

CARMARTHENSHIRE ARCHIVES BUILDING, CARMARTHEN: ARCHAEOLOGICAL WATCHING BRIEF 2018 (SN 4145 2026)



Prepared by DAT Archaeological Services
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DYFED ARCHAEOLOGICAL TRUST

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CARMARTHENSHIRE ARCHIVES BUILDING, CARMARTHEN: ARCHAEOLOGICAL WATCHING BRIEF 2018

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ARCHAEOLOGICAL WATCHING BRIEF**

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**CARMARTHENSHIRE ARCHIVES BUILDING, CARMARTHEN:
ARCHAEOLOGICAL WATCHING BRIEF 2018**

SUMMARY

DAT Archaeological Services were commissioned by Carmarthenshire County Council to undertake an archaeological watching brief during groundworks associated with the construction of the new Carmarthenshire Archives Building situated between the rear of Carmarthen Library (formerly Furnace House) and the Community and Education Centre (centred on NGR SN4144 2027). The development site lies within the Roman Town of Moridunum and is located partly on the rampart of the town defences and partly within the occupied area of the town. The Scheduled Monument of 'Part of the Roman Town of Moridunum' (SAM CM234) borders the northeastern side of the development site.

An initial Historic Environment Appraisal was carried out in 2016 by DAT Archaeological Services. Archaeological watching briefs had been undertaken during geotechnical investigations at the site in October 2016, September 2017 and January 2018. The works identified stratified archaeological deposits of depths c.1.1m below ground level across the site area. Possible water tanks of 19th century date were also recorded and a possible standing Roman wall, 0.6m wide was located at a depth of 1.3m directly to the west of the proposed building. This wall ran parallel with the edge of the Roman town defences. The results of these investigations confirmed the high potential of the site to contain Roman archaeological remains of high importance and remains of late 18th and 19th century structures associated with formal gardens behind Furnace House. A design solution was devised by the developers to avoid disturbing the Roman remains, through the use of a substantial concrete raft and ensuring that groundworks required for the building would not need to exceed 1m depth.

DAT Archaeological Services designed a written scheme of investigation for an intensive watching brief during groundworks for the development, with contingency for additional works, to ensure that should any archaeological remains be exposed that they could be recorded through appropriate investigation. This scheme of work was agreed with the client and the archaeological advisors to the planning authority.

The watching brief was undertaken between June 4th and June 18th during ground reduction works. These were carried out using 360 excavators fitted with flat bladed buckets. When the tarmac and sub base were removed a deposit of dark garden soil was revealed covering the majority of the site. Structures were revealed in the northwestern part of the site comprising low, and in some cases, truncated stone and brick walls. These are undoubtedly associated with the former gardens of Furnace House (depicted in various historic maps dating back to 1786) and represent the remains of the main garden wall, a glasshouse, a boiler house plus other structures of unknown function. The area was excavated slightly below the depth needed for the building in order to better record and categorize the remains.

The eastern half of the site was excavated down to a dark brown, silty-clay with occasional small stones and contained no visible structures. A test pit excavated into this deposit close to the northeastern corner of the site revealed the remains of a cobbled surface in the interstices of which lay a sherd of Roman greyware and a sherd of colour-coated ware (2nd to 4th century AD).

Overall the required depth of groundworks for the proposed Carmarthenshire Archives Building was such that significant archaeological remains were not disturbed. Even the area of late 18th and 19th century garden structures was at sufficient depth that careful backfilling, by the site contractors TRJ, to formation level ensured almost all of the surviving structural remains were retained in-situ.

1. INTRODUCTION

1.1 Project Commission

- 1.1.1 DAT Archaeological Services was commissioned by Carmarthenshire County Council to undertake an archaeological watching brief during works associated the construction of the proposed new Carmarthenshire Archives Building during June of 2018. The proposed archives building will lie to the northeast of Carmarthen Library on King Street and northeast of Little Water Street (centred on NGR SN 4144 2027).
- 1.1.2 In advance of the submission of a planning application for the proposed development, an initial Historic Environment Appraisal was prepared by DAT Archaeological Services to enable the planners to make an informed decision on the proposal as regards archaeological and historic environment issues (Meek 2016). During the preparation of the appraisal, two small geotechnical test pits within the footprint of the proposed archives building were excavated with an archaeological watching brief undertaken by DAT Archaeological Services.
- 1.1.3 The Historic Environment Appraisal summarised the archaeological significance and potential of the site as follows: *The proposed Carmarthen Library development site lies within the Roman Town of Moridunum. It is located partly on the rampart of the town defences and partly within the occupied area of the town. Test pitting confirms that the area has in parts around 2.50m of archaeological stratigraphy present dating from the Roman to Post-Medieval periods.*
- 1.1.4 The planning application for the new Carmarthen Archives building was submitted to Carmarthenshire County Council in July 2017 (planning reference W/35783). Planning application W/35783 was approved in late 2017 and Listed Building Consent W/25784 approved on 22 February 2018. The proposals were described as: *“New archive repository facility to rear of existing library. Includes new ramped staff entrance from public car park. New blue pennant paving to archive staff entrance. Proposals to include for new fire stair within existing library.”*
- 1.1.5 An archaeological condition was attached to planning permission for the proposals (Condition No. 3) which stated: *No development shall take place until a qualified and competent archaeologist has submitted a written scheme of investigation (WSI) for approval in writing by the local planning authority. This WSI will describe the different stages of the work and demonstrate that it has been fully resourced and given adequate time. On behalf of the local planning authority, their archaeological advisors (Dyfed Archaeological Trust – Development Management will monitor all aspects of this work through to the final discharging of this condition. The work will not be deemed complete until all aspects of the WSI have been addressed and the final report submitted and approved.*
- 1.1.6 Additional geotechnical works were undertaken in September 2017 and January 2018, both of which were monitored through an archaeological watching brief undertaken by DAT Archaeological Services. Along with the works undertaken in 2016, the watching briefs demonstrated relatively undisturbed and significant archaeological remains lay at a depth of just over 1m below the present ground surface across the development site (Meek 2018). Remains encountered included 19th century water tanks and various brick walls as well as the remains of a substantial Roman wall of 0.6m width revealed at a depth of 1.3m below ground surface. The geotechnical works indicated that the first metre of ground below ground level was quite disturbed, containing modern debris, brick rubble as well

