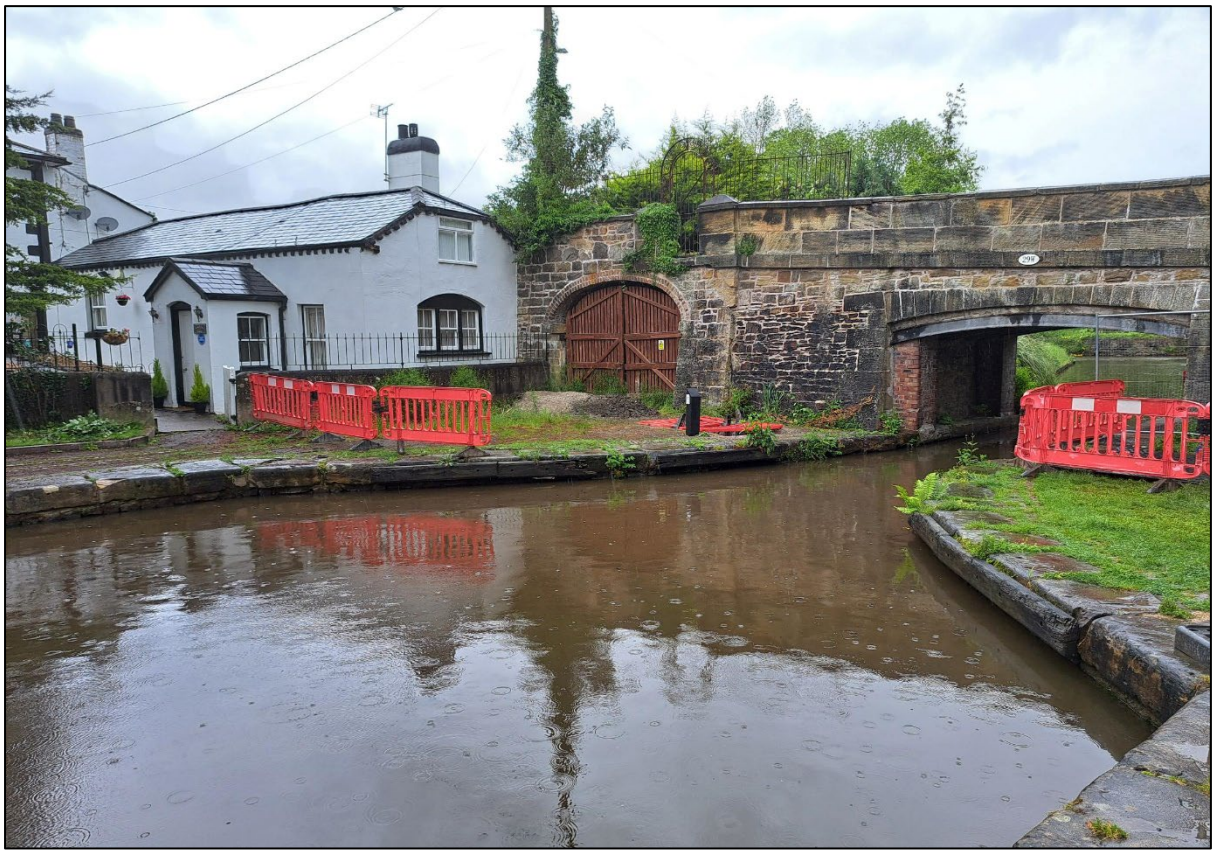
Heneb: Clwyd-Powys Archaeology

Project 2769 (PD24-050)

Report 2040

Trevor Basin Pedestrian Footbridge

Archaeological Evaluation and Monitoring and Recording



Archaeoleg Clwyd-Powys
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Summary

Between the 20th of May and 7th of June 2024 the Field Services Section of Heneb: Clwyd-Powys Archaeology undertook a programme of evaluation trenching and archaeological monitoring and recording of geotechnical trial pits on behalf of The Canal and River Trust in order to inform the design of a proposed pedestrian bridge immediately south of Scotch Hall Bridge in the Trevor Basin. Two evaluation trenches were excavated with two boreholes and six trial pits being monitored and recorded.

Redeposited glacial clay associated with the cutting of the canal was observed on both sides of the canal. The trial trench to the east showed that there has been a lot of modern disturbance from services and infrastructure on the towpath side of the canal with an early 20th century deposit containing a coin dated 1919 surviving in patches between these services and directly overlying the redeposited glacial clay associated with the cutting of the canal.

In the trial trench to the west of the canal this redeposited glacial clay was abutting two parallel stone walls 0.3m apart. These walls were perpendicular to the canal. Between them was a typical C19th industrial deposit of clinker and coal ash with a few sherds of C19th pottery. The walls may be the base of an early steam driven engine with the space between the walls acting as a wheel pit for a fly wheel. This structure might have been associated with the initial construction phase of the canal but also may have been used later during the life of the canal for maintenance purposes.

Crynodeb

Rhwng 20fed Mai a 7fed Mehefin 2024, bu Adran Gwasanaethau Maes Heneb: Archaeoleg Clwyd-Powys yn gwneud rhaglen o waith torri rhychau gwerthuso, a monitro a chofnodi pyllau arbrofol geotechnegol o safbwynt archaeolegol, ar ran yr Ymddiriedolaeth Camlesi ac Afonydd. Diben hyn oedd darparu sail ar gyfer dylunio pont arfaethedig i gerddwyr yn union i'r de o Bont Scotch Hall ym Masn Trefor. Cloddiwyd dwy rych werthuso a monitrwyd a chofnodwyd dau dwll turio a chwe phwll arbrofol.

Sylwyd ar glai rhewlifol wedi'i ailddyddodi, yn gysylltiedig â chloddio'r gamlas, ar y naill ochr a'r llall o'r gamlas. Dangosodd y rhych arbrofol i'r dwyrain fod gwasanaethau a seilwaith ar yr ochr o'r gamlas lle ceir y llwybr halio wedi achosi llawer o aflonyddu modern, gyda dyddodion o ddechrau'r 20fed ganrif yn cynnwys darn arian â'r dyddiad 1919 arno, wedi goroesi mewn clytiau rhwng y gwasanaethau hyn ac yn union ar ben y clai rhewlifol wedi'i ailddyddodi, yn gysylltiedig â chloddio'r gamlas.

Yn y rhych arbrofol i'r gorllewin o'r gamlas, roedd y clai rhewlifol hwn a oedd wedi'i ailddyddodi'n cyffinio â dwy wal gerrig gyfochrog, â 0.3m rhyngddynt. Roedd y waliau hyn yn unionsyth â'r gamlas. Rhwng y rhain roedd dyddodion diwydiannol nodweddiadol o'r 19eg ganrif o glincer a lludw glo, gyda rhai teilchion crochenwaith o'r 19eg ganrif. Mae'n bosibl mai sail peiriant cynnar a oedd yn rhedeg ar stêm yw'r waliau hyn, gyda'r gofod rhwng y waliau'n gweithredu fel pwll olwyn ar gyfer chwylolwyn. Mae'n bosibl bod y strwythur hwn wedi bod yn gysylltiedig â chyfnod cyntaf adeiladu'r gamlas ond ei fod hefyd o bosibl wedi'i ddefnyddio'n ddiweddarach yn ystod oes y gamlas at ddibenion cynnal a chadw.

1 Introduction

1.1. Heneb: Clwyd-Powys Archaeology was instructed by the Canal and River Trust (the client) to undertake a programme of archaeological evaluation, and monitoring and recording, in connection with Ground Inspection (GI) works prior to design of a proposed pedestrian bridge south of Scotch Hall Bridge. This would form part of the wider development works at Trevor Basin, Wrexham LL20 7TY (SJ271426) (Figures 1 and 2).

1.2. The proposed bridge development is currently in pre-application consultation with Cadw, prior to applications for planning consent from Wrexham County Borough Council and scheduled monument consent from Cadw.

