Glamorgan Gwent Archaeology (APHGGA), advisors to the local planning authority, Neath Port Talbot County Borough Council (henceforth – NPT-CBC). APHGGA requested that an archaeological watching brief be undertaken during all groundworks required for the development, as specified in an approved written scheme of investigation.

The watching brief recorded in situ structural remains, potentially relating to the former copper works, in several areas of the site. While the remains have been heavily truncated in some areas, deposits and structural elements survive in others at a very shallow depth.

While the current development has impacted these remains, the majority of the sub-surface deposits remain unaffected by the groundworks. The potential for further archaeological features surviving in other parts of the site remains high.

All work was undertaken in accordance with the standards and guidelines of the Chartered Institute for Archaeologists (CIfA 2023).

Crynodeb Annechnegol

Mae'r adroddiad yn ganlyniad i raglen o fonitro a chofnodi archeolegol a gynhaliwyd gan Archaeology Wales Cyf (a elwir yn AW o hyn ymlaen) ar gais Cynllunio Archeolegol Heneb Ymddiriedolaeth Archeolegol Morgannwg Gwent (APHGGA), sy'n gynghorwyr i'r awdurdod cynllunio lleol, Cyngor Bwrdeistref Sirol Castell Nedd Port Talbot (a elwir yn NPT-CBC o hyn ymlaen). Gwnaeth APHGGA gais i friff gwylio archeolegol gael ei gynnal yn ystod y gwaith tir sy'n ofynnol ar gyfer y datblygiad, fel y nodwyd mewn cynllun ymchwilio ysgrifenedig.

Cofnododd y briff gwylio weddillion strwythurol, sydd o bosibl yn gysylltiedig â'r gweithfeydd copr blaenorol, sydd mewn sawl man ar y safle. Er bod y gweddillion wedi'u tocio'n fawr mewn rhai mannau, mae gwaddodion ac elfennau strwythurol mewn mannau eraill wedi goroesi ar ddyfnder bas iawn.

Er bod y datblygiad presennol wedi effeithio ar y gweddillion hyn, mae mwyafrif y gwaddodion sydd islaw'r wyneb yn parhau heb eu heffeithio gan y gwaith tir. Mae posibilrwydd mawr o hyd bod rhagor o nodweddion archeolegol wedi goroesi mewn rhannau eraill o'r safle.

Gwnaed yr holl waith yn unol â safonau a chanllawiau Sefydliad Siartredig yr Archeolegwyr (CIfA 2023).

1. Introduction

- 1.1.1. Archaeology Wales (henceforth – AW) was commissioned by G D Harries and Sons Ltd (henceforth – ‘the client’) to carry out a watching brief in relation to the construction of an Asphalt Plant with aggregates storage area, weighbridge, offices, and ancillary infrastructure works at Edwards Yard (henceforth “the site”) (Neath Port Talbot County Borough Council (planning application P2021/1019). The site is located at Edwards Yard, Llandarcy, Neath Port Talbot, SA10 6JY (NGR SS 72594 94993).
- 1.1.2. The Local Planning Authority (Neath Port Talbot County Borough Council) placed the following Condition (9) on the application (P2021/1019) which stated:

“No development shall take place until the applicant, or their agents or successors in title, has secured agreement for a written scheme of historic environment mitigation which has been submitted by the developer/ applicant and approved in writing by the Local Planning Authority. Thereafter, the programme of work must be fully carried out in accordance with the requirements and standards of the written scheme.
- 1.1.3. A written scheme of investigation was produced by Archaeology Wales (Appendix II), and subsequently approved by APHGGA, which outlined the requirements of the archaeological watching brief.
- 1.1.4. The watching brief took place between July and November of 2023. The project was managed by Charley James-Martin (MCIfA) and the site work was undertaken by Charley James Martin, Dan Moore and Paul Huckfield. All work was undertaken to the standards and guidance set by the Chartered Institute for Archaeologists; Standard and Universal guidance for archaeological monitoring and recording (2023 a and b). AW is a Registered Organisation with the CIfA.

2. Site Description

- 2.1.1. The development comprises the construction of an Asphalt Plant together with aggregates storage area, weighbridge, offices, and ancillary infrastructure works. Edwards Yard, Llandarcy, Neath Port Talbot, SA10 6JY (NGR SS 72594 94993) (Figures 1 and 2). The development site is located less than 1km south of the village Llandarcy and less than 100m West of the M4 Motorway. The development site is bounded on all sides by Edwards Works Business Park, a small industrial estate. The site is located to the east of Tennant Canal and to the west of the river Neath.
- 2.1.2. The solid geology of the proposed development area comprises rocks of the Rhondda Member – sandstone. Sedimentary bedrock formed between 315.2 and 308 million years ago during the Carboniferous period. This is overlain by Tidal Flat Deposits: Superficial Deposits comprised of clay, silt, and sand, formed between 11.8 thousand years ago and the present day. (BGS, 2023).

3. Archaeological & Historical Background

- 3.1.1. The development site is located upon two major former industrial sites. The Briton Ferry Works is noted on the First Edition Ordnance Survey map of 1884 with the Red Jacket Pill copper works just to the south. Briton Ferry Works is noted on the HER as being built in 1853 and closed in 1926.
- 3.1.2. By the Second Edition OS map of 1897 the industrial complex had expanded to the north occupying the entire southwestern half of the current industrial estate. It is named as the Briton Ferry Chemical Works and Cape Copper Works. The Red Jacket Pill Copper Works was disused by this time.
- 3.1.3. The Red Jacket Pill was a canal measuring one mile long and located to the immediate south of the development area. The canal fell into disuse in the

early 1920's. Its purpose was to allow copper ore to be transported directly from the river Neath to the two Copper works.

- 3.1.4. Two listed buildings are located south of the development area, both relating to the Copper Works. The first is Grade II listed river lock and it's attached bridges (LB23074) used for managing vessels transporting back and forth from the copper works. The second is a Weir located on the east side of the canal (LB23077), used for carrying off excess water.
- 3.1.5. The development is located less than 1km east of two scheduled monuments Llandarcy Round Cairn (GM291) and Gelli Bwch Round Cairn (GM290). To the east of the development site lies the site of the Neolithic Cambered Tomb Giants Grave (prn 00639w) which appears to have been destroyed during the construction of a canal.

4. Methodology

- 4.1.1. The watching brief was carried out by a suitably qualified archaeologist on groundworks where sub-surface deposits were likely to be exposed or cut into. The excavation was undertaken by a mechanical excavator.
- 4.1.2. All deposits were recorded by means of a continuous context numbering system and recorded on pro-forma context sheets. An inventory of the context, their descriptions and relationships can be found in Appendix I.
- 4.1.3. Sections and plans of the excavation were photographed using a 12MP digital camera.

5. Results (Figures 2-4)

5.1. Trench 1 (Plates 1 & 2)

5.1.1. Trench 1 was located north-west of the main building. It comprised four trenches that radiated outwards, from a single point, towards the north and west. The trenches measured between 3.5m and 14m in length, 0.85m and 1.4m in width and 1.1m to 1.35m in depth. The basal deposit (106) was exposed in the base of the trench but not excavated. It comprised a dark brown, black made ground containing slag and stone. This was overlain by (104), a mid-brown-yellow deposit containing frequent slag measuring up to 0.7m thick at the southern end of the trench but thinning out to nothing at the northern end. It is interpreted as a smelting waste deposit which was overlain by (105), a dark brown-black sandy silt containing large fragments of slag and sub-angular stone measuring 0.2m thick. Deposit (105) was overlain by (102), a thick deposit of brown-grey silt extending across the entire trench where it was up to 1.05m in thickness but thinning out towards the southern end of the trench. Deposit (102) was directly overlain by (103), a mid-red brown deposit of silt and chippings measuring 0.1m thick and extending across the entire trench. Above (103) was a grey aggregate layer (101) which measured 0.1m thick and was overlain by the uppermost tarmac surface layer (100) which measured 0.2m thick (Plates 1 and 2).