as drains and services presumably associated with the construction and use of the library and associated car park.

- 1.1.7 Due to the identified significant archaeological sensitivity of the site area, the client (Carmarthenshire CC), the architects (Acanthus Holden) and the structural engineers (Roger Casey Associates) proposed the use of a raft foundation for the new building to prevent disturbance of the underlying archaeological remains below 1m depth. An archaeological written scheme of investigation was prepared by DAT Archaeological Services using information from the watching briefs undertaken during geotechnical investigations within the site area (Meek 2018); the substructure overview prepared by Roger Casey Associates in September 2017 (RCA 2017); the information from the Historic Environment Appraisal (Meek 2016); other relevant information such as sketch plans provided by the client and their architects and general information on archaeological levels obtained from previous reports on the archaeology of Carmarthen (James 1980, 1992 & 2003); and following a meeting held on 24th April 2018 with Carmarthenshire CC (both planning officers and project development), Roger Casey Associates and Development Management section of Dyfed Archaeological Trust.
- 1.1.8 The written scheme of investigation was approved prior to the development commencing and the watching brief being implemented. All parties (including the appointed site contractors) were made aware of the archaeological sensitivity of the site and the required roles of the archaeologists.

1.2 Scope of the Project

- 1.2.1 The scope of the required archaeological watching brief was laid out in the written scheme of investigation, relevant parts of the WSI are included within this report.

- 1.2.2 Overall the aims and objectives of the watching brief were as follows:

The implementation of a scheme of archaeological mitigation associated with the proposed development of the Carmarthen Archives building, King Street, Carmarthen. The scheme includes archaeological watching briefs and potential detailed excavation of any exposed remains or where deeper groundworks are proposed. A report shall be prepared on the results of all archaeological mitigation undertaken at the site and an archive created of all finds, records, photographs and plans created. Further mitigation may possibly need to be implemented where significant archaeological remains are identified.

- 1.2.3 The following tasks were to be completed:

- Provision of a written scheme of investigation to outline the methodology for the archaeological mitigation which DAT Archaeological Services will undertake (this document);
- To establish the state of preservation, character, extent and date range for any archaeological deposits identified;
- To appropriately investigate and record any archaeological remains to be exposed, damaged or destroyed by the development proposals (including areas where full excavation may be required);
- use the information to implement any further mitigation schemes at the site which may be required should significant archaeological remains be identified;

- Production of a report and an archive of the results of all archaeological mitigation undertaken at the site.

1.3 Report Outline

- 1.3.1 This report describes the location of the site along with its archaeological background, and provides a summary and discussion of the results of the watching brief.

1.4 Abbreviations

- 1.4.1 Sites recorded on the Regional Historic Environment Record (HER) are identified by their Primary Record Number (PRN) and located by their National Grid Reference (NGR). Written Scheme of Investigation – WSI.

1.5 Illustrations

- 1.5.1 Photographic images are to be found at the back of the report. Printed map extracts are not necessarily reproduced to their original scale.

1.6 Timeline

- 1.6.1 The following timeline is used within this report to give date ranges for the various archaeological periods that may be mentioned within the text (Table 1).

Period	Approximate date	
Palaeolithic –	c.450,000 – 10,000 BC	Prehistoric
Mesolithic –	c. 10,000 – 4400 BC	
Neolithic –	c.4400 – 2300 BC	
Bronze Age –	c.2300 – 700 BC	
Iron Age –	c.700 BC – AD 43	
Roman (Romano-British) Period –	AD 43 – c. AD 410	Historic
Post-Roman / Early Medieval Period –	c. AD 410 – AD 1066	
Medieval Period –	1066 – 1536	
Post-Medieval Period –	1536 – 1750	
Industrial Period –	1750 – 1899	
Modern –	20th century onwards	

Table 1: Archaeological and Historical Timeline for Wales

2. THE SITE

2.1 Site Location and Topography

- 2.1.1 Carmarthen Library lies directly to the northwest of St Peter's church in Carmarthen, on the northern side of King Street. The proposed archive building will be located directly to the north of the library building, and it is bounded by St Peter's Car Park to the east, the Community Centre to the north and the rear of properties fronting Little Water Street to the west.
- 2.1.2 The proposed development area is presently open ground used as car parking with a retaining wall to the lower properties on Little Water Street to the southwest and there is also an oil tank in a metal fenced enclosure in the southwestern part of the area.
- 2.1.3 The car park area is relatively level (at around 21.50m OD), although a slight slope is visible running down to the west/southwest. Directly beyond the retaining wall to the rear of properties fronting Little Water Street, there is a vertical drop in the ground level of over 2m in height.