Figure 1: Location of site

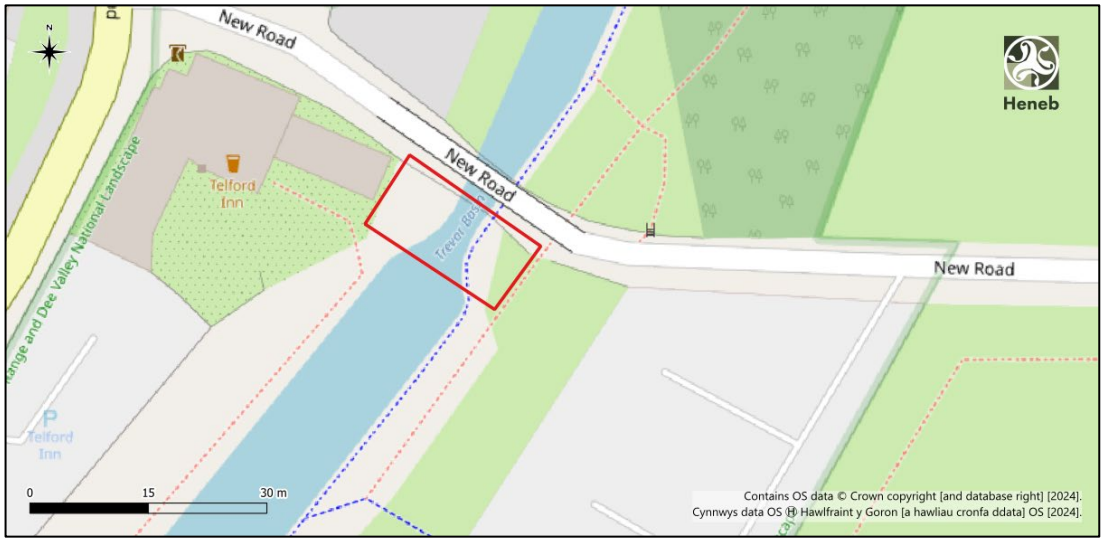


Figure 2: Plan of the proposed development area (outlined in red)

Planning background

1.3. A preliminary consultation was undertaken with Cadw, who advised that intrusive investigation in the form of two test pits, one either side of the canal, at least 2 x 2m (subject to on site

constraints), should be excavated to better understand the nature of any potential buried deposits within the general area likely to be impacted by the proposed bridge. Specifically information over whether there was an earlier wash wall to the canal, which might have been narrowed in the 19th century, was targeted.

1.4. Geotechnical ground investigation was needed to help design the bridge, comprising two boreholes, and up to six small test pits. These works were undertaken in conjunction with the archaeological evaluation, utilising the evaluation trenches to each cover the foot print of two of the test pits, with the remaining two test pits supervised by an archaeologist undertaking a scheme of archaeological monitoring and recording.

1.5. In addition a culvert known to run along the west bank required three boreholes to investigate and trace its course. On the east bank a concrete plinth of unknown origin or function was investigated to see whether it could be safely removed.

Historic background

1.6. This section provides a brief summary of the archaeology and history of the study area and its immediate surrounds, to enable the findings of the assessment to be placed in a wider context. The archaeological and historical background to Trevor Basin has been discussed in detail in the previous Heritage Statement and Archaeological Evaluation (Brown 2020 and Tong 2021). But a brief summary is offered here:

Prehistoric to Late Medieval

1.7. No features predating the arrival of the canal in the late 18th/early 19th century are known from the site. Though some occurrences of later prehistoric and medieval artefacts have been recovered in the wider area.

Post-Medieval and Modern Periods

1.8. The canal, basin and aqueduct were completed by November 1805 with Trevor Basin being set up as a transshipment hub for goods between rail and canal. A horse drawn double-track plateway known as the Ruabon Brook tramway was opened on 26th November 1805. The tramway ran from the basin past the Plas Kynaston Ironworks & Colliery and Cefn stone quarries to Acrefair Village. It was extended in 1809 to serve Plas Madoc.

1.9. Rose Cottage was constructed between 1820 and 1838, probably as a small storage shed or workman's hut. An enlarged building is shown on the 1865 map similar to the extant structure.

1.10. In 1861 work began to convert the tramway into a standard gauge railway with the work being completed in 1863. An engine shed with four rails down the central island of the basin and five sidings to the west of the western basin were constructed during this time along with associated rail infrastructure consisting of a coaling stage, water tower, sand furnace and goods platform. In September 1902 these facilities were closed and by 1912 only two sidings remained. By 1920 all canal-rail interchange traffic had ceased and the basin fell into disuse.

1.11. The railway was wound down and finally closed on 1st of January 1968 with the tracks removed in 1969 -1970.

2 Archaeological Evaluation

2.1. The evaluation was conducted between the 20th and 24th of May 2024 in accordance with the Chartered Institute for Archaeologists' (CIfA) (2023) *Standard and Universal Guidance for Archaeological Field Evaluation.*

Evaluation Trench 1

2.2. Evaluation Trench 1 was located on the west side of the canal (see Drawing 1 and 2 at end of report) and was positioned to coincide with the locations of TP101 and TP102. It measured 2.5m x 2m and was excavated to an average depth of 0.5m, with two sondages, each measuring 0.5m long, 0.3m wide and 0.7m deep taking it to a maximum depth of 1m BGL. (Figure 3).

Figure 3 Photogrammetric plan of Trench 1 (excavated)

2.3. Stratigraphy consisted of a modern tarmac surface (01.10) 0.05m thick over up to 0.4m of subbase foundation (01.09) overlying the fill (01.01) of a small circular pit [01.02] which was cut into a dirty clay layer (01.03) up to 0.10m thick. This deposit (01.03) sealed redeposited natural clay deposit (01.04), two parallel sandstone walls (01.06) and (01.07) and the deposit (01.05) between them. A sondage dug through redeposited clay (01.04) revealed a light blue grey clay (01.08), its upper surface was observed at 1m BGL. (Figures 4 and 5).

Figure 4: View of features and deposits in Evaluation Trench 1. 1m scale. Photo: Heneb_2769_13

2.4. Wall (01.06) was observed 0.35m BGL. It ran E-W, parallel to wall (01.07) and perpendicular to the canal. It measured 0.48m wide with the visible portion of its length measuring 2.2m and extending beyond both the east and west edges of the excavation. It was observed to a maximum depth of 1m BGL though it continued beyond this depth, as such the full extent of its surviving height/depth could not be established. It was constructed of roughly hewn platy yellow sandstone stones which measured 0.2m to 0.35m long and 0.05m to 0.25m wide. It was roughly coursed and bedded on a lime mortar with frequent charcoal inclusions with an average thickness of 4mm (Figure 5).

Figure 5: North facing section of wall (01.06) in sondage cut through yellow clay (01.04) with blue clay (01.08) visible in base. 1m scale. Photo Heneb_2769_17

2.5. Wall (01.07) was observed 0.35m BGL. It ran E-W, parallel to wall (01.06) and perpendicular to the canal. Only a small portion of this wall was visible very close to the south section of the trench. Its visible portion measured 0.3m wide but extended beyond the south edge of the excavation. During the archaeological monitoring and recording phase of the project an extension to this evaluation trench was excavated and the full width of this wall observed to be 0.48m. Its visible length measured 1.6m and extending beyond both the east and west edges of the excavation. It was observed to a maximum depth of 1m BGL though it continued beyond this depth, as such the full extent of its surviving height/depth could not be established. It was constructed of roughly hewn platy yellow sandstone stones which measured 0.2m to 0.35m long and 0.05m to 0.25m wide. It was roughly coursed and bedded on a lime mortar with frequent charcoal inclusions with an average thickness of 4mm.

2.6. Between wall (01.06) and (01.07) was fill (01.05). It was 0.3m wide and its visible portion measured 1.6m long extending beyond both the east and west edges of the excavation. It extended beyond its maximum observed depth of 1m. It consisted of a dark blue black deposit consisting primarily of cinders and coal ash in a dark blue black coarse sandy silt matrix with

frequent inclusions of charcoal, furnace waste and sub-angular sandstone fragments ranging in size from small pebbles (0.02m in diameter) to large cobbles (0.25m in diameter). A sondage measuring 0.5m x 0.3m was dug through it to a depth of 1m BGL, perched water within the deposit was encountered at this point with the water table settling at approximately 0.9m BGL. Two sherds of pot were recovered from this deposit, SF12, a dark brown glazed sherd and SF11, a fragment of base from a fine blue and white transfer print plate (Figure 6).

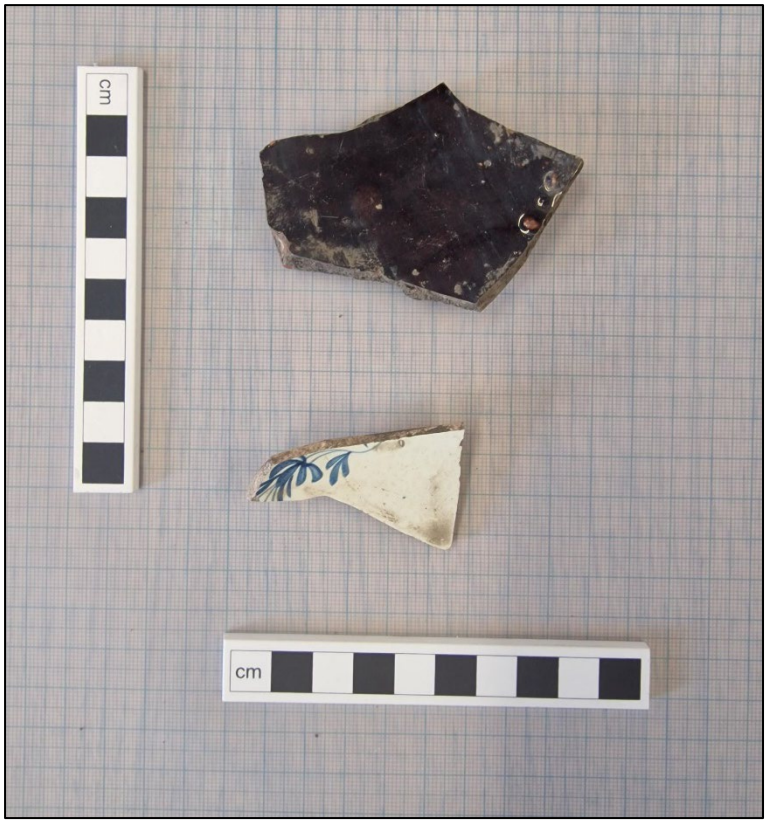


Figure 6: Pot sherds recovered from deposit (01.05).