5.2. Trench 2 (Figure 3; Plate 3)

5.2.1. Trench 2 was located north-west of the main building, close to the site's western boundary, and measured 2.3m in length (narrowing to 0.5m at base), 1.5m in width and was excavated to a maximum depth of 1.4m.

5.2.2. Within Trench 2 deposits of modern made ground were recorded comprising a basal deposit (203) of moderately firm mid brownish-grey silt containing moderately frequent subangular stone inclusions. It measured 0.15m thick as

excavated but continued below the base of the trench. This was overlain by deposit (202), a moderately firm mid greyish-brown silt measuring 0.15m in thickness and containing stone and brick inclusions. Deposit (202) was overlain by a layer of concrete (201) that measured 0.8m thick. This was overlain by the surface deposit (200) which comprised a moderately loose mid brownish-grey concrete dust with a very high frequency of angular and subangular stone inclusions measuring 0.3m thick (Plate 3).

5.3. Trench 3 (Figure 3; Plate 4)

- 5.3.1. Trench 3 was located south-east of the south-western corner of the main building, close to the site's southern boundary, and measured 5m in length (narrowing to 1.5m at base), 1.5m in width and excavated to a maximum depth of 3m.
- 5.3.2. Trench 3 contained several earlier industrial deposits capped by more recent aggregate and concrete layers (Plate 4).
- 5.3.3. Basal Deposit (308) comprised a moderately firm mid brownish orange silty sand containing moderately frequent slag. It measured 1.2m thick as excavated but continued below the base of the trench. It was overlain by deposit (307) which comprised a moderately compact dark brownish-grey silt containing patches of green material of unidentified composition. The deposit also contained infrequent inclusions of slag. It measured 0.3m thick and was overlain by deposit (306) which comprised a compact mid reddish-brown sand measuring 0.1m thick and overlain by deposit (305).
- 5.3.4. Deposit (305) comprised a compact mid to dark brownish-grey layer interpreted as concrete. The deposit potentially represents a former floor surface and measured 0.03m thick. It was overlain by modern hardcore/concrete material (304) measuring 0.4m thick and comprising concrete dust and concrete fragments. This was overlain by concrete layer

(303) measuring 0.2m thick and containing inclusions of frequent subangular stones. This was overlain by a 0.4m thick compact mid greyish-brown silt (302) containing inclusions of frequent subangular stones. This was overlain by a compact sand (301) measuring 0.2m thick and containing a very high frequency of concrete fragments. The surface deposit comprised asphalt with chippings (300) measuring 0.2m thick.

5.4. Trench 4 (Figure 4; Plates 4-8)

- 5.4.1. Trench 4 was a large, stripped area north of the main building, also covering the area of former Trench 1. The trench was roughly rectangular in plan, measuring 33m in length (N-S), 15m in width (E-W), and, with a gradual slope, 0.15m in depth at its southern end and 0.5m at its northern end.
- 5.4.2. At the base of Trench 4 two brick structures were recorded, the full extents were not seen as they continued below the formation level. The first structure [404] consisted of a solid red brick wall located in the north-eastern part of the trench on a north-north-east to south-south-west orientation (Plate 5). The southern end of the wall continued beyond the east facing section of the trench. The wall comprised four visible courses of red bricks bonded with cement mortar. It was encountered at a depth of 0.2m below ground level and measured more than 9m in length x 0.35m in width, and more than 0.4m in depth as exposed within the trench. The northern end of the wall was covered in a flat layer of concrete that also continued into the east facing section. Structure [404] was also overlain by deposit (406).
- 5.4.3. The second structure [402] was also constructed largely in brick and was located in the north-western part of Trench 4 (Plates 6 and 7). It comprised several structural elements, including a solid yellow and orange brick wall on a roughly north to south orientation. The northern end of this wall abutted a line of closely packed stones, on an east to west orientation. The stones

appeared to be faced on the south side and comprised three visible courses. The upper most course formed a flat surface, flush with the top level of bricks. The southern end of the wall was abutted along its eastern face by two roughly east to west orientated walls constructed from perforated bricks (Plate 8). The walls had three courses and sat on either side of a small brick surface. The structure was overlaid by deposit (403).

- 5.4.4. Deposit (403) comprised a moderately compact mid brownish-orange brick dust containing a very high frequency of broken orange bricks. The deposit was located between the worked stones and most northern perforated brick wall and may be associated with the demolition of structure [402]. The deposit measured 1.3m in length (N-S), 0.5m in width and more than 0.1m thick. (403) was overlaid by deposit (406).
- 5.4.5. Deposit (406) comprised a moderately loose mid blackish-grey sandy, silty, coal dust containing frequent subangular stone inclusions, measuring between 0.01m and 0.2m in diameter. The deposit also contained frequent CBM, in the form of broken red bricks, worked stone blocks and slag, throughout. The deposit extended across the base of the trench and measured 0.3m thick as excavated. Deposit (406) was overlain by deposit (405).
- 5.4.6. Deposit (405) comprised a moderately firm light yellowish-brown sandy silt containing chippings. It extended across the entirety of the trench and measured 0.1m thick. Deposit (405) was overlain by a deposit of firm dark blackish-grey silt (401) containing chippings and which measured 0.1m in thickness. Overlying this was the uppermost tarmac level (400).

5.5. Trench 5 (Figure 3; Plates 9-10)

- 5.5.1. Trench 5 extended north northwest-south southeast along the western part of the site parallel with the site boundary and west of the main building. Several smaller branches extended off the main trench with a total length of trenching

of approximately 130m. The trenches measured approximately 1m wide and were excavated to a maximum depth of approximately 1.8m.

5.5.2. The basal deposit in Trench 5 comprised a moderately compact mid to dark greyish-brown silt (505) containing infrequent broken red bricks. It extended beyond the limit of excavation and measured more than 0.3m in thickness (Plate 9). This layer was overlain by deposit (504), a moderately compact dark brownish-grey silt containing chippings. It measured the full length of the trench, 1m in width and was 0.2m thick. (504) was in turn overlain by modern surface deposits: aggregate (503), concrete layer (502), aggregate (501) and tarmac (500).

5.5.3. In the east facing section of the trench, to the south-west of the main building, brick structure [506] was recorded. The structure comprised a north to south oriented red brick wall with a return at its southern end that extended eastwards, beyond the limit of excavation (Plate 10). The walls had five visible courses, with concrete mortar bonding. The structure measured more than 1.4m in length. Its relationship to the other deposits within the trench is unclear however it could be seen to be overlain by deposit (502).

6. Finds

6.1.1. No archaeological artefacts were recovered or retained during the course of the watching brief.

7. Conclusion

- 7.1.1. Archaeology Wales conducted a watching brief in relation to the construction of an Asphalt Plant at Edwards Yard, Llandarcy between July and November 2023.
- 7.1.2. The watching brief noted in situ structural remains. Given their location and orientation these have been interpreted as relating to the former Chemical Works as shown on Figure 5. While the structures have been heavily truncated, the watching brief has revealed that intact sub-surface archaeological deposits and structural elements survive in places at a very shallow depth.
- 7.1.3. While the current development groundworks encountered and impacted on these remains. It is considered that, due to the restricted nature of the foundations, a significant proportion of the underlying archaeological deposits remain unaffected by the works. This suggests that the potential for further sub-surface archaeological deposits and structures being present in other areas of the site remains high.