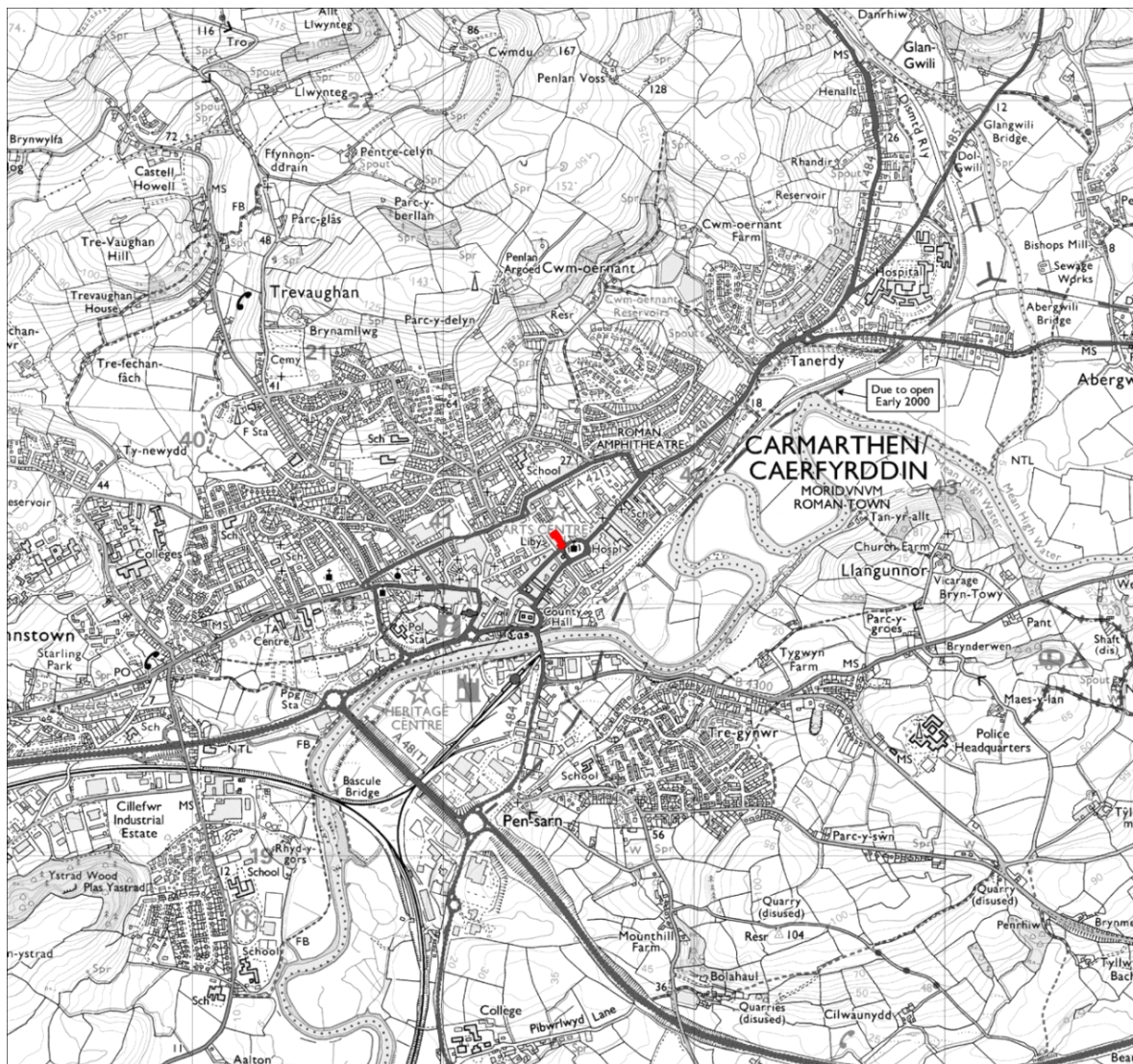


Figure 1: Location map based on the Ordnance Survey.

Reproduced from the Ordnance Survey 1:25,000 scale Map with the permission of The Controller of Her Majesty's Stationery Office, © Crown Copyright Dyfed Archaeological Trust Ltd., The Shire Hall, Carmarthen Street, Llandeilo, Carmarthenshire SA19 6AF. Licence No 100020930