2.7. Abutting the north side of wall (01.06) was Deposit (01.08). It was observed in the base of the sondage dug through deposit (01.04) and its upper surface was observed at a depth of 1m BGL. It consisted of a plastic light blue grey clay. No meaningful dimensions beyond the depth of its upper surface could be established. No finds were recovered from this deposit during the evaluation.

2.8. Overlying deposit (01.08) was redeposited clay layer (01.04). Its observable dimensions were 2.2m long, 0.8m wide extending beyond the north, east and west edges of the excavation. It was 0.65m thick and consisted of a stiff light-yellow brown clay with dark grey brown patches and mottling. No finds were recovered from this deposit.

2.9. Overlying the walls (01.06) and (01.07) and deposits (01.05) and (01.04) was deposit (01.03). it extended over the full length and width of the trench (2.5m x 2m) and was up to 0.10m thick. This consisted of a stiff mid yellow brown to grey brown silty clay with patches of dark blue black cinders and coal ash and frequent fragments of sandstone rubble.

2.10. Cut into deposit (01.03) was pit [01.02]. Only half of the pit was visible within the excavation with the remainder being beyond the north edge of the trench. It was circular in shape measuring 0.5m in diameter and 0.03m deep. It had gently sloping sides leading imperceptibly

to a concave base. It was filled by (01.01), a mid grey brown sandy silt with frequent inclusions of sub-angular to sub-rounded small pebbles (0.03m in diameter). The modern foundation deposit (01.09) was pressed into the top of this deposit. No finds were recovered from this deposit.

Evaluation Trench 2

2.11. Evaluation Trench 2 was located on the east side of the canal (Drawing 1 and 2 at end of report). It measured 2.5m x 3m and was excavated to an average depth of 0.4m (Figure 7).

Figure 7: Photogrammetric plan of Trench 2

2.12. Stratigraphy consisted of up to 0.10m turf and topsoil (02.01) overlying modern service cuts [02.04] filled by (02.02) and [02.05] filled by (02.03). these truncated earlier, but still modern deposits (02.06) and (02.07). These deposits overlay a heavily truncated archaeological deposit (02.08) which itself overlay a small deposit of sandstone rubble (02.09) to the north of the trench. This sandstone rubble overlay redeposited yellow natural glacial clay (02.10) (Figure 8 and Drawing 3 at end of report). A sondage excavated through the redeposited natural clay revealed an underlying light blue glacial clay (02.11).

2.13. Deposit (02.11) was observed in the base of the sondage dug through deposit (02.10), with its upper surface recorded at a depth of 1m BGL. It consisted of a plastic light blue grey clay. No

meaningful dimensions beyond the depth of its upper surface could be established. No finds were recovered from this deposit during the evaluation (Figure 8).

Figure 8: South facing section of sondage through deposit (02.10). 1m scale. Photo: Heneb_2769_10.

2.14. Overlying deposit (02.11) was redeposited clay layer (02.10). Its observable dimensions were 2.7m long, 1.7m wide extending beyond all edges of the excavation. It was 0.45m thick and consisted of a stiff light-yellow brown clay with dark grey brown patches and mottling (Figure 9). No finds were recovered from this deposit.

2.15. Overlying deposit (02.10) was (02.09) a spread of sandstone rubble up to 0.15m thick consisting of angular platy fragments of sandstone.

2.16. Overlying sandstone rubble (02.09) was deposit (02.08), a firm dark grey silt with occasional inclusions of 19th century domestic waste including glass and pottery. This deposit was heavily truncated and only a small zone measuring 0.4m x 0.5m survived to a depth of 0.2m. Notable finds from this deposit included a pot sherd form a blue and white transfer print plate (SF7), a rim-sherd from a ceramic jam jar (SF8), an orange clay pipe stem and bowl fragment (SF9) and a George V penny dated 1919 (SF10) (Figure 10).

Figure 9: East facing section cut through the centre of trench 2 showing the extent of modern truncations. 2m scale. Photo: Heneb_2769_02.

Figure 10: Finds recovered from deposit (02.08)

2.17. Overlying deposit (02.08) was modern deposit (02.07), a loose red brown deposit of angular stones in a coarse sand matrix. Deposit (02.08) was also heavily truncated by the foundation cut for the concrete pad adjacent to the trench and a modern service cut [02.05], filled woth rubble (02.03), in the centre of the trench, which was itself truncated by a later modern service cut [02.04] which contained a plastic conduit covered with sand (02.02) and yellow hazard tape.

2.18. Overlying the modern services was a layer of turf and topsoil up to 0.10m thick. Finds recovered from the topsoil during turf removal consisted of typical 20th century litter as well as the brass head from a shotgun cartridge (Figure 11) and two items associated with the modern use of the waterways for leisure boating, the cap from a boat's diesel tank fill point (SF2) and a generic brand universal 20-24mm tap to hozelock connector used for filling a boats domestic water tank (SF1) (Figure 12).

Figure 11: Typical C20th finds recovered from the topsoil.

Figure 12: Finds associated with modern recreational boating on the waterways.

Archaeological Monitoring and Recording

2.19. A programme of archaeological monitoring and recording of boreholes and geotechnical test pits took place between the 3rd and 7th of June 2024 in accordance with Chartered Institute for Archaeologists' (CIfA) (2023) *Standard and Universal Guidance for Archaeological Monitoring and Recording.*

2.20. A total of two boreholes and six geotechnical test pits along with a small extension to evaluation trench 1 to ascertain the thickness of wall (01.07) were monitored and recorded.

Evaluation trench extension

2.21. An extension to evaluation trench 1 measuring 0.6m x 0.6m was excavated to a depth of 0.4m to locate wall (01.07). Upon completion the wall was found to have a maximum width of 0.48m. To the south of this wall redeposited glacial clay was observed, similar to that observed north of wall (01.06) during the excavation of evaluation trench 1.

Borehole 1

2.22. Borehole 1 was located 1.5m west of evaluation trench 1 on the west side of the canal. It consisted of the hand dug element of a circular geotechnical borehole with a maximum diameter of 0.25m and depth of 1.2m.

2.23. Table 1: Stratigraphy encountered during the excavation of BH1.

Context No.	Type	Description

BH1.01	Deposit	Tarmac 0 to 0.02m, overlying compacted rubble/hardcore layer – light grey stoney rube, 0.02m to 0.32m diameter.
BH1.02	Deposit	canal construction upcast - malleable mottled pale-yellow/blue-grey clay, 0.32m to >1.12m, with dense pocket of burnt wood at c.0.95m

Borehole 2

2.24. Borehole 2 was located 0.2m southwest of the concrete pad on the east side of the canal. It consisted of the hand dug element of a circular geotechnical borehole with a maximum diameter of 0.25m and depth of 1.2m.

2.25. Table 2: Stratigraphy encountered during the excavation of BH2.

Context No.	Type	Description
BH2.01	topsoil	friable light brown sandy-silt, 0m to 0.15m, no finds
BH2.02	deposit	compacted light-grey stony rubble, 0.15m to 0.25m, single broken brick
BH2.03	subsoil	cohesive dark brown sandy-clay, 0.25 to 0.5m, very sporadic (c. 1%) modern CBM, glazed tile and coal
BH2.04	deposit	Canal construction upcast - malleable mottled pale-yellow/brown clay, 0.5m to >1.2m, sporadic (c. 2%) charcoal, extremely infrequent (<1%) sub-rounded stones and cobbles

Test pit 101

2.26. Test pit 101 was located 2m south of evaluation trench 1 on the west side of the canal. It measured 0.4m x 0.4m with a maximum depth of 0.7m.

2.27. Table 3: Stratigraphy encountered during the excavation of TP101.

Context No.	Type	Description
TP101.01	deposit	tarmac 0m to 0.02 overlying compacted rubble/hardcore layer - hard light grey stony rubble, 0.02m to 0.32m, no finds
TP101.02	deposit	canal construction upcast - malleable mottled pale-yellow/brown clay, 0.32m to >0.7m, two small pockets of burnt wood/charcoal at c 0.5m

Test pit 102

2.28. Test pit 102 was located 1m south of evaluation trench 1 on the west side of the canal. It measured 0.4m x 0.4m with a maximum depth of 0.75m.

2.29. Table 4: Stratigraphy encountered during the excavation of TP102.

Context No.	Type	Description

TP102.01	deposit	0.1m concrete kerb stone, resting on 0.1m orange-brown bedding sand, resting on 0.12m white hardcore, no finds
TP102.02	deposit	brown malleable puddling-clay, 0.32m to 0.53m
TP102.03	deposit	canal construction upcast - malleable mottled grey/blue with yellow lenses, single patch of burnt wood, 0.53m to >0.75m, no finds

Test pit 103

2.30. Test pit 103 was located immediately south of Scotch Bridge on the west side of the canal. It measured 0.4m x 0.4m with a maximum depth of 0.8m.