8. Sources

General

Archaeology Wales, 2023. Written scheme of investigation for an archaeological watching brief At Edwards Yard, Llandarcy, Neath Port Talbot

Chartered Institute for Archaeologists, 2023a. Standard for archaeological monitoring and recording

Chartered Institute for Archaeologists, 2023b. Universal Guidance for archaeological monitoring and recording

Maps consulted

First edition Ordnance Survey map of Glamorgan XXIV.NE 1884 1:2500

Second edition Ordnance Survey map 1897 1:2500

Websites

<https://www.bgs.ac.uk/> (accessed 12/06/2024)

https://www.gracesguide.co.uk/Main_Page (accessed 12/06/2024)

Figures

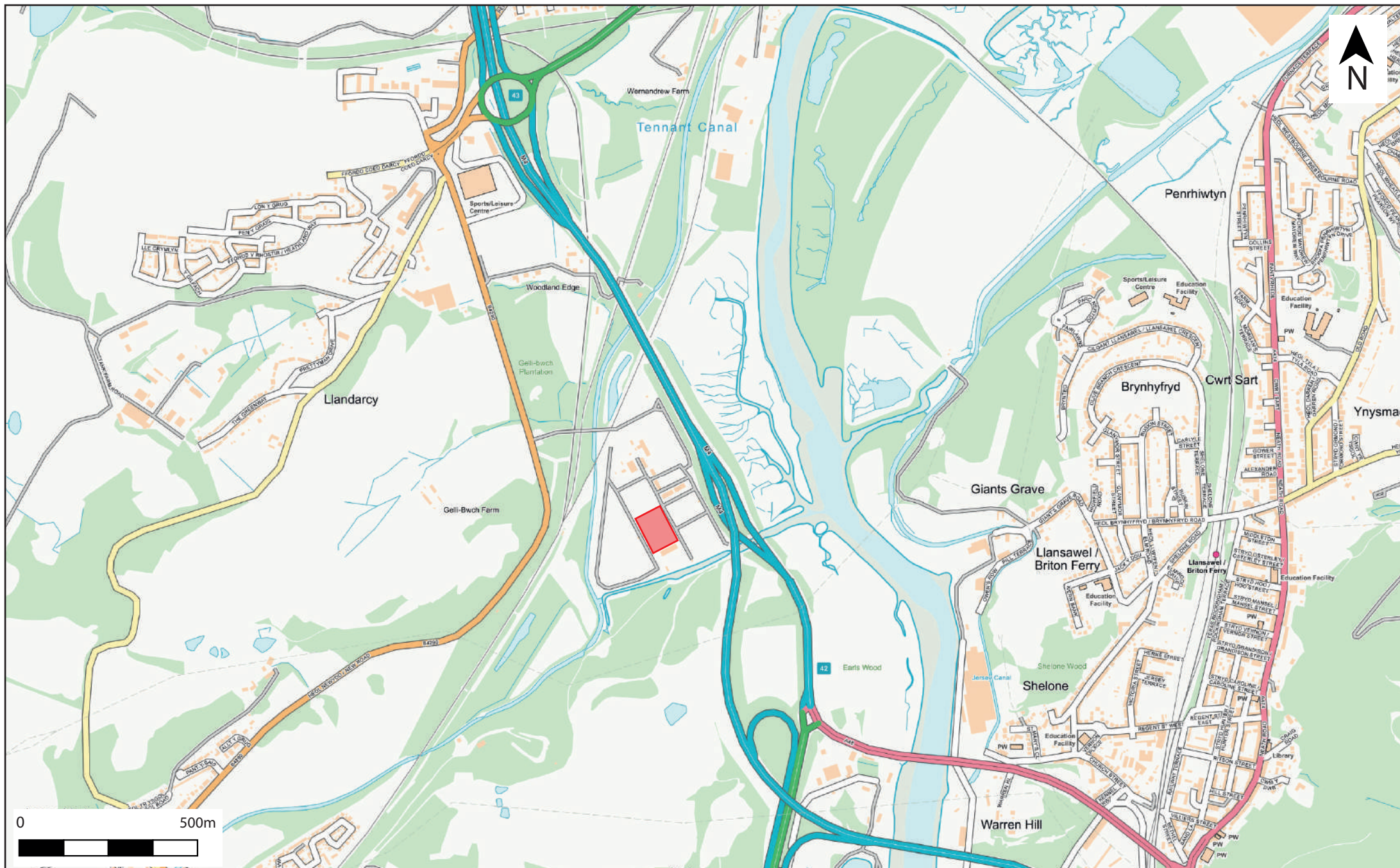


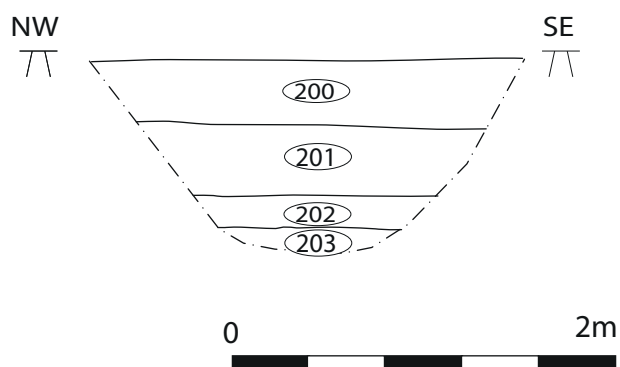
Figure 1. Location of site (red)



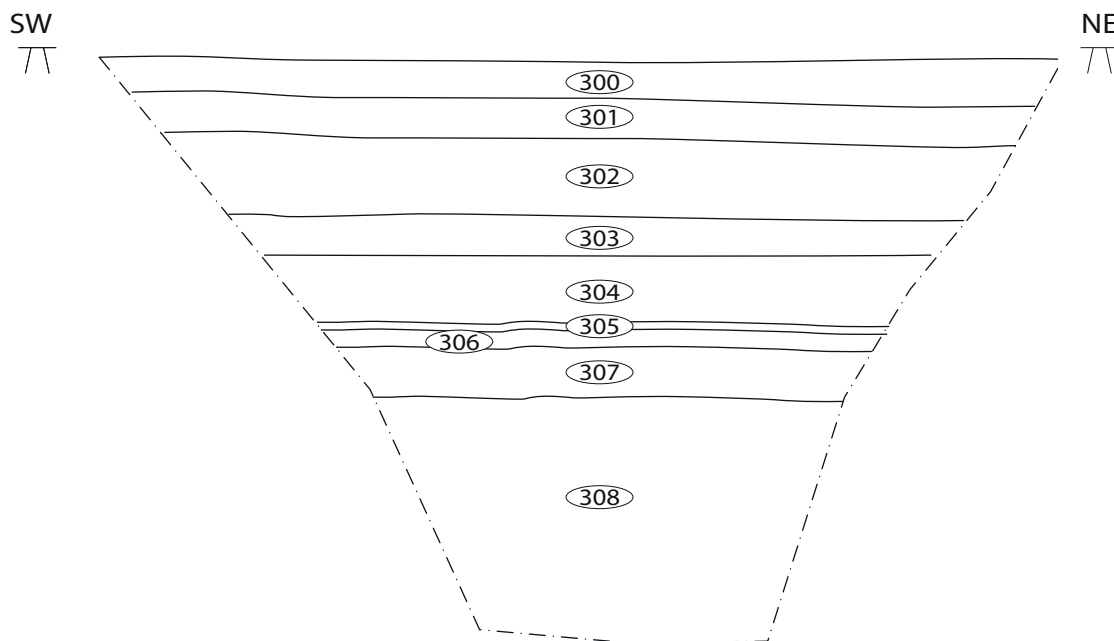
Figure 2. Plan of trenches and location of features



SW Facing section of Trench 2



SE Facing section of Trench 3



W Facing section of Structure [506]