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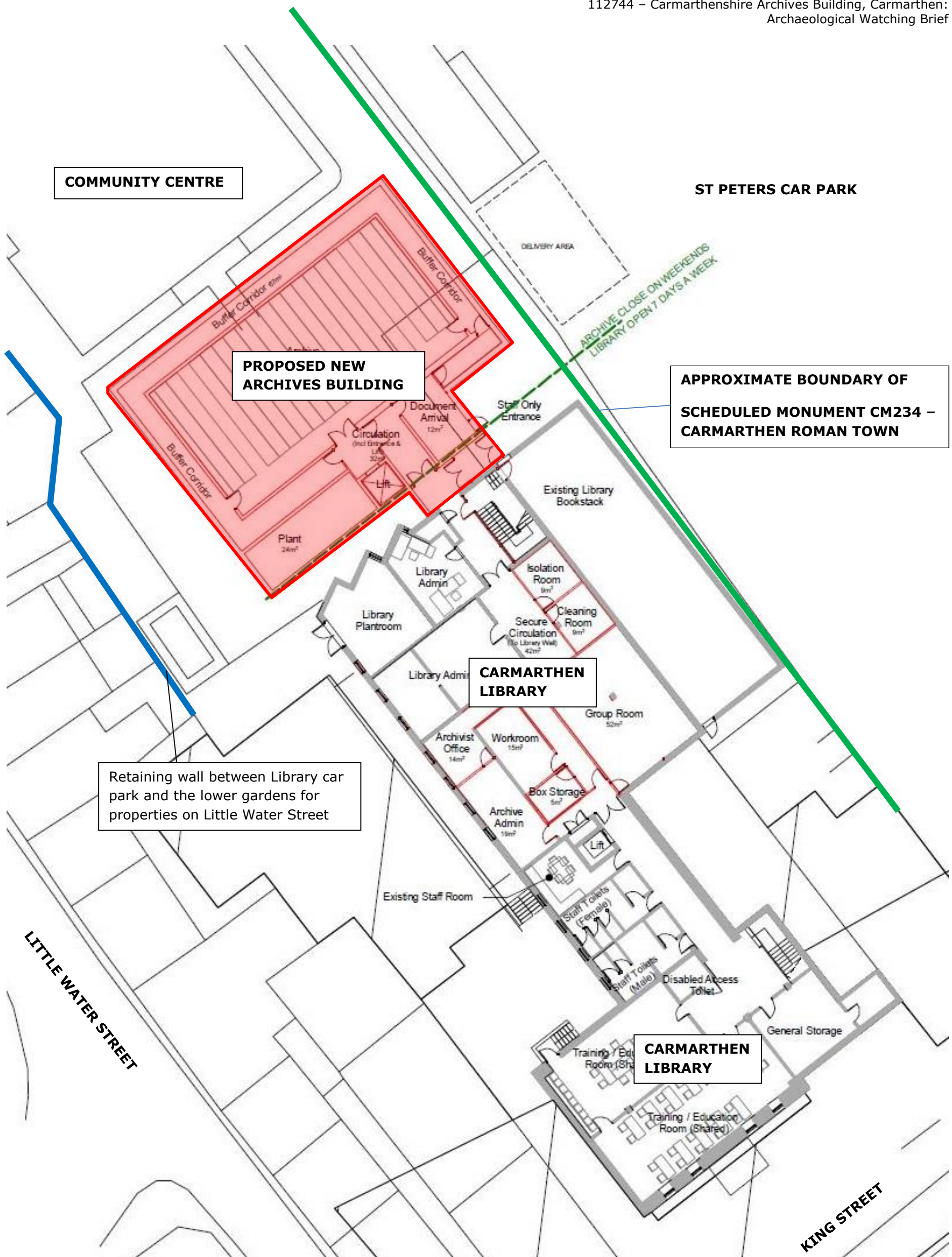


Figure 3: Detail of development proposals showing the footprint of the proposed archives building in red, with the approximate boundary of Scheduled Monument CM234 – Carmarthen Roman Town and other features of interest (plan supplied by Acanthus Holden Architects) (NTS)

2.2 Summary Archaeological and Historical Background

- 2.2.1 The following is summarised from the Historic Environment Appraisal (Meek 2016) to place the site area in its archaeological and historical context. Additional and updated information is included from the watching brief report (Meek 2018) and research undertaken for this work. More detailed information can be found within the appraisal (Meek 2016), based on a 250m radius search centred on the proposed Carmarthen Archives building.
- 2.2.2 There are no sites of Prehistoric date known within a 250m radius of the proposed Carmarthen Archives development site.
- 2.2.3 There are 20 known sites of Roman date known within the 250m radius. These relate to previous findspots and excavations undertaken within the Roman town of Moridunum and the Roman fort. The development site lies within the northwestern corner of the town defences of Moridunum and thus significant Roman archaeology will be present within the site.
- 2.2.4 There are only two sites of Early Medieval date known within 250m of the proposed development site. It is likely that the former Roman town defences of the town were occupied into the Post-Roman period and the potential for further remains of this date to be present within the site area is relatively high.
- 2.2.5 Five records of Medieval date are recorded within 250m, and although the main focus of the Medieval town lay to the west, it is known that the former area of the Roman town was still occupied during the Medieval period. Three of the recorded sites relate to town gates on the medieval town defences, the two others are findspots. Medieval archaeology will be present within the proposed development site, although this may be related to agricultural / cultivation activity.
- 2.2.6 Numerous post-medieval sites are known within the 250m radius, most of which are listed buildings. The numerous records attest to previous historical and cartographic studies of the development of the town of Carmarthen mostly during the 19th and early 20th centuries. Many of the records relate to former public houses.
- 2.2.7 Records include information on Furnace House (the façade of the main Library building) and its formal gardens which were laid out to the north which covered the proposed development. Map evidence indicates that the gardens included ponds in the late 18th century and a large glasshouse was present within the development site at the end of the 19th century. The map indicates that Furnace House was owned by Jonathon Morgan, but it is recorded that the house was built by his father Robert Morgan around 1760. The building is grade II listed and includes the façade, forecourt walls, railings and gates: only the façade survives with the rear of the building having been rebuilt in the later 20th century for the library. Robert Morgan was an industrialist who established two tinplate rolling mills in the region and the Carmarthen Ironworks.
- 2.2.8 The earliest map consulted was the 1786 Estate map of Carmarthen (Figure 4). This shows that the proposed location of the archives store was mostly undeveloped at this time, forming part of the area of gardens to the north of Furnace House. A structure lies within the northwestern part of the development site and a garden plot boundary runs through the eastern side.
- 2.2.9 The 1834 map of Carmarthen by Wood's (Figure 5) shows a similar arrangement of buildings within the development plot, including Furnace