2.31. Table 5: Stratigraphy encountered during the excavation of TP103.

Context No.	Type	Description
TP103.01	deposit	tarmac 0m to 0.02 overlying compacted rubble/hardcore layer - hard light grey stony rubble, 0.02m to 0.15m, no finds
TP103.02	deposit	canal construction upcast - malleable mottled pale-yellow/brown clay, 0.15m to >0.8m, two small pockets of burnt wood/charcoal at c 0.5m
TP103.03	structure	N section includes the stone foundation of Scotch Bridge, which steps out 0.08m towards S at 0.1m below TOE, and continues down to >0.8m. <1033> is directly abutted by both (1031) and (1032) with no construction cut.

Test pit 201

2.32. Test pit 201 was located 2m southwest of evaluation trench 2 on the east side of the canal. It measured 0.5m x 0.5m with a maximum depth of 0.6m.

2.33. Table 6: Stratigraphy encountered during the excavation of TP201.

Context No.	Type	Description
TP201.01	topsoil	friable light brown sandy-silt, 0m to 0.15m, no finds
TP201.02	deposit	pale brown construction sand, 0.15 to 0.2m, no finds, overlying rubble/hardcore layer of compacted light-grey stony rubble, 0.2m to 0.27m, single broken brick in S section
TP201.03	deposit	concrete 0.27 to 0.52m
TP201.04	deposit	canal construction upcast - malleable mottled pale-yellow/brown clay, 0.52m to >0.6m, flooded as dug

Test pit202

2.34. Test pit 202 was located 1m south of evaluation trench 2 on the east side of the canal. It measured 0.6m x 0.6m with a maximum depth of 0.7m.

2.35. Table 7: Stratigraphy encountered during the excavation of TP202.

Context No.	Type	Description
TP202.01	topsoil	friable light brown sandy-silt, 0m to 0.15m, no finds
TP202.02	deposit	compacted rubble/hardcore layer - hard light grey stony rubble, overlying thin lens of construction sand and dark stony clay, 0.15m to 0.32m, no finds
TP202.03	deposit	canal construction upcast - malleable mottled pale-yellow/brown clay, 0.32m to >0.7m, 3 small sherds of modern CBM and a sherd of 19th C black glazed ware

Test pit 203

2.36. Test pit 203 was located within evaluation trench 2 on the east side of the canal. It measured 0.5m x 0.5m with a maximum depth of 0.8m.

2.37. Table 8: Stratigraphy encountered during the excavation of TP101.

Context No.	Type	Description
TP203.01	Trench backfill	0-0.52m
TP203.02	deposit	canal construction upcast - malleable mottled pale-yellow/brown clay, starts at 0.52m BGL, extends to >0.8m

3 Interpretation and discussion

3.1. The yellow clay deposits (01.04) and (02.10) appear to be redeposited natural glacial clay, this is most likely upcast from the cutting of the canal channel itself. It is possible that archaeological features which predate the cutting of the canal may be preserved below this deposit. There is limited potential for the survival of later, superficial archaeological deposits on the east side of the canal as they have been largely truncated by modern services and infrastructure.

3.2. The boreholes on the west side of the canal indicate there may be some level of timber preservation within or below redeposited glacial clay (01.04), it is possible that the same could be true on the east side of the canal.

3.3. The parallel walls found on the west side of the canal were constructed prior to the deposition of deposit (01.04) which consists of redeposited natural glacial clay, most likely upcast from the cutting of the canal channel. This, along with the similarity in construction technique with the original walls of the canal wash wall itself (Matthews, C 2023) imply that it was constructed during an early phase of the canal's construction. The fill (01.05) between the walls (01.06) and

(01.07) is a typical C19th deposit consisting of coal ash and cinders with rubble inclusions. The difference between the deposit on the north and south of wall (01.06) indicates that the space between the two walls was open for some time. This feature probably represents a small wheel pit, possibly for a fly wheel of a small steam driven engine. From its location at the narrow point of the canal where it enters the bridge hole and where the existing slots for stop planks are located there is an implication that this may have been a pumping engine used to drain either section of the canal as required. The clear evidence for its construction prior to the digging of the canal implies it was sited here early on to help drain the canal channel as it was being dug, before possibly being used for general maintenance once the canal was filled with water and in use.

3.4. Deposit (01.03) overlying the archaeology in trench 1 is probably a modern trampled deposit dating to just before the installation of the tarmac and hardcore. It should be noted that the foundation is overly deep for this type of surface and likely represents the backfilling of an area where soft or otherwise unsuitable ground had been removed or consolidated. It was probably this ground removal/consolidation which led to the formation of deposit (01.03). The circular pit [01.02] is cut into this deposit and is therefore a modern feature with no archaeological value.

3.5. The modern finds recovered from the topsoil which are associated with leisure boating, whilst not archaeologically significant at this point in time, serve to indicate that the story of the canal network is ongoing and continues to grow with the continued deposition of artefacts associated with its use.

4 Bibliography

Matthews, C., 2023. Trevor Basin Wash-Wall Repair. Unpublished report. CPAT Report No. 1948.

Brown, A. (2020). *Trevor Basin, Pontcysyllte Aqueduct World Heritage Site, Wrexham: Heritage Statement*. Bakewell: Archaeological Research Services (ARS 20/22).

Tong, J. (2021). *ARCHAEOLOGICAL EVALUATION REPORT Trevor Basin, Pontcysyllte Aqueduct World Heritage Site*: Bakewell: Archaeological Research Services (ARS 21/53).

Chartered Institute for Archaeologists, (CIfA), 2023. *Standard for archaeological monitoring and recording.*

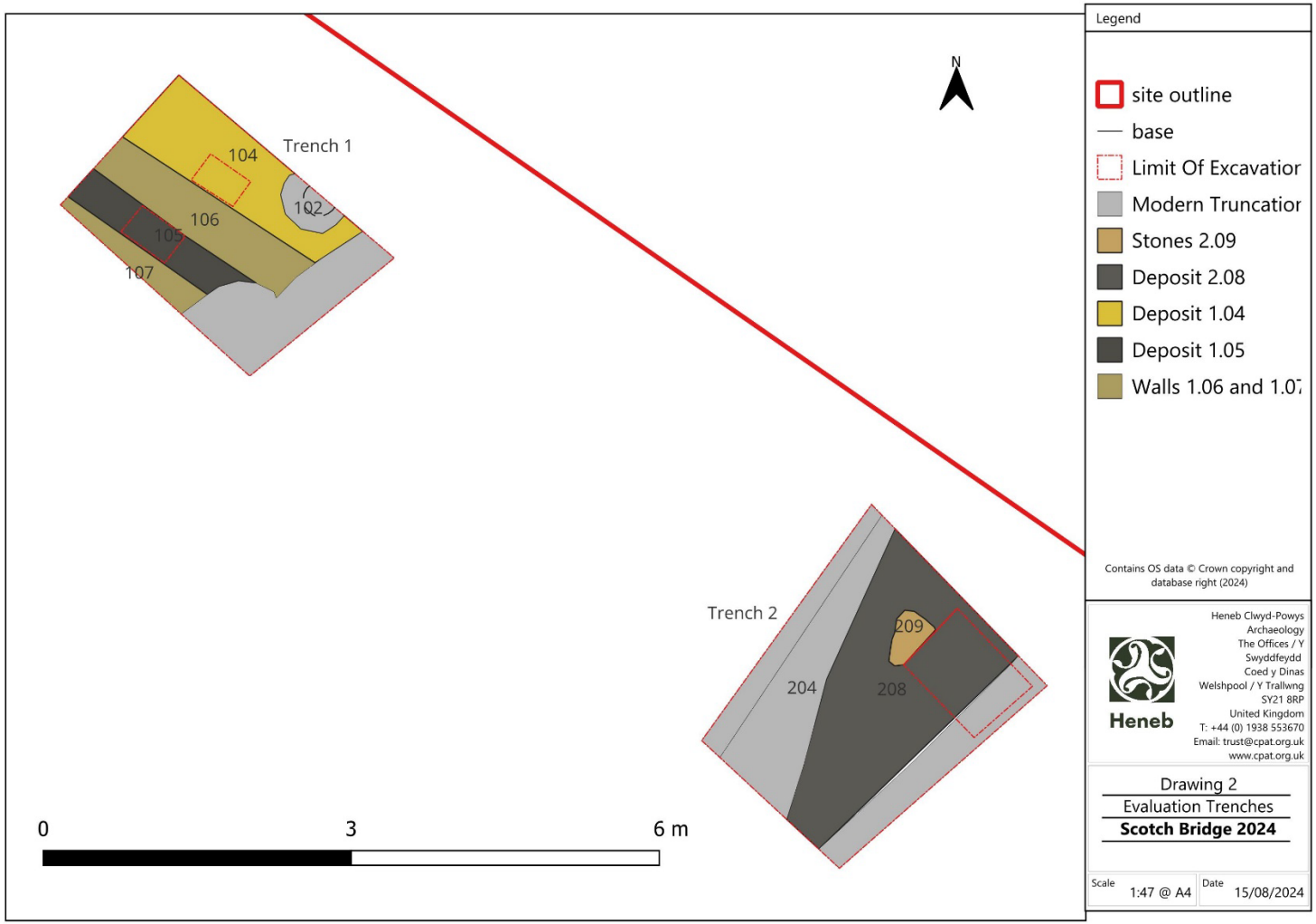
Chartered Institute for Archaeologists, (CIfA), 2023. *Guidance for archaeological monitoring and recording.*