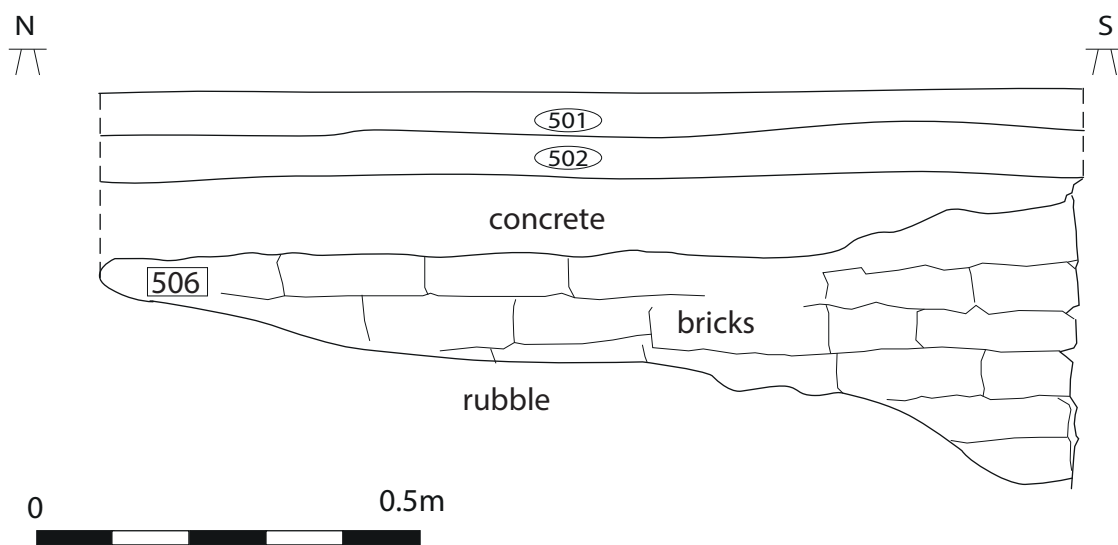
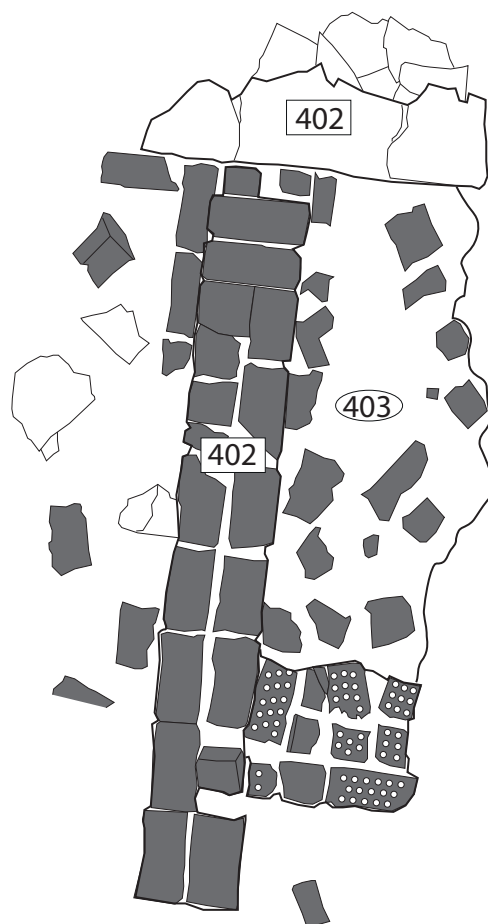


Figure 3. Representative Trench Sections



Plan of Structure [402], Trench 4,
(406) removed.



Key:

Brick

Stone

Figure 4. Plan of Structure [402]



0

1m

ARCHAEOLOGY WALES

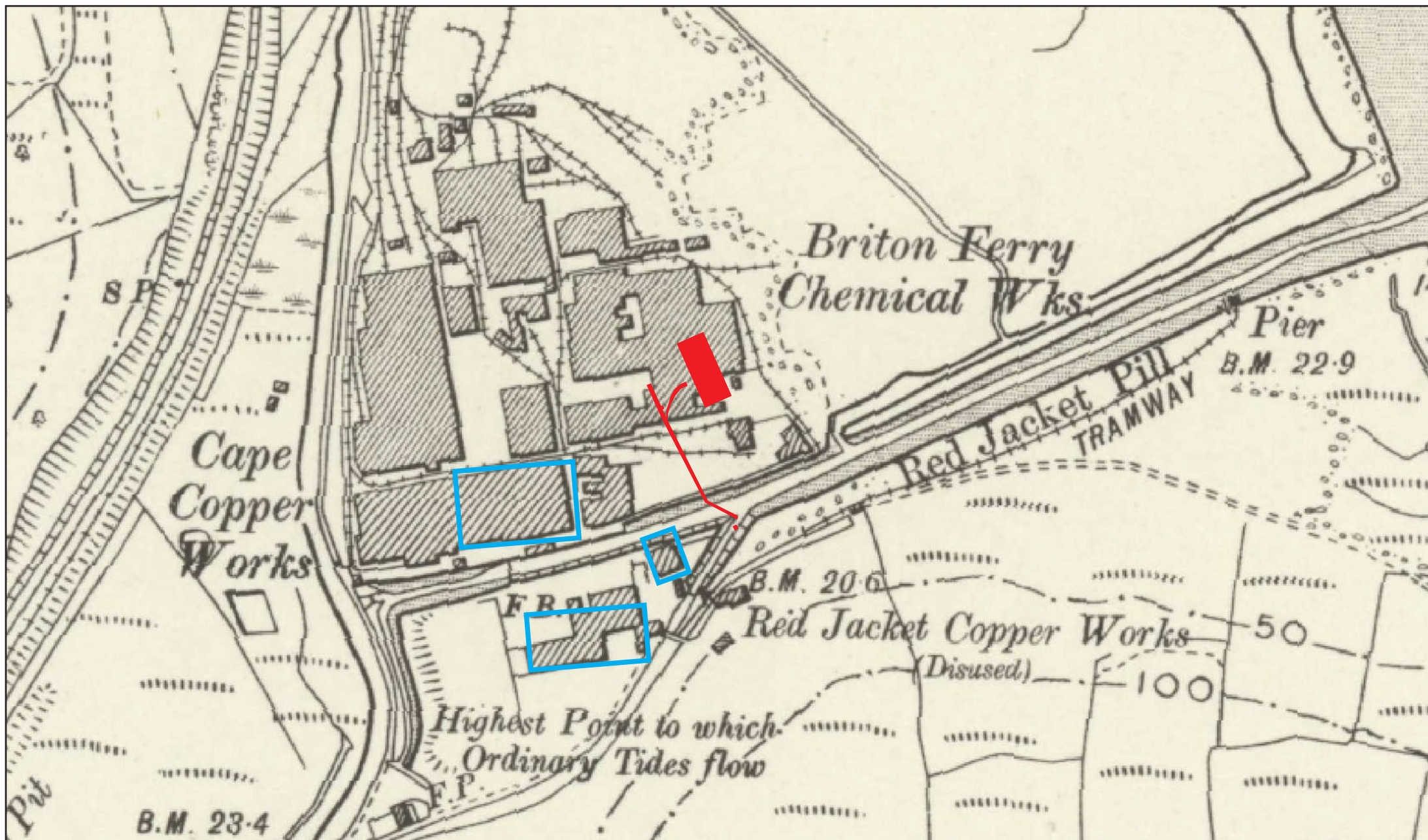
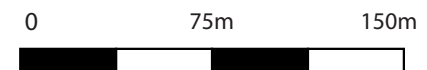


Figure 5. Second Edition OS Map of 1900

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- Trench location
- Extent of Briton Ferry Works and Red Jacket Works on 1884 OS Map



Plates



Plate 1. Section of Trench 1, view to the east. Scale 1m.



Plate 2. Section of Trench 1, view to the south-west. Scale 1m.



Plate 3. Trench 2, view to the north-east. Scale 1m.



Plate 4. Trench 3, view to the north-west. Scale 1m.



Plate 5. Structure (404), view to the south-west. Scale 1m.



Plate 6. Structure (402), view to the west. Scale 1m.



Plate 7. Structure (402), view to the south. Scale 1m.