House on the King Street frontage with gardens behind, including the pond which would lie beneath the Community centre. A structure is shown in the same place as that on the 1786 map with a second thinner but parallel structure to the south both within the footprint of the proposed new archives building. The accuracy of the map and scale used makes it difficult to be very clear about the exact footprint of the proposed building and the former structures that stood on the site.



Figure 4: Extract of 1786 Golden Grove Estate Map showing approximate footprint of proposed Carmarthen Archives

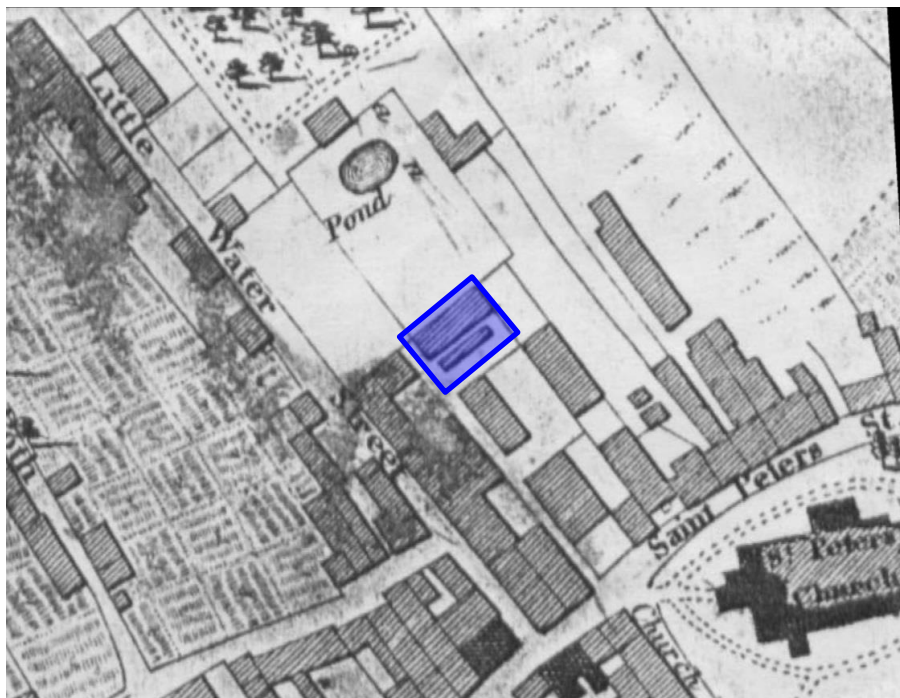


Figure 5: Extract of the 1834 Wood's Map of Carmarthen showing approximate footprint of proposed Carmarthen Archives

- 2.2.10 The 1888 1:500 scale Ordnance Survey map (Figure 6) shows a more accurate representation of structures on King Street, including Furnace House, adjacent structures no longer present and a formalised garden layout to the north. This covers the area of the proposed archive store and includes a structure shown as a cross hatch, which would indicate a glass house within the northwestern part of the site area. It is possible that this is the same structure as shown on the 1786 and Woods map of 1834, although this could not be confirmed.



Figure 6: Extract of 1888 1:500 Ordnance Survey Map with approximate footprint of proposed Carmarthen Archives building overlaid.

- 2.2.11 The later OS maps show little change to (or not enough detail of) the development site area until the 1970s when the building to the rear of the Library is constructed (the Community Centre). This apparent lack of development would indicate that the site area has high archaeological potential for well-preserved archaeological remains.

2.3 Results of Previous Archaeological Watching Briefs within the Area and Anticipated Depth of Archaeology (taken from WSI)

- 2.3.1 In October 2016 two test pits were excavated within the footprint of the proposed archive building. These demonstrated that archaeological deposits survived at a depth of 1.05m below the present ground surface within Test Pit 1. Above this were layers of demolition material and garden soils. This material is likely to have derived from the former gardens and structures that stood across the area as well as later levelling and other demolition undertaken in the 20th century. Test Pit 2 was less conclusive with potential archaeological levels identified at 0.99m below present ground surface. The material identified in Test Pit 2 was very different to the clear archaeological levels seen in Test Pit 1, perhaps indicating the presence of an archaeological feature or even remains of ramparts. The ground level at Test Pit 2 was lower than that at Test Pit 1.