Chartered Institute for Archaeologists, (CIfA), 2023. *Standard for archaeological evaluation*

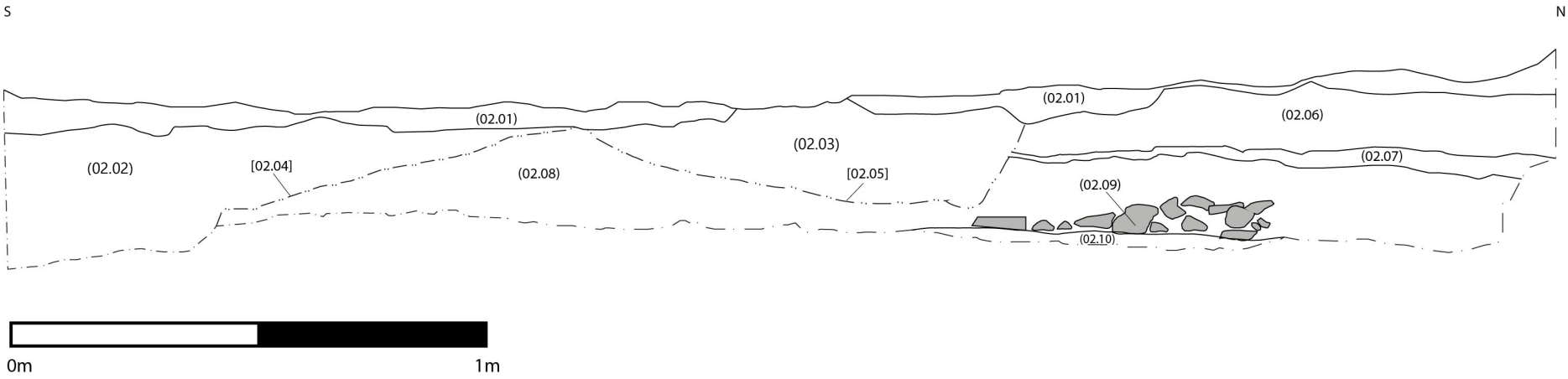
Chartered Institute for Archaeologists, (CIfA), 2023. *Guidance for archaeological evaluation*

MacBride, S. (2013). *The Archaeology of Coal Ash: An Industrial-Urban Solid Waste at the Dawn of the Hydrocarbon Economy* . IA. The Journal of the Society for Industrial Archaeology, 39(1/2), 23-39.

Drawing 1: Location of Evaluation Trenches.



Drawing 2: Evaluation Trench Plans



Drawing 3: East facing section through the centre of evaluation Trench 2

5 Archive Selection Strategy

2769-Trevor Basin Pedestrian Bridge (SJ271426) Archaeological Evaluation and Monitoring and Recording 23/07/2024 **Selection Strategy v2.0**	
Project Management	
Project Manager	Tim Malim
Project Supervisor	Karl Macrow
Archives Manager	Sophie Edwards
Project Stakeholders	
Project Lead / Project Assurance	Mark Walters, Development Control Archaeologist for Clwyd-Powys Archaeological Trust
Client / Landowner	Canal and River Trust
Other	
Collecting Institutions	
Regional HER	Clwyd-Powys
HER Enquiry Number	N/A
HER Event PRN	215614
Digital Archive Repository	Royal Commission on the Ancient and Historical Monuments of Wales
Documentary Archive Repository	N/A
Finds Archive Repository	N/A
Museum Accession Number	N/A

Digital Project Data			
Project sub-folders	**Data**	**Retained**	**Selected for Archive**
Admin			
H&S - RAMS	Risk Assessment	Y	N
WSI	Written Scheme of Investigation	Y	Y (as report appendix 1)
Client Data	Planning documents/other files provided by the client.	Y	N
Correspondence	Correspondence records relevant to the project	Y	N
Drafting	Working site drawings/illustrations	Y	N
Finds data	Finds catalogues/specialist reports etc	N/A	N/A
GIS data	Survey data	Y	Y
Metadata	Metadata report for all files submitted as part of the archive.	Y	Y
Photography	42 digital photographs (.tif)	N	Y
Report	HENEB Report 2040 (.docx/.pdf)	Y	Y
Report Illustrations	Illustrations generated for inclusion within the project report	Y	N
Research Data	Research data – always secondary sources and available elsewhere	Y	N
Site data	Scanned site records	N/A	N/A
Temporary	Temporary storage for temporary files – always deleted at project completion	N	N

Physical Project Data (Documentary)

Not applicable (N/A)

	Quantity	Retained by HENEB	Selected for Archive
Context register	N/A	N/A	N/A
Drawings register	N/A	N/A	N/A
Finds register	N/A	N/A	N/A
Levels register	N/A	N/A	N/A
Photo register	N/A	N/A	N/A
Context sheets	N/A	N/A	N/A
Finds/samples record	N/A	N/A	N/A
Skeleton record forms	N/A	N/A	N/A
Staffing record form	N/A	N/A	N/A
Trench record forms	N/A	N/A	N/A
Watching brief forms	N/A	N/A	N/A
A1 plans	N/A	N/A	N/A
A2 plans	N/A	N/A	N/A
A3 plans	N/A	N/A	N/A
A4 plans	N/A	N/A	N/A
Other	N/A	N/A	N/A

Physical Project Data (Materials)

Not applicable (N/A)

Finds Deposition Agreement obtained	*N/A*
Archive Repository	*N/A*
Accession Number	*N/A*

Pottery/Ceramics	*collected*	*processed*	*catalogued*	*specialist*	*conserved*	*discarded*
Prehistoric	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Roman	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Medieval	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Post-medieval	*5*	*N/A*	*N/A*	*N/A*	*N/A*	*5*
Modern	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Undated	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
CBM	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Clay Pipe	*1*	*N/A*	*N/A*	*N/A*	*N/A*	*1*
Other (specify)	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*

Stone	*collected*	*processed*	*catalogued*	*specialist*	*conserved*	*discarded*
Stone Artefacts	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Roofing Tile/Slate	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Building Materials	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Flint/Chert	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Other (specify)	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*

Metalwork	*collected*	*processed*	*catalogued*	*specialist*	*conserved*	*discarded*
Ironwork	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Copper Alloy (1919 Penny)	*1*	*N/A*	*N/A*	*N/A*	*N/A*	*1*
Lead	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Silver	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Metalworking Residues	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Other (specify)	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*

Bone/Animal Remains	*collected*	*processed*	*catalogued*	*specialist*	*conserved*	*discarded*
Animal Bone	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Human Skeletal Material	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Shell	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Other (specify)	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
	N/A	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
	N/A	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*

Samples	*collected*	*processed*	*catalogued*	*specialist*	*conserved*	*discarded*
Bulk soil	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Charcoal	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Other (specify)	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Finds Catalogues	*N/A*	*N/A*				
Box Catalogue	*N/A*	*N/A*		***Number of boxes***		*N/A*

6 Appendix 1: Heneb WSI

CONTENTS

Clwyd-Powys Archaeological Trust

The Clwyd-Powys Archaeological Trust (CPAT works to protect, record and interpret all aspects of the historic environment. We advise developers and local authorities on archaeology and planning, undertake archaeological projects for public- and private-sector clients, and have wide-ranging programmes of community archaeology events and activities.

The CPAT Field Services team is the leading archaeological practice in mid- and north-east Wales, and one of the longest-established commercial archaeology contractors in Europe.

CPAT is one of four archaeological trusts established in Wales in the mid-1970s to provide an archaeological service across the whole of the Principality. It is both a registered charity and a limited company, and its activities are managed by a board of Trustees. It is also Registered Organisation (RO) with the Chartered Institute for Archaeologists (CIfA). Further information regarding the Trust, including summary reports of some of the more significant recent projects can be found on its website at www.cpat.org.uk

Ymddiriedolaeth Archaeolegol Clwyd-Powys

Mae Ymddiriedolaeth Archaeolegol Clwyd-Powys (CPAT) yn gweithio i warchod, cofnodi a dehongli pob agwedd ar yr amgylchedd hanesyddol. Rydym yn cynghori datblygwyr ac awdurdodau lleol ar archaeoleg a chynllunio ac yn ymgymryd â phrosiectau archaeolegol ar ran cleientiaid yn y sectorau cyhoeddus a phreifat, ac mae gennym raglenni eang eu hystod o ddigwyddiadau a gweithgareddau archaeolegol cymunedol.

Tîm Gwasanaethau Maes CPAT yw'r prif bractis archaeolegol yng nghanolbarth a gogledd-ddwyrain Cymru, ac mae'n un o'r contractwyr archaeoleg masnachol mwyaf hirsefydlog yn Ewrop.