Plate 8. Structure (402), view to the north-west. Scale 1m.



Plate 9. West facing section of Trench 5, view to the east. Scale 1m.



Plate 10. Brick structure (506), view to the north east. Scale 1m.

Appendix I – Context Inventory

Context No	Type	Description	Relationship	Max Dimensions as excavated (L x W x D)
Trench 1				
100	Deposit	Tarmac	Overlies (101)	13m x 5.4m x 0.2m
101	Deposit	Grey aggregate	Underlies (100) Overlies (103)	13m x 5.4m x 0.1m
102	Deposit	Brown-grey sandy silt	Underlies (103) Overlies (105)	13m x 5.4m x 1.05m
103	Deposit	Mid red brown silt and chippings	Underlies (101) Overlies (102)	13m x 5.4m x 0.1m
104	Deposit	Mid brown yellow with frequent slag	Underlies (105) Overlies (106)	7m x 5.4m x 0.7m
105	Deposit	Dark brown black sandy silt with large pieces of slag and sub angular stone	Underlies (102) Overlies (104)	13m x 5.4m x 0.2m
106	Deposit	Dark brown grey containing stone and slag	Underlies 104	Not excavated
Trench 2				
200	Deposit	Concrete dust and stones	Overlies (201)	2.3m x 1.5m x 0.3m
201	Deposit	Concrete layer	Underlies (200) Overlies (202)	2.3m x 1.5m x 0.8m
202	Deposit	Mid greyish-brown silt with stone and brick inclusions	Underlies 201) Overlies (203)	0.5m x 1.5m x 0.15m
203	Deposit	firm mid brownish-grey silt with moderately frequent subangular stone	Underlies (202)	0.5m x 1.5m x 0.15m+
Trench 3				
300	Deposit	Tarmac	Overlies (301)	5m x 1.5m x 0.2m
301	Deposit	Compact sand with a very high frequency of broken concrete	Underlies (300) Overlies (302)	5m x 1.5m x 0.2m
302	Deposit	A compact mid greyish-brown silt with inclusions of frequent subangular stones	Underlies (301) Overlies (303)	5m x 1.5m x 0.4m
303	Deposit	Concrete	Underlies (302) Overlies (304)	5m x 1.5m x 0.2m
304	Deposit	Concrete dust and broken concrete	Underlies (303) Overlies (302)	5m x 1.5m x 0.4m
305	Deposit	Compact mid to dark brownish-grey layer, likely concrete	Underlies (304) Overlies (306)	1.5m x 1.5m x 0.03m
306	Deposit	A compact mid reddish-brown sand	Underlies (305) Overlies (307)	1.5m x 1.5m x 0.1
307	Deposit	A moderately compact dark brownish-grey silt with patches of green of unidentified composition	Underlies (306) Overlies (308)	1.5m x 1.5m x 0.3m

Context No	Type	Description	Relationship	Max Dimensions as excavated (L x W x D)
308	Deposit	A moderately firm mid brownish orange silty sand with moderately frequent slag	Underlies (307)	1.5m x 1.5m x 1.2m+
Trench 4				
400	Deposit	Tarmac	Overlies (401)	33 x 15m x 0.2m
401	Deposit	Dark blackish-grey silt with chippings	Underlies (400) Overlies (405)	33 x 15m x 0.1m
402	Structure	Brick structure measuring 1.2m in width and 2.2m in length with stone slabs at its northern end. Heavily truncated	Underlies (403)	3.2m x 1.2m x 0.4m
403	Deposit	A moderately compact mid brownish-orange brick dust with a very high frequency of broken orange bricks	Underlies (406) Overlies (402)	1.3m x 0.5m x 0.1m
404	Structure	Red brick wall measuring 9m in length by 0.35m in width	Underlies (406)	9m x 0.35m x 0.4m
405	Deposit	A moderately firm light yellowish-brown sandy silt with chippings	Underlies (401) Overlies (406)	33m x 15m x 0.1m
406	Deposit	A moderately loose mid blackish-grey sandy, silty, coal dust with frequent subangular stone inclusions	Underlies (405) Overlies (403) and (404)	33m x 15m x 0.3m
Trench 5				
500	Deposit	Tarmac	Overlies (501)	130m x m1 x 0.1m
501	Deposit	Sand and chippings	Underlies (500) Overlies (502)	130m x 1m x 0.1m
502	Deposit	Concrete	Underlies (501) Overlies (503)	98m x 1m x 0.12m
503	Deposit	Chippings with sand	Underlies (502) Overlies (504)	100m x 1m x 1m
504	Deposit	A moderately compact dark brownish-grey silt with chippings	Underlies (503) Overlies (505)	130m x 1m x 0.2m
505	Deposit	Mid to dark greyish-brown silt with infrequent broken red bricks	Underlies (504)	130m x 1m x 0.3m
506	Structure	Red brick wall along the edge of the trench. At least five courses visible, measured 1.4m in length and 0.2m in width	Underlies (502)	1.4m x 0.2m x 0.4m

Appendix I: Written Scheme of Investigation

**WRITTEN SCHEME OF INVESTIGATION
FOR AN ARCHAEOLOGICAL
WATCHING BRIEF AT
Edwards Yard, Llandarcy, Neath Port Talbot**

**Prepared for:
G D Harries and Sons Ltd**

Project No: 3075

Planning No: P2021/1019

March 2023



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1. Introduction and Planning Background

- 1.1.1. This Written Scheme of Investigation (WSI) details a program of archaeological mitigation to be undertaken by Archaeology Wales Ltd (henceforth – AW) at the request of G D Harries and Sons Ltd (henceforth – ‘the client’).
- 1.1.2. The proposed work consists of the Construction of a proposed Asphalt Plant together with aggregates storage area, weighbridge, offices, and ancillary infrastructure works (planning application P2021/1019). Glamorgan-Gwent Archaeological Trust-Archaeological Planning Management (GGAT-APM) has recommended, in its capacity as archaeological advisor, that a watching brief be carried out during the groundworks required for the development. The proposed works will be at Edwards Yard, Llandarcy, Neath Port Talbot, SA10 6JY (NGR SS 72594 94993).
- 1.1.3. The Local Planning Authority (Neath Port Talbot County Borough Council) have placed the following Condition (9) on the application (P2021/1019) which stated:
- “No development shall take place until the applicant, or their agents or successors in title, has secured agreement for a written scheme of historic environment mitigation which has been submitted by the developer/ applicant and approved in writing by the Local Planning Authority. Thereafter, the programme of work must be fully carried out in accordance with the requirements and standards of the written scheme.*
- Reason:*
- To identify and record any features of archaeological interest discovered during the works, in order to mitigate the impact of the works on the archaeological resource as required by Planning Policy Wales and Policy SP21 of the Neath Port Talbot Local Development Plan.”*
- 1.1.4. The purpose of the archaeological mitigation is to provide GGAT-APM with sufficient information regarding the nature of archaeological remains on the site of the development. The work is to ensure that all archaeological and historical components of the site are fully investigated and recorded if they are to be revealed as a result of activities associated with the development. This Specification has been prepared by Menna Griffiths (Assistant Supervisor, AW).
- 1.1.5. All work will be undertaken to the standards and guidance set by the Chartered Institute for Archaeologists; *Standard and guidance for an archaeological watching brief* (2020 update). AW is a Registered Organisation with the CIfA.

2. Site Description

- 2.1.1. The site is located in the less than 1km south of Llandarcy and less than 100m west of the M4 motorway. The site is bounded on all sides by an industrial estate. The underlying geology of the site is Brithdir Member. This is a Sedimentary Sandstone Bedrock that formed approximately 309.5 and 308 million years ago during the Carboniferous Period. The superficial deposits in this area are Tidal Flat Deposits, Devensian – clay, silt and sand formed between 11.8 thousand years ago and the present during the Quarternary period (BGS 2023).