- 2.3.2 Natural undisturbed ground was identified at a depth of 2.50m below the present ground surface in Test Pit 1, indicating that there is at least 1.45m of archaeological stratigraphy present within the development area. In Test Pit 2 possible natural ground was identified at a depth of only 1.61m below ground surface (a depth of 0.60m of archaeological stratigraphy). It is possible that if this trench had been located over a feature such as the town ramparts, they would have been built of redeposited natural clays, silts and gravels and so may not have been easily recognisable within the confines of the small test pit trench.
- 2.3.3 Numerous services were also visible across the site area within the tarmac, including drains. It is understood that some of the drains measure between 0.6m and 1.5m depth (RCA 2017). The services will have caused substantial disturbance to any underlying archaeological remains that may have been present.
- 2.3.4 Brick wall footings were revealed in the test pits and other investigation areas lying quite close to the present ground surface. These are likely to be footings relating to former 19th century garden structures. It should be noted that these are not archaeologically insignificant remains and should still be recorded. These upper layers have been significantly disturbed by services and other 20th century activity.
- 2.3.5 On the north-western side of the development area a former brick built chamber was recorded through percussive sampling and later machine excavation at a depth of around 1m below the present ground surface. The feature was archaeologically recorded prior to being backfilled with concrete to stabilise it. The structure comprised two adjoining subterranean chambers with brick vaulted roofs. It is likely they represent some form of water tank/reservoir possibly for the former formal gardens. It did not extend into the footprint of the proposed Carmarthen Archives building.
- 2.3.6 During the above investigations the top of a substantial mortared wall was revealed at a depth of around 1.30m below the ground surface directly behind the north-eastern wall of the northern chamber. The wall was partially removed to a depth of 0.40m but could be seen to be continuing down below this level. It was aligned roughly northwest to southeast, parallel to the retaining wall to Little Water Street. It had been well-faced on both sides and measured 0.60m in width. A length of 2.20m of the wall was exposed, but the wall definitely continued beyond the edges of the exposed area. It is considered that the wall would be of Roman date. Its location would have been on or within the ramparts of the town defences. The character of the wall would suggest it formed part of a building. The wall lay directly southeast of one of the test pits excavated in 2016, indicating that the test pit would have been located within and through the Roman building.
- 2.3.7 From other investigations undertaken within the Roman town of Moridunum, the typical depth of the top of Roman archaeological deposits is around 1m. Within the Carmarthen Football ground to the east of St Peters Car Park the tops of Roman roads within the town were revealed at a depth less than 1m below ground surface (Day and Wilson 2017).
- 2.3.8 Based on the information gained from the watching briefs it was concluded that significant archaeological deposits were present at a depth of 1m below the present ground surface. The potential for some remains to survive at a height less than 1m below ground surface could not be discounted, such as where structural remains have survived or where road surfaces might run through the site area.

3 WATCHING BRIEF METHODOLOGY

3.1 Fieldwork

- 3.1.1 The watching brief was undertaken in accordance with the Chartered Institute of Archaeologists' (CIfA) *Standard and Guidance for an Archaeological Watching Brief* (2014). The detail of the archaeological fieldwork was laid out in the written scheme of investigation prepared by DAT Archaeological Services and approved prior to any groundworks commencing on-site.
- 3.1.2 The methodology was based on the raft foundation design as detailed in the Substructure Planning Overview (RCA 2017). The following provides a summary of the agreed archaeological requirements and responsibilities for the watching brief as laid out in the WSI, with updates based on the actual works undertaken:
- The depth of groundworks for the formation of the raft was not to exceed 20.57m aOD – a level of 0.22m above the nominal archaeological level of 20.35m aOD;
 - An archaeological watching brief had to be maintained during groundworks for the formation of the raft in order that any archaeological remains that were exposed by the works could be appropriately recorded. This included the recording of any wall lines exposed by the works of post-medieval date;
 - Where significant areas of archaeological remains were identified during the watching brief, a more detailed phase of recording and partial excavation was necessary to characterise the deposits and determine their significance. Further more detailed excavation might have been required or alternative forms of building design mitigation implemented if very significant remains had been exposed;
 - 'Proof rolling' of the formation ground level was not undertaken across the footprint of the building as potentially it could damage to underlying archaeological remains. In the event it was not required anyway.
 - The location of soft spots was also to be determined by the structural engineer when the formation level had been reached, but again other than where archaeological recording had been undertaken, there was not a requirement for any excavation or filling of soft spots in the end;
 - Areas of proposed new drainage in the area to the southwest of the proposed archives store were to be excavated below the nominal level of archaeology, 20.35m aOD. These ended up being located in areas where deep modern drainage features were already present and had truncated any earlier archaeological remains;
 - A full report and archive on the archaeological results of the proposed mitigation has been prepared and will need to be approved prior to full discharge of the archaeological condition.
- 3.1.3 Recording of all archaeological features or deposits conformed to best current professional practice and was carried out in accordance with the Recording Manual used by DAT Archaeological Services. A written, drawn and photographic record was maintained throughout this watching brief. All contexts encountered during this watching brief were recorded.
- 3.1.4 Archaeological features exposed at the site were surveyed using a Trimble Total Station, with all data being related to the Ordnance Survey national grid levels related to Ordnance Datum. Surveys also recorded adjacent buildings and structures.