Mae CPAT yn un o bedair ymddiriedolaeth archaeolegol a sefydlwyd yng Nghymru yng nghanol y 1970au i ddarparu gwasanaeth archaeolegol ledled Cymru. Mae'r Ymddiriedolaeth yn elusen gofrestredig a hefyd yn gwmni cyfyngedig, ac mae ei gweithgareddau'n cael eu rheoli gan fwrdd Ymddiriedolwyr. Mae hefyd yn Registered Organisation (RO) gyda'r Chartered Institute for Archaeologists (CIfA). Mae mwy o wybodaeth am yr Ymddiriedolaeth, gan gynnwys adroddiadau cryno ar rai o'r prosiectau diweddar mwyaf arwyddocaol hefyd i'w gweld ar ei gwefan yn www.cpat.org.uk

1 Introduction

1.1. The Clwyd-Powys Archaeological Trust (CPAT) has been instructed by the Canal and River Trust (the client) to undertake a programme of archaeological evaluation, and monitoring and recording, in connection with Ground Inspection (GI) works prior to design of a proposed pedestrian bridge south of Scotch Hall Bridge. This would form part of the wider development works at Trevor Basin, Wrexham LL20 7TY (SJ271426) (Figures 1 and 2).

1.2. The proposed bridge development is currently in pre-application consultation with Cadw, prior to applications for planning consent from Wrexham County Borough Council and scheduled monument consent from Cadw.

Figure 11: Location of site

Figure 12: Plan of the proposed development area (outlined in red)

1.3. A detailed plan for the proposed GI Works relating to the pedestrian bridge is shown in Figure 5 and for archaeological trenching in Figure 6.

Planning background

1.4. Preliminary consultation has been undertaken with Cadw, who have advised that intrusive investigation in the form of two test pits at least 2 x 2m but larger if possible (subject to on site constraints), one either side of the canal, should be excavated to better understand the nature of any potential buried deposits within the general area likely to be impacted by the proposed bridge. Specifically information over whether there was an earlier wash wall to the canal, which might have been narrowed in the 19th century, will be targeted.

1.5. Geotechnical ground investigation is also needed to help design the bridge, comprising two boreholes, and up to six small test pits. These works would be undertaken in conjunction with the archaeological evaluation, utilising the trench where possible, and supervised by an archaeologist where separate intrusive work is required. The proposed methodology is:

S1.5. Scope of Investigation

The Ground Investigation (GI) shall comprise of an intrusive geotechnical investigation.

The instigation shall comprise of:

- **Two Rotary drilled boreholes with rotary core follow-on to a minimum depth of 5 m below ground level (bgl) and to prove a minimum of 5 m competent bedrock cores.**
- **Standard Penetration Tests (SPTs).**
- **Three hand dug trial pits on each side of the canal wall (six total trial pits), approximately 500 mm by 500 mm. wide 700 mm deep, the first test pit shall be backfilled and compacted prior to starting the next one.**
- **Geotechnical Laboratory testing.**
- **In Situ Geotechnical testing in the form of hand penetrometer (if applicable).**
- **Surveying of all locations to British National Grid and Ordnance Datum.**
- **Factual reporting and production of digital AGS data.**

1.6. In addition a culvert is known to run along the west bank and three boreholes are proposed to investigate and trace its course. On the east bank a concrete plinth of unknown origin or function needs to be investigated to see whether it can be safely removed.

1.7. This report presents a design for archaeological investigation which addresses Cadw's requirements, and therefore provides the written scheme of investigation for their formal approval, prior to implementation of the scheme.

Historic background

1.8. This section provides a brief summary of the archaeology and history of the study area and its immediate surrounds, to enable the findings of the assessment to be placed in a wider context. The archaeological and historical background to Trevor Basin has been discussed in detail in the previous Heritage Statement and Archaeological Evaluation (Brown 2020 and Tong 2021). But a brief summary is offered here:

Prehistoric to Late Medieval

1.9. No features predating the arrival of the canal in the late 18th/early 19th century are known from the site. Though some occurrences of later prehistoric and medieval artefacts have been recovered in the wider area.

Post-Medieval and Modern Periods

1.10. The canal, basin and aqueduct were completed by November 1805 with Trevor Basin being set up as a transshipment hub for goods between rail and canal. A horse drawn double-track plateway known as the Ruabon Brook tramway was opened on 26th November 1805. The tramway ran from the basin past the Plas Kynaston Ironworks & Colliery and Cefn stone quarries to Acrefair Village. It was extended in 1809 to serve Plas Madoc.

1.11. Rose Cottage was constructed between 1820 and 1838, probably as a small storage shed or workman's hut. An enlarged building is shown on the 1865 map similar to the extant structure.

1.12. In 1861 work began to convert the tramway into a standard gauge railway with the work being completed in 1863. An engine shed with four rails down the central island of the basin and five sidings to the west of the western basin were constructed during this time along with associated rail infrastructure consisting of a coaling stage, water tower, sand furnace and goods platform. In September 1902 these facilities were closed and by 1912 only two sidings remained. By 1920 all canal-rail interchange traffic had ceased and the basin fell into disuse.

1.13. The railway was wound down and finally closed on 1st of January 1968 with the tracks removed in 1969 -1970.

2 Methodology

Archaeological Monitoring and Recording

2.1. The archaeological evaluation as well as monitoring and recording will be conducted according to CIfA's *Standard for Archaeological Evaluation* and *Archaeological Monitoring and Recording* (2023). It will also be guided by *Universal Guidance for Archaeological Evaluation* and *Universal Guidance for Archaeological Monitoring and Recording* (2023). These works are in connection with geotechnical site investigation to inform design of a pedestrian bridge.

2.2. Additional monitoring and recording will be undertaken on a maximum of three boreholes which will be sunk to locate an existing culvert on the west side of the canal and determine its depth, condition and character. These boreholes will have an internal diameter of at least 70mm and be sunk to a depth of approximately 2m (Figure 3). A concrete plinth on the east bank of the canal will also be investigated by a c.0.5m deep test pit adjacent to establish its depth and whether it is covering a void (Figure 4).

Figure 13: Red shading shows location of the buried culvert adjacent to the pub

Figure 14: Concrete plinth for investigation

Archaeological Evaluation

2.3. The evaluation will be conducted according to CIfA's *Standard for Archaeological Field Evaluation* (2023) and Guidance for Archaeological Field Evaluation (2023). This states that the

purpose of field evaluation is to gain information about the archaeological resource within a given area or site (including its presence or absence, character, extent, date, integrity, state of preservation and quality), in order to make an assessment of its merit in the appropriate context, leading to one or more of the following:

a. the formulation of a strategy to ensure the recording, preservation or management of the resource.

b. the formulation of a strategy to mitigate a threat to the archaeological resource.

c. the formulation of a proposal for further archaeological investigation within a programme of research.

2.4. The archaeological evaluation will comprise the excavation of two trenches measuring at least 2m x 2m one on each side of the canal (Figure 6). Where possible these trial pits will be excavated to coincide with the GI trial pits, so that the geotechnical engineers can utilise the archaeological trenches for their assessment. The trench to the east of the canal will be excavated between the canal and an existing concrete pad which will have its west face exposed to better determine its character and function.

2.5. It is anticipated that the fieldwork will be carried out during February or March 2024. Cadw will be informed when the work is about to commence and an arrangement will be made for site monitoring following the completion of the groundworks.

2.6. Utilities data have been acquired from the client and test pits have been designed to avoid these constraints.

2.7. It may be necessary to move trial pits to avoid obstacles or subsurface features such as services not apparent on map sources. The client and Cadw will be consulted should this be required. The proposed excavation locations are depicted in Fig. 6. Excavation locations will be scanned with a cable avoidance tool (CAT) prior to any groundworks taking place.

2.8. The trial pits will be excavated to the first significant archaeological horizon, or to naturally derived soils or to a maximum depth of 1.2m. The general approach for each of the trial pits will follow these procedures:

- The presence or absence of archaeological features encountered will be noted;
- Where features of archaeological interest are identified they will be systematically investigated by hand with sufficient work being undertaken to determine their date, character and function, using the conventional techniques for archaeological excavation and in accordance with CIfA Standard and Guidance;
- All features will be located as accurately as possible using GPS and other survey techniques, to be plotted on an overall plan of the development at an appropriate scale, showing boundaries depicted on OS mapping, or located by the identification of OS grid lines;
- Contexts will be recorded digitally or manually on individual record forms, using a continuous numbering system, and be drawn and photographed as appropriate;
- As appropriate plans will be drawn on permatrace to a scale of 1:10, 1:20 or 1:50, and locations surveyed in by GPS;
- Photography will be undertaken digitally with a minimum resolution of 12 mega pixels. Images will include a metric scale in each view and be logged in a photographic register;

- In the event of human burials being discovered the Ministry of Justice (MoJ) will be informed. The remains will initially be left in situ, and if removal is required, a MoJ licence will be applied for under the Burial Act 1857; and
- In the event of finding any artefacts covered by the provisions of the Treasures Act 1996, the appropriate procedures under this legislation will be followed.