3. Historical and Archaeological Background

- 3.1.1. According to the local Historic Environment Record (HER) the site is located on the site of two copper work sites. The Briton Ferry Works is noted on the First Edition Ordnance Survey map of 1884 with the Red Jacket copper works just to the south. Briton Ferry Works is noted on the HER as being built in 1853 and closed in 1926.
- 3.1.2. By the Second Edition OS map of 1900 the industrial complex has expanded to the north occupying the entire south western half of the current industrial estate. It is noted as now being the Briton Ferry Chemical Works and Cape Copper Works, and the Red Jacket Copper Works is now disused.
- 3.1.3. Two listed buildings relating to the Red Jacket copper works lay south of the development site, these being the Weir on the east side of the Tennant Canal at Red Jacket Pill (LB23077) and the River lock and attached bridges at Red Jacket Pill (LB23074).
- 3.1.4. The development is located less than 1km east of scheduled two ancient monuments Llandarcy Round Cairn (GM291) and Gelli Bwch Round Cairn (GM290). To the east of the development site lies the site of the Neolithic Cambered Tomb Giants Grave (prn 00639w) which was likely destroyed during the construction of a canal.

4. Objectives

- 4.1.1. This WSI sets out a program of works to ensure that the watching brief will meet the standard required by The Chartered Institute for Archaeologists' *Standard and guidance for archaeological watching briefs* (update 2020).
- 4.1.2. The objective of the watching brief will be:
- to allow the 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.

- 4.1.3. A written report will be compiled following the fieldwork. Sufficient desk-top research will be undertaken to ensure that the results of this work are properly understood, interpreted, and reported.
- 4.1.4. The report will include a comprehensive assessment of the historic context within which the archaeological evidence rests and will aim to highlight any relevant research issues within regional, national and, if relevant, international research frameworks.

5. Timetable of works

5.1. Fieldwork

- 5.1.1. The watching brief will be undertaken during ground works associated with the proposed development. AW will update GGAT-APM with the exact date.

5.2. Report delivery

- 5.2.1. The report will be submitted to the client and to GGAT-APM within three months of the completion of the fieldwork. A copy of the report will also be sent to the regional HER.

6. Fieldwork

6.1. Detail

- 6.1.1. The work will be undertaken to meet the standard required by The Chartered Institute for Archaeologist's *Standard and guidance for watching briefs* (update 2020).
- 6.1.2. The watching brief should be undertaken using a tracked 360 degree excavated equipped with a flat-bladed bucket and will be monitored by a suitably qualified archaeologist.
- 6.1.3. The site archaeologist undertaking the watching brief will be afforded the required access by the main contractor in order to observe and where necessary to record any archaeological remains revealed. Groundwork will not be undertaken without the presence of the site archaeologist. The site archaeologist will record finds and less significant archaeological deposits and features without significant delay to the work program.
- 6.1.4. Where significant or complex archaeological deposits or features are encountered there will be a requirement for those areas to be fenced off and highlighted to all contractors employed on the site. Machines or contractors shall not enter this area until archaeological recording has been completed. If significant archaeological features are

revealed during the work a meeting between the client, GGAT-APM and AW will be called at the earliest convenience.

- 6.1.5. If significant archaeological features are encountered contingency arrangements will be made. Contingency costs will be agreed in advance before any extension to the program commences and will follow a site meeting between Archaeology Wales, the client (or their representatives) and GGAT-APM.

6.2. Recording

- 6.2.1. Recording will be carried out using AW recording systems (pro-forma context sheets, etc.) using a continuous number sequence for all contexts.
- 6.2.2. 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.
- 6.2.3. All features identified will be tied into the OS survey grid and fixed to local topographical boundaries.
- 6.2.4. Photographs will be taken in digital format with an appropriate scale, using a 12MP camera with photographs stored in Tiff format.

6.3. Finds

- 6.3.1. The professional standards set in the Chartered Institute for Archaeologists' standards and guidance for the collection, documentation, conservation, and research of archaeological (2020) will form the basis of finds collection, processing, and recording.
- 6.3.2. Finds will be carefully excavated by hand. The excavation of fragile or particularly significant finds will be undertaken in consultation with an appropriate archaeological conservator. Finds will be bagged by archaeological context, the location of special finds and flint working deposits will be recorded three dimensionally.
- 6.3.3. In most cases all finds will be recovered from site, quantified and assessed by specialist. Finds retention and discard policies will be drawn up in conjunction with specialist advice and the requirements of the receiving archive or regional/national guidelines (NPAAW 2019) in conjunction with the ClfA Selection Strategy Tool Kit (ClfA 2019). If large quantities of material are identified, an onsite discard policy may be implemented under the guidance of relevant finds specialists and the local authority archaeologists.
- 6.3.4. Retained finds will be suitably bagged, boxed and marked. Following cataloguing and initial analysis finds of low archaeological significance may be discarded.
- 6.3.5. Finds recovered that are regarded as Treasure under The Treasure Act 1996 will be reported to HM Coroner for the local area.

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

6.4. Environmental Sampling Strategy

- 6.4.1. In areas that have previously been disturbed, environmental sampling is unlikely to be required, unless excavations go beyond the disturbed layers and archaeology is encountered below that level.
- 6.4.2. Features or archaeological deposits that are encountered will be sampled by means of the most appropriate method (bulk, column, etc.) up to 40 litres in size.
- 6.4.3. Where sampling will provide a significant contribution to the understanding of the site AW will draw up a site-specific sampling strategy alongside a specialist environmental archaeologist. All environmental sampling and recording will follow English Heritage's *Guidelines for Environmental Archaeology* (2002).

6.5. Human Remains

- 6.5.1. In the event that human remains are encountered, their nature and extent will be established, and the coroner informed. All human remains will be left in situ and protected during backfilling. Where preservation in situ is not possible the human remains will be fully recorded and removed under conditions that comply with all current legislation and include acquisition of licenses and provision for reburial following all analytical work. Human remains will be excavated in accordance with the Chartered Institute for Archaeologists' *Excavation and Post-Excavation Treatment of Cremated and Inhumed Human Remains: Technical Paper Number 13* (1993), and the Chartered Institute for Archaeologists' *Updated Guidelines to the Standards for Recording Human Remains* (2017).
- 6.5.2. A meeting with the client, GGAT-APM and AW will be called if the human remains uncovered are of such complexity or significance that the contingency arrangement would not be of sufficient scope.

6.6. Specialist Advisers

- 6.6.1. In the event of certain finds, features or sites being discovered, AW will seek specialist opinion and advice. A list of specialists is given in the table below although this list is not exhaustive.

Artefact type	Specialist
Lithics	Dr Julie Birchenall (Freelance)
Animal bone	Andy Simms (Archaeology Wales) Dr Richard Madgwick (Cardiff University)
CBM, heat affected clay, Daub etc.	Dr Siân Thomas (Archaeology Wales) Dr Phil Mills (Freelance) Sandra Garside Neville (Freelance)
Clay pipe	Charley James Martin (Archaeology Wales)
Glass	Rowena Hart (Archaeology Wales)
Cremated and non-cremated human bone	Malin Holst (University of York) Dr Richard Madgwick (Cardiff University)
Metalwork	Dr Rhiannon Philp (Archaeology Wales) Dr Kevin Leahy (PAS/University of Leicester) Quita Mould (Freelance)
Metal work and metallurgical residues	Dr Tim Young (GeoArch)
Neo/BA pottery	Dr Alex Gibson (Bradford University) Dr David Mullin (Freelance)
IA/Roman pottery	Dr Jane Timby (Freelance)
Roman Pottery	Dr Siân Thomas (Archaeology Wales) Dr Peter Webster (Freelance)
Medieval and Post Medieval Pottery	Paul Blinkhorn (Freelance)
Charcoal (wood ID)	Dana Challinor (Freelance)
Waterlogged wood	Professor Nigel Nayling (University of England – Lampeter)
Pollen	Dr Rhiannon Philp (Archaeology Wales)
Charred and waterlogged plant remains	Wendy Carruthers (Freelance) Kath Hunter Dowse (Freelance)

6.7. Specialist Reports

- 6.7.1. Specialist finds and palaeoenvironmental reports will be written by AW specialists, or sub-contracted to external specialists when required.