- 3.1.5 A digital photographic record was maintained throughout using a high resolution camera, with photographic information recorded for all photographs taken.

3.2 Post-Fieldwork Reporting and Archiving

- 3.2.1 All data recovered during the watching brief will be collated into a site archive structured in accordance with the specifications in Archaeological Archives: a guide to best practice in creation, compilation, transfer and curation (Brown 2011), and the procedures recommended by the National Monuments Record, Aberystwyth. The National Standards for Wales for Collecting and Depositing Archaeological Archives produced by the Federation of Museums and Art Galleries of Wales will also be adhered to. Digital archives will be collated using the Royal Commission on the Ancient and Historical Monuments of Wales systems (2015) and deposited with the RCAHMW.
- 3.2.2 The results of the fieldwork have been assessed in local, regional and wider contexts.
- 3.2.3 This report is fully representative of the results of the fieldwork.

3.3 Timetabling of Fieldwork

- 3.3.1 An initial site survey was undertaken by two archaeologists immediately before the groundworks commenced to locate features identified in the earlier watching briefs and set-up survey stations around the proposed development area. This occurred in the week immediately prior to groundworks commencing.
- 3.3.2 The archaeological watching brief was maintained with at least two archaeologists on-site between 4th and 19th June 2018 (excluding weekends), with a further visit by a single archaeologist on 16th June 2018. Three archaeologists were present on-site between 7th and 13th June (excluding the weekend).

Thursday 31 st May	Hubert Wilson, Luke Jenkins
Monday 4 th June	Hubert Wilson, Luke Jenkins
Tuesday 5 th June	Hubert Wilson, Luke Jenkins
Wednesday 6 th June	Hubert Wilson, Luke Jenkins
Thursday 7 th June	Fran Murphy, Hubert Wilson, Luke Jenkins
Friday 8 th June	Fran Murphy, Hubert Wilson, Luke Jenkins
Monday 11 th June	Fran Murphy, Hubert Wilson, Luke Jenkins
Tuesday 12 th June	Fran Murphy, Hubert Wilson, Luke Jenkins
Wednesday 13 th June	Hubert Wilson, Luke Jenkins, Charlie Enright
Thursday 14 th June	Hubert Wilson, Luke Jenkins
Friday 15 th June	Hubert Wilson, Luke Jenkins
Monday 18 th June	Hubert Wilson, Charlie Enright
Tuesday 19 th June	Hubert Wilson, Charlie Enright
Tuesday 26 th June	Luke Jenkins

Table 2: Archaeological Attendance at the site

4. RESULTS OF THE WATCHING BRIEF

4.1 Introduction

- 4.1.1 Directions in this report are based on site north (Figure 7).
- 4.1.2 An archaeological watching brief was carried out during the entirety of the intrusive groundworks. The period of supervision began on the 4th June 2018 and lasted 2 weeks and 2 days. A further visit was carried out on 26th June.
- 4.1.3 The geotechnical trenches excavated in January 2018 and observed through an archaeological watching brief (Meek 2018) was still open. At its base were the remains of the probable Roman wall. This was re-cleaned and photographed and a note taken of its height in comparison to the depth of the proposed groundworks (Photo 1). The two brick built arched water tanks found during the previous geotechnical works were also still visible (although had been mostly filled with concrete (Meek 2018). These features were surveyed prior to the start of the construction groundworks.



Photo 1: Remains of possible Roman wall at bottom of trial pit.
Looking west; 1m scale

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- 4.1.4 The watching brief area measured approximately 18.5m by 26.5m and was bounded in the south by the rear of the current library building, a single story community centre to the north, St Peters car park to the east and a boundary wall to the west; beyond which the land falls a to the rear of properties fronting Little Water Street. This fall is interpreted as the line of the edge of the rampart that enclosed the Roman Town and dropped down to one of the former town ditches.
- 4.1.5 The site was excavated using 3 and 9 tonne 360 mechanical excavators. Where possible a grading bucket was used, however a toothed bucket was used when appropriate following agreement with the on-site archaeologists.

4.2 Western half of site

- 4.2.1 Following the removal of tarmac and ballast from the western half of the site, a sequence of wall lines creating a number of 'bays' was uncovered emerging from mixed, dark brown, garden soils (Photo 2).



Photo 2: Wall lines visible after removal of tarmac and stone ballast.
View south; 1m scale

- 4.2.2 The location of these walls; [1], [2], [8] and [9], within the NW quadrant of the development, suggested they are related to a structure which can be seen in various historical maps of Carmarthen, standing outside the walled garden of Furnace House (see Figures 4, 5 and 6). This had been interpreted as a simple glasshouse.
- 4.2.3 In order to achieve the required ground level to build upon and characterize the wall lines, it was agreed that the deposits within the bays would be excavated to leave the walls upstanding to enable detailed recording.

Bay 1 (Figure 7)

- 4.2.4 The deposits within Bay 1 consisted of 0.35m of dark garden soils (1), beneath which stood approximately 0.4m of mixed silty clays containing fragments of brick, slate and lime mortar (2). This stood upon a 0.3m thick deposit of stone and broken brick (3) (Photo 3).



Photo 3: Deposits (2) and (3) within Bay 1. Garden soils have been removed.
View west; 1m scale.