2.9. Following completion of the groundworks and recording the trial pits will be backfilled and consolidated; if required a photographic record of each backfilled trial pit will be made.

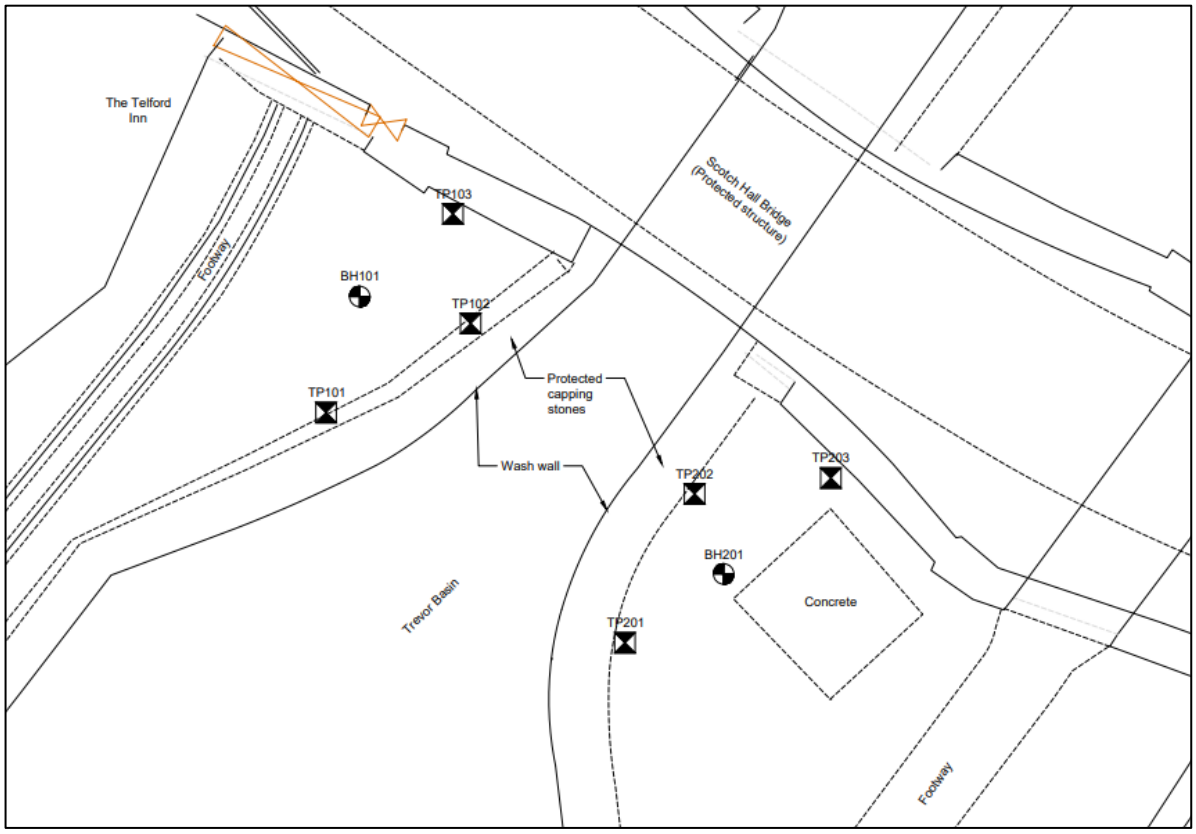


Figure 15: Plan showing the location of the proposed GI trial pits.

Figure 16: Plan showing proposed location of archaeological evaluation trenches outlined in black.

Artefact selection strategy

2.10. In accordance with section 4 of *Archaeological Archives: A guide to best practice in creation, compilation, transfer and curation* Archaeological Archives Forum 2007 (revised 2011) a rigorous process of selection and discard will be followed so that only those elements that are considered of significance for potential future study will be retained. Bulk items such as ceramic building materials, stonework, large quantities of undiagnostic pottery, and material that is difficult to conserve such as worked wood, may be selected for discard once appropriate recording and analysis has been undertaken, on site or in the laboratory post-excavation.

2.11. Selection and discard is detailed below, but in general unstratified finds will only be collected where they contribute significantly to the project objectives or are of particular intrinsic interest. All artefacts will be retained from stratigraphically secure contexts of 18th-century date or earlier. In the case of later or disturbed contexts, all 18th-century or earlier material will be retained, together with a sample of later finds to assist with dating and phasing, unless later deposits/artefacts are deemed to be of high archaeological value.

2.12. CPAT has a retention policy for artefacts which prioritises as follows:

High priority for retention

- Rare finds from stratified and unstratified contexts
- Prehistoric and early medieval assemblages
- Key stratigraphic dating assemblages crucial to the structural development of the site

- Assemblages which are not well represented in museum collections

High priority for disposal

- Unstratified material unless intrinsically dateable and unusual/rare
- Artefacts from residual/intrusive contexts unless of key stratigraphic importance
- Assemblages already well represented in museum collections
- Unprocessed environmental/soil samples

Post-excavation and reporting

2.13. All artefacts and environmental samples will be treated in a manner appropriate to their composition and a sampling strategy will be developed as appropriate:

- All stratified finds will be collected by context, or where appropriate, individually recorded in three dimensions. Unstratified finds will only be collected where they contribute significantly to the project objectives or are of particular intrinsic interest.
- All finds and samples will be collected, processed, sorted, quantified, recorded, labelled, packed, stored, marked, assessed, analysed and conserved in a manner appropriate to their composition and in line with appropriate guidance.
- arrangements will be made to assess and study any artefacts, assemblages and environment samples, should this be required to fulfil the objectives of the evaluation.
- Any artefacts recovered during the evaluations will be deposited with an appropriate museum, subject to the permission of the owner.

2.14. Following the on-site work an illustrated report will be prepared containing conventional sections to include:

- Non-technical summary
- Introduction
- Site location
- Archaeological Background
- Aims & objectives
- Methodology
- Evaluation results
- Conclusions
- References
- Appropriate appendices on archives and finds

2.15. If material evidence is recovered that requires specialist assessment, CPAT has a team of external specialists who advise and undertake the appropriate levels of study. These include the following:

- Lithics Pippa Bradley
- Prehistoric pottery Francis Lynch
- Roman pottery Peter Webster
- Medieval pottery Stephanie Ratkai or Julie Edwards, Grosvenor Museum
- Thin section analysis Chris Doherty University of Oxford
- Roman glass Hilary Cool
- Metalwork identification and conservation Phillip Parkes University of Cardiff
- Faunal remains Archaeological Services University of Durham
- Palaeoenvironment Archaeological Services University of Durham

- Pollen Fiona Grant or Lampeter University
- Metallurgy Tim Young University of Cardiff
- C14 and OSL SUERC

2.16. The report summary will be provided in English and Welsh, in accordance with the *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs) V1* (July 2018).

Site archive

2.17. The overall archive will conform to guidelines described in Management of Research Projects in the Historic Environment (MoRPHE), Historic England 2015, the CIfA (2020b) Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives and The National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales (NPAAW, 2017).

2.18. The paper and digital archive will be deposited with the National Monuments Record (NMR), RCAHMW, including a copy of the final report. This archive will include all written, drawn, survey and photographic records relating directly to the investigations undertaken. A digital copy of the report (and any digital photographs or other data required) will also be lodged with the Historic Environment Record.

3 Digital Data Management Plan (DDMP) (Version 3: October 2023)

3.1. The Clwyd-Powys Archaeological Trust is committed to managing digital records generated though our work to the highest standards. The Digital Data Management Plan (DDMP) has been designed in accordance with current guidance from the Chartered Institute for Archaeologists (CIfA), Historic England's *Archaeological Digital Archiving Protocol* (ADAPt) (2016), The Royal Commission on the Ancient and Historical Monuments of Wales *RCAHMW Guidelines for Digital Archives* (2015) and the Archaeology Data Services (ADS) *Guidelines for Depositors* (2021). CPAT also employs the FAIR Principles, to ensure that all relevant data is Findable, Accessible, Interoperable and Reusable.

Data Collection

3.2. All digital project data will be stored within a standard folder template, utilizing digital proformas where required and following a strict file naming policy. All digital files selected for archive will be pre-fixed with the unique project code. An example of the CPAT folder structure and common data formats is provided below.

	Project Folder		
	Folder name	**Contents**	**Files**
	Admin		
	H&S - RAMS	Risk assessments	DOCX, PDF
	WSI	Written Scheme of Investigation	DOCX, PDF

	Client data	Planning documents, plans, background	JPG, PDF
	Correspondence	Emails and letters	PDF, Outlook.msg
	Drafting	Working drawings	AI
	Finance	Quote, purchase order, costings	DOCX, PDF, XLSX
	Finds data	Catalogues, specialist reports etc	DOCX, PDF, XLSX
	GIS data	Project generated GIS including HER data, Mapping data Geophysical Survey data etc	MAP, SHP, XLSX, PRJ, DXF, TAB, SHX, QPJ, DAT, DBF, ID, DXF, DWG, BMP, JPG, ASC, QGS, XML, PMW, XCP
	Metadata	Project specific metadata	XLS
	Photography	Original and reduced images	NEFF, JPG, TIFF
	Report	Project report	DOCX, PDF
	Report Illustrations	Illustrations selected for the final report	JPG, PDF
	Research data	Background research	DOCX, PDF, JPG
	Site data	Site registers, recording forms, plans etc	DOCX, PDF, XLSX
	Temporary files	Storage for temporary files to be deleted prior to archiving	N/A

3.3. Where projects require specialist archaeological techniques, additional datasets may be generated. These will be incorporated into the folder structure as required and re-named accordingly.