7. Monitoring

- 7.1.1. GGAT-APM will be contacted approximately five days prior to the commencement of archaeological site works, and subsequently once the work is underway.
- 7.1.2. Any changes to the WSI that AW may wish to make after approval will be communicated to GGAT-APM for approval on behalf of Planning Authority.
- 7.1.3. Representatives of GGAT-APM will be given access to the site so that they may monitor the progress of the watching brief. GGAT-APM will be kept regularly informed about developments, both during the site works and subsequently during post-excavation.

8. Post-fieldwork programme

8.1. The Site Archive

- 8.1.1. An ordered and integrated site archive will be prepared in accordance with: *Management of Research Projects in the Historic Environment (MoRPHE)* (Historic England 2006) upon completion of the project.
- 8.1.2. The site archive (including artefacts and samples) will be prepared in accordance with the National Monuments Record (Wales) agreed structure and deposited with an appropriate receiving organisation, in compliance with ClfA Guidelines (*Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives*, 2020). It will also conform to the guidelines set out in *'The National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales 2019'* (National Panel for Archaeological Archives in Wales 2019). The legal landowner's consent will be gained for deposition of finds. The project will adhere to the *Welsh Archaeological Trust's joint Guidance for the Submission of Data to the Welsh Historic Environment Records* (2022).

8.2. Analysis

- 8.2.1. Following a rapid review of the potential of the site archive, a programme of analysis and reporting will be undertaken. The report will adhere to the *Welsh Archaeological Trust's joint Guidance for the Submission of Data to the Welsh Historic Environment Records* (2022).
- 8.2.2. This will result in the following inclusions in the final report:
- Non-technical summary, in English and Welsh
 - Location plan showing the area/s covered by the groundworks, all artefacts, structures, and features found
 - Plan and section drawings (if features are encountered) 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
 - A discussion of the local, regional, and national context of the remains by means of

reviewing published reports, unpublished reports, historical maps, documents from local archives and the regional HER as appropriate.

- 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.

8.3. Report to client

- 8.3.1. Copies of all reports associated with the watching brief, together with inclusion of supporting evidence in appendices as appropriate, including photographs and illustrations, will be submitted to the client and GGAT-APM upon completion.

8.4. Additional reports

- 8.4.1. After an appropriate period has elapsed, copies of all reports will be deposited with the relevant county Historical Environment Record, the National Monuments Record and GGAT-APM.

8.5. Summary reports for publication

- 8.5.1. Short archaeological reports will be submitted for publication in relevant journals; as a minimum, a report will be submitted to the annual publication of the regional CBA group or equivalent journal.

8.6. Notification of important remains

- 8.6.1. Where it is considered that remains have been revealed that may satisfy the criteria for statutory protection, AW will submit preliminary notification of the remains to Cadw.

8.7. Archive deposition

- 8.7.1. The final archive (site and research) will, whenever appropriate, be deposited with a suitable receiving institution, usually the relevant Local Authority museums service. Arrangements will be made with the receiving institution before work starts.
- 8.7.2. Although there may be a period during which client confidentiality will need to be maintained, copies of all reports and the final archive will be deposited no later than six months after completion of the work.
- 8.7.3. Copies of all reports, the digital archive and an archive index will be deposited with the National Monuments Record, RCAHMW, Aberystwyth.
- 8.7.4. Wherever the archive is deposited, this information will be relayed to the HER. A summary of the contents of the archive will be supplied to GGAT.

8.8. Finds deposition

- 8.8.1. The finds, including artefacts and ecofacts, excepting those which may be subject to the Treasure Act, will be deposited with the same institution, subject to the agreement of the legal landowners.

8.9. Staff

- 8.9.1. The project will be managed by Charley James-Martin (AW Project Manager) and the fieldwork undertaken by AW Staff. Any alteration to staffing before or during the work will be brought to the attention of GGAT-APM and the client.

9. Health and Safety

9.1. Risk Assessment

- 9.1.1. Prior to the commencement of work AW will carry out and produce a formal Health and Safety Risk Assessment in accordance with The Management of Health and Safety Regulations 1999. A copy of the risk assessment will be kept on site and be available for inspection on request. A copy will be sent to the client (or their agent as necessary) for their information. All members of AW staff will adhere to the content of this document.

9.2. Other Guidelines

- 9.2.1. AW will adhere to best practice with regard to Health and Safety in Archaeology as set out in the FAME (Federation of Archaeological Managers and Employers) health and safety manual Health and Safety in Field Archaeology (2002).

10. Community Engagement and Outreach

- 10.1.1. Wherever possible, AW will ensure suitable measures are in place to inform the local community and any interested parties of the results of the site investigation work. This may occur during the site investigation work or following completion of the work. The form of any potential outreach activities may include lectures and talks to local groups, interested parties and persons, information boards, flyers and other forms of communication (social media and websites), and press releases to local and national media.
- 10.1.2. The form of any outreach will respect client confidentiality or contractual agreements. As a rule, outreach will be proportional to the size of the project.
- 10.1.3. Where outreach activities have a cost implication these will need to be negotiated in advance and in accordance with the nature of the desired response and learning outcomes.

11. Insurance

- 11.1.1. AW is fully insured for this type of work and holds Insurance with Aviva Insurance Ltd and Hiscox Insurance Company Limited through Towergate Insurance. Full details of these and other relevant policies can be supplied on request.

12. Quality Control

12.1. Professional standards

- 12.1.1. AW works to the standards and guidance provided by the Chartered Institute for Archaeologists. AW fully recognise and endorse the Chartered Institute for Archaeologists' Code of Conduct, Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology and the Standard and Guidance for archaeological field evaluation (CIfA 2020) currently in force. All employees of AW, whether corporate members of the Chartered Institute for Archaeologists or not, are expected to adhere to these Codes and Standards during their employment.

12.2. Project tracking

- 12.2.1. The designated AW manager will monitor all projects in order to ensure that agreed targets are met without reduction in quality of service.

13. Arbitration

- 13.1.1. Disputes or differences arising in relation to this work shall be referred for a decision in accordance with the Rules of the Chartered Institute of Arbitrators' Arbitration Scheme for the Institute for Archaeologists applying at the date of the agreement.

14. References

British Geological Survey: Geology of Britain viewer:
www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html (accessed 10/06/22).

Chartered Institute for Archaeologists, 2020. *Standards and guidance for the collection, compilation, transfer and deposition of archaeological archives.*

Chartered Institute for Archaeologists, 2020. *Standards and guidance for the collection, documentation, conservation and research of archaeological materials.*

Chartered Institute for Archaeologists, 2020. *Standards and guidance for an archaeological watching brief*

Chartered Institute for Archaeologist, 2017. *Updated Guidelines to the Standards for Recording Human Remains*

English Heritage, 2002. *Guidelines for Environmental Archaeology.*

English Heritage, 2006. *Management of Research Projects in the Historic Environment (MORPHE).*

National Panel for Archaeological Archives in Wales, 2019. *The National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales.*

Welsh Archaeological Trusts, 2022. *Guidance for the Submission of Data to the Welsh Historic Environment Records (HER)*

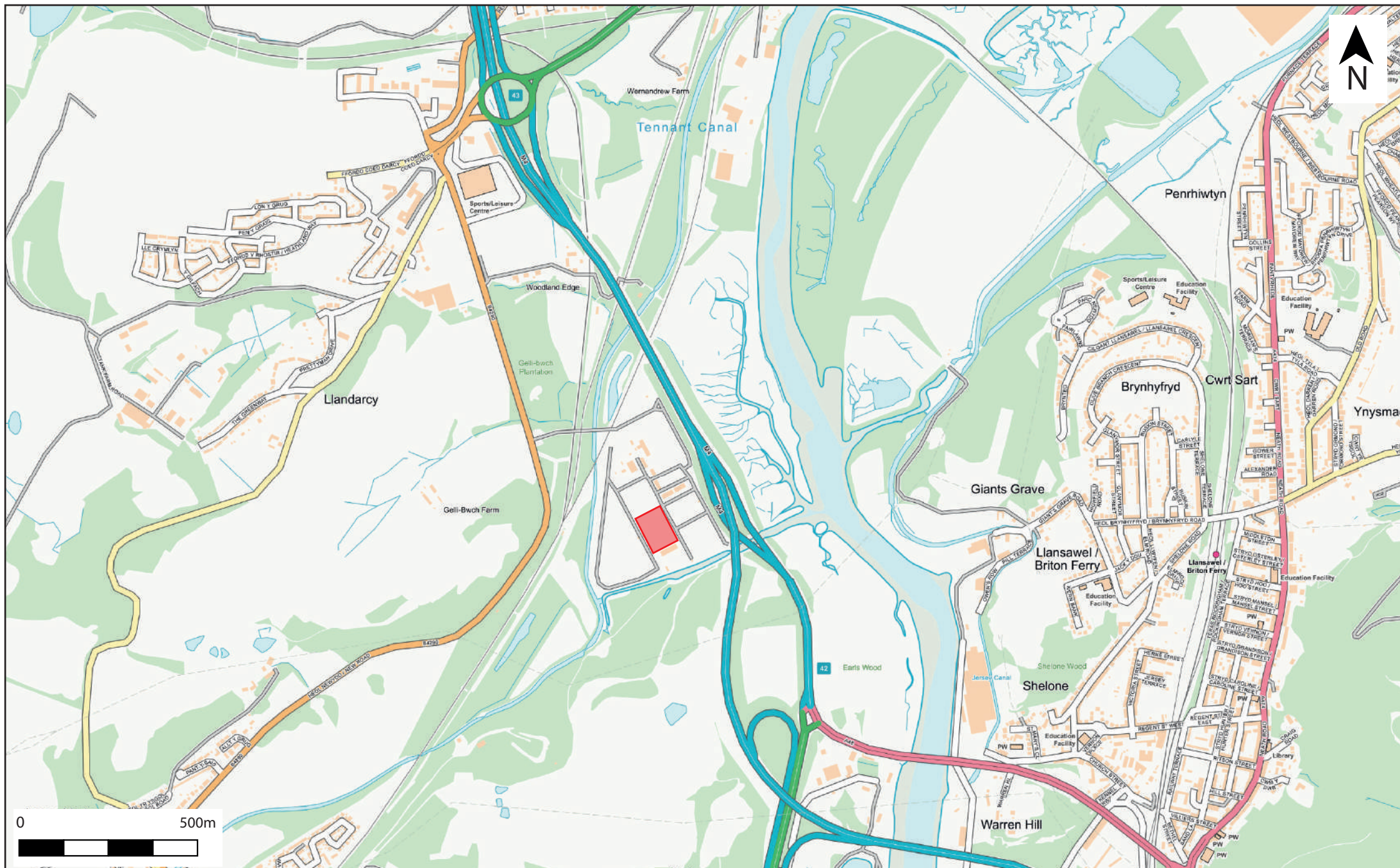


Figure 1. Location of site (red)

Appendix I Data Management Plan

Project Name and ID
3075 – Edwards Works, Llandarcy EDW/23/WB
Project description
The proposed work consists of the Construction of a proposed Asphalt Plant together with aggregates storage area, weighbridge, offices, and ancillary infrastructure works (planning application P2021/1019). GGAT-APM has recommended that a watching brief be carried out during the groundworks required for the development. The proposed works will be at Edwards Yard, Llandarcy, Neath Port Talbot, SA10 6JY (NGR SS 72594 94993).
Funder of client
G D Harries and Sons Ltd
Project Manager
Charley James-Martin – AW project manager
Principal investigator and contact
Same as above
Date DPM created and subsequent amendments
Created on 06/03/23
Related Data Management policies
Project Brief, ClfA Standards and guidance, trusted digital repository guidelines (ADS and RCAHMW) or other best practice guidance (see brief for details)

Data type
.pdf: final report, WSI, all the paper archive generated onsite. .jpeg: Digital photographs .xlsx: spreadsheets including registers, context inventory, finds quantification, environmental sample quantification. All site drawings that are selected during the DMP will be stored as AI and PDF files The survey data will be stored both as raw data (text file/csv) and as shapefiles (shp). This will include a polygon showing the limits of the development area. The database generated with GIS will be stored so it is accessible by future users
How will data be generated?
Project Brief will determine the nature of data collection. The project brief has been produced taking into consideration guidance offered by ClfA, and by relevant repositories. While the data selection strategy may change during the course of the watching brief attending to the demands of the findings, an initial methodology is outlined in the brief which includes advice offered by specialists (e.g environmental specialist). A list of specialists that can be contacted to seek for advice is included in the brief. Data generated during the site work will be regularly updated to the server and stored within well-defined folder. The folder hierarchy and organisation devised will be understood by all members of staff involved in the project. The data stored will be checked by the project manager regularly as a means of quality assurance. The survey data will also be plotted regularly to assure that it is correct and that the instruments on site are working properly.

Further documentation accompanying the resulting archive
Data collected will include standard formats which maximise opportunities for use and reuse in the future.

The archive will be associated to metadata summary which outlines details of all data types, quantities and all archive components Data documentation will meet the requirement of the Project Brief, Museum Deposition Guidelines, Digital Repository Guidelines and the methodology described in the Project Design methodology. These details are checked and taken into consideration prior the start of the project.
Data protection
We have a GDPR compliant Privacy Policy. Sensitive data is never retained in the project folder. Copyright permission is sought from all specialists and other providers outside the organisation. Data sharing is also subjected to license agreements.
Storage
The project manager is responsible to the regular inspection of the data produced and stored in the server The data produced is uploaded regularly as a way of backing up the information. Time and resources are given to the site staff to be able to back up the data. Alternatively, laptops are issued to use during the time onsite.
Data retention
The DMP will be updated in light with the findings. This process will also inform any possible future project designs and further work associated with the project. The data selection plan will take into consideration the research agenda for Wales and any other local frameworks. At the deposition stage, the DMP will be finalised in agreement with all project stakeholders. The project results will be included in the Historic Environment Record.
Long term preservation plan
The digital archive will be deposited with the Archaeology Data Service, which is a certified repository with Core Trust Seal.
Data repository and costs
The digital archive will be deposited with the National Monuments Record, RCAHMW, Aberystwyth. Estimated cost for deposition with ADS have also been included in the project budget.
Data sharing and accessibility
A summary of the project will be provided for the museum and digital archive repositories once the work begins. Regular updates will be carried out to fit the emerging needs of the project. The documents expected for this project include a WSI and WB Report, although this is dependent on the results of the fieldwork, which may warrant a Post Excavation Assessment, Updated Project Design and possibly Final Report. The final report is expected to be completed within 3 months of the completion of fieldwork. Should the work reveal significant archaeology and therefore, specialists are required during the post-ex process, then the report might take up to twelve months to be submitted A final version of the project report will be supplied to the Historic Environment Record along with any further data they request.
DMP responsibility
The Project Manager will be responsible for implementing the DMP Data capture, metadata production and data quality are the responsibility of the Project Team, assured by the Project Manager. Storage and backup of data in the field is the responsibility of the field team. Once data is incorporated into the organisations project server, storage and backup is managed by the project manager Data archiving is undertaken by the Archives Officer, who is responsible for the transfer of the Archaeological Project Archive to the agreed repository.



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