Data Storage

3.4. Throughout the course of the project, data will be stored securely on CPAT IT infrastructure.

Data Selection

3.5. The Clwyd-Powys Archaeological Trust works across the regions of both England and Wales in which the following guidance may apply, depending on the project location.

- CIfA *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives* (2020b).
- CIfA *Toolkit for selecting archaeological archives.*
- CIfA *Toolkit for managing digital data.*
- *Management of Research Projects in the Historic Environment: The (MoRPHE Project Manager's Guide* (2015).
- *National Standard and Guidance for Collecting and Depositing Archaeological Archives in Wales* (2017).
- The Royal Commission on the Ancient and Historical Monuments of Wales *RCAHMW Guidelines for Digital Archives* (2015)
- Guidance *for the Submission of Data to the Welsh Historic Environment Records (HERs) Version:2*
- Historic England's *Archaeological Digital Archiving Protocol* (ADAPt) (2016)
- Archaeology Data Services (ADS) *Guidelines for Depositors* (2021).
- *FAIR Guiding Principles for scientific data management and stewardship* (2016)

3.6. While some projects will generate a standard set of data, most project archives are unique and the creation of data is fluid, requiring periodic management and review throughout the course of the project to meet the specific requirements of individual stakeholders.

3.7. Data generated by a relatively small-scale project is likely to comprise; the final report (.pdf/.docx), digital photographs (.tif), site records including proformas/drawings (.pdf), metadata (.xls).

3.8. Larger projects may include additional data sets, such as site survey data, GIS polygons, specialist reports etc, and where required, additional digital sub-folders will be generated.

3.9. All project data, including digital, documentary, artefactual or environmental will be recorded in the final project selection strategy, a copy of which will be included in all project reports. Data that has been selected for retention, and/or deposition with a suitable repository beyond CPAT is recorded therein.

3.10. Correspondence records, financial records, research data and temporary files will automatically be de-selected from the final archivable dataset, as these do not form part of the overall archaeological record and may contain sensitive data.

Metadata

3.11. All digital data generated by the project and selected for archive will be accompanied with appropriate metadata, where required.

Preservation

3.12. Digital data selected for preservation within Wales will be deposited with the Royal Commission on the Ancient and Historical Monuments of Wales. Digital data selected for preservation for projects undertaken in England will be deposited with the Archaeology Data Service.

3.13. A digital PDF report, along with relevant photographs will also be deposited with the relevant Historic Environment Record (HER) and OASIS.

3.14. Associated physical archive material will be summarised within the final grey literature report/selection strategy to ensure that the physical archive is also traceable once disseminated.

Accessibility

3.15. Data will use standard software and formats where possible to maximise opportunities for use and reuse in the future.

3.16. Data submitted for long term preservation will be discoverable to interested parties though the RCAHMW/OASIS/ADS or HER websites and may also be promoted by CPAT via the Trust's website or social media.

Responsibilities

3.17. The Project Manager will be responsible for the implementation of the DDMP throughout the course of the project.

3.18. The Project Manager, Project Supervisor and Head of Technology, Information and Planning will be responsible for data accumulated during the project, including its appropriate management, storage and backup.

3.19. Data will be checked routinely by the Project Manager as a means of quality assurance.

3.20. The Information and Archives Officer will be responsible for the compilation of all project specific metadata and final deposition of the digital project data and wider archive.

3.21. Following deposition with the relevant digital repository, data management will become the responsibility of the receiving organization.

3.22. A copy of relevant files generated by the project may be retained and stored securely by CPAT for future reference should it be required.

Ethics and Legal Compliance

3.23. CPAT has security protocols and policies in place relating to the ethical use of data which comply National Law and Industry Guidelines. Our Privacy Policy can be viewed here.

3.24. All data, including any sensitive data is stored securely to protect against its loss, misuse and alteration.

3.25. CPAT will take steps to ensure that any businesses we share data with will have security protocols and policies in place to manage and record data privacy and preferences correctly and that data is stored correctly.

3.26. Copyright for all data belongs to the Clwyd-Powys Archaeological Trust. Formal permissions from external specialists and contractors will be secured upon their engagement, where appropriate.

4 Resources and programming

4.1. The archaeological monitoring and recording and the evaluation will be undertaken by a skilled archaeologist under the overall supervision of Tim Malim, a senior member of CPAT's staff who is also a member of the Chartered Institute for Archaeologists (CIfA). CPAT is also a CIfA Registered Organisation and as such agrees to abide by their *Code of Conduct* (2014) and the *Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology* (2014).

4.2. All report preparation will be completed by or with the assistance of the same field archaeologist(s) who conducted the site work. Copies of the report will be deposited with the client and the regional Historic Environment Record within one month of the completion of on-site works, subject to possible delays should specialist investigation of artefacts, samples etc be necessary. If appropriate, a short report will be published in *Archaeology in Wales*.

4.3. The client should be aware that in the event that significant archaeological remains are revealed there may be a requirement for more detailed excavation and specialist services. Any further work over and above the original evaluation and report would be the subject of a separate WSI and costing.

5 Appendix 1 Selection Strategy

2627-Trevor Basin Pedestrian Bridge (SJ271426)

Archaeological Monitoring and Recording and Evaluation

16/02/2024

Selection Strategy v1.0

CPAT Project Management

Project Manager	Tim Malim
Project Supervisor	Karl Macrow
Archives Manager	Sophie Watson

Project Stakeholders

Project Lead / Project Assurance	Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW)
Client / Landowner	Canal and River Trust
Other	

Collecting Institutions

Regional Historic Environment Record	Clwyd-Powys Archaeological Trust
Digital Archive Repository	Royal Commission on the Ancient and Historical Monuments of Wales
Documentary Archive Repository	N/A
Finds Archive Repository	N/A
Other	N/A

Project Data

Digital Project Data - Management

Digital data generated by the project will be managed in accordance with the CPAT Digital Data Management Plan (Version 3), which is outlined in full under section 3 of the WSI.

In summary, digital data will be subject to regular review and management to ensure the final dataset is of suitable quality and appropriately referenced and structured, resulting in a findable, accessible, interoperable and reusable archive which has been prepared in accordance with the *CIfA*

Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives guidance (2020b).

All digital files will be stored on CPAT infrastructure within a standard folder hierarchy and following a strict file naming policy. All digital files selected for archive will be data tagged with the unique project code. An example of the CPAT folder structure and specific files selected for archive will be recorded in the final selection strategy for the project and included within every CPAT report.

Digital project data selected for archive will be accompanied by relevant project metadata and prepared according to the RCAHMW Guidelines for Digital Archives (Version 1). Digital data will be transferred via OneDrive upon the completion of the project as agreed with Helen Rowe (Senior Archivist - RCAHMW).

A copy of the digital report and a set of digital (.jpg) images will be submitted to the Historic Environment Record via HEDDOS in accordance with the *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)* Version 2 (2022).

Project Specific Digital Data

Digital data expected for an archaeological watching brief/evaluation includes the following;

Photographs (.jpg / .neff) – converted to TIFF for archive using *GIMP*

Photographic Catalogue (.xls) *Microsoft Excel*

Grey Literature Report (.docx / .pdf) *Microsoft Word*

Project metadata file (.xls) *Microsoft Excel*

De-Selected Digital Data

All digital data generated by the project will be recorded in the final selection strategy and selected/de-selected data will be recorded therein.

Unsuitable or surplus data, such as blurred images or duplicate files, will be deleted from the final dataset.

Sensitive digital data is stored within dedicated project folders named Client Data, Correspondence and Finance and these will be automatically de-selected due to the nature of the data within. Project data will be retained on the CPAT servers for a period of 6 years, at which point it will be

reviewed and managed as required in accordance with relevant organisational policies.

Physical Project Data (Documentary)

All physical documentary data will follow standard formats and conventions with appropriate labelling and referencing, resulting in findable, accessible, interoperable and reusable data (FAIR) which has been prepared in accordance with the *CIfA Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives guidance* (2020b).

Written and drawn records will utilise CPAT proformas and use standard conventions and terminology. Documents selected for archive will be accompanied with a paper copy of the selection strategy to ensure all elements of the archive are linked and traceable at all times.

Physical documentary data expected for an archaeological watching brief/evaluation/excavation includes the following;

Trench recording form

Context register

Context sheets

Site plans

Section drawings

Physical Project Data (Materials)

Materials are not expected from this project

Karl Macrow

Project Archaeologist

16/02/2024