- 4.2.5 The removal of deposits within Bay 1 revealed a cobbled surface [5] which covered the whole of the bay and measured 8.1m by 1.9m (Photos 4 & 5). It butted up to wall [2] but extended beneath wall [7].



Photo 4: Cobble floor [5]. View west; 2x1m scales



Photo 5: Detail of cobble floor [5]. View north; 0.5m and 1m scale

- 4.2.6 Wall [2] was approximately 9.1m long, 0.35m wide and x 1.1m high (Photo 6). Its southern elevation was brick with a pink plastered face, whilst its northern (hidden) face was a mixture of brick and stone. It formed the northern side of Bay 1.



Photo 6: Plastered face of wall [2] and cobble floor [5]. View north; 1m scale

- 4.2.7 When wall [2] was demolished an internal flue [6] (which enabled the wall to heat up) was revealed (Photos 7 & 8). It was 0.2m wide, 0.4m tall, capped with thin brick tiles and ran the length of the base of the wall. At its western end it curved northwards (Photo 9) into the trench baulk. At its eastern end (its original chimney having been blocked and the flue extended through wall [9]) it exited via a chimney flue adjacent to the outside of wall [9] and cut slightly into wall [1] (Photo 10).



Photo 7: Flue [6] exposed within wall [2]. View NW; 1m scale



Photo 8: Detail of flue [6] within wall [2]. View west; 0.5m scale



Photo 9: Flue [6] turning NW at west end of wall [2]. View south; 0.5m scale



Photo 10: Blocked chimney flue [3] on the right; chimney flue [4] on the left.
View south; 0.5m scale

- 4.2.8 Wall [7] constituted the other three sides of Bay 1. It was an uneven coursed, stone wall, 0.5m high and 0.35m wide, built directly on top of cobbled surface [5]. It was coped with slate and earthenware tiles (Photo 11). The next phase in the development of this structure was the construction of wall [8], which was built directly on top of wall [7] (Photos

10, 11 & 12). It was brick built 0.25m wide and 0.6m high. Its outer face was flush with the outer face of wall [7] and had been plastered. Its inner face was approximately 0.1m back from the inner face of wall [7] creating a ledge (Photos 10 & 12) that encompassed three sides of the bay. The original length of the Bay had been divided on its western side by the later construction of brick wall [9] (Photos 11 & 12).



Photo 11: Stone wall [7] in lower part above cobbles, with brick wall [8] above and later brick wall [9] to left. View SW; 1m scale



Photo 12: Wall [8] (white plaster) with walls [2] and [9] on either side. View west.



Photo 13: Section through wall [8] sitting above wall [7]. View west; 0.5m scale

Bays 2 and 3 (Figure 7)

- 4.2.9 Within Bays 2 and 3, and areas to the west of these bays, the same thickness of garden soils (1) continued, beneath which stood a mid-brown, silty clay (4) with occasional brick fragments. This deposit stood upon a layer of stone and broken brick (5) similar to (3) but with larger fragments of brick (Photo 14).
- 4.2.10 Brick wall [9] defines the boundaries of Bay 2. Its western arm measured 3.4m and butted onto wall [2]; its eastern arm measured 4.35m and butted onto wall [1] and its southern side measured 7.85m and comprised a series of 5 segmental arches each 0.9mm wide and 0.6m tall with 0.5m wide pillars forming a small arcade (Photo 15).
- 4.2.11 One arm of wall [9] projected across Bay 1, where it cuts through wall [8] and butts wall [2] and is built directly on top of (3) (Photos 11 & 16).
- 4.2.12 The chimney flue between walls [8] and [9] on the east side of the bay was blocked, and the flue extended through to the outside of wall [9] top the east of Bay 1. The narrow corridor created between [8] and [9] opposite blocked chimney [3] was bricked up [25]. A small vent was noted at its base. The space between [3] and [25] is backfilled with debris including window glass (as would be expected in a glass house). This is the only place where such window glass was found during the watching brief.



Photo 14: Deposits (1), (4) and (5) beneath collapsed arch in wall [9].
View north.



Photo 15: Southern aspect of wall [9] showing small arcade.
View NE; 0.5m scale



Photo 16: Wall [9] sitting on top of deposit (3) and butting up to wall [2], dividing Bay 1. View east; 1m scale

4.2.13 It was evident that the cobbled floor [5] extended beyond the edges of Bay 1 and it is likely that it extended below the area of Bay 2. As the formation depth for the new Archives Building had been reached, there was no requirement for any deeper excavation in this area and so the extents of cobbled floor [5] could not be confirmed. The small Test pit 1 excavated in Bay 3 did not show the cobbles in section, only demolition and levelling layers were revealed (Photo 17).



Photo 17: Test pit 1 showing demolition and levelling deposits. View south; 1m scale

- 4.2.14 Floor [10] lay between the arched section of wall [9] and wall [8], which formed a corridor 7m long and 0.75m wide. The floor comprised unglazed earthenware tiles, each measuring 0.28m by 0.24m (Photos 18 & 19). It appeared to extend just beyond the arches of wall [9] by one row non-continuous row of tiles.



Photo 18: Tiled floor [10] bounded by walls [8] and [9] in Bay 2 (centre). Floor [15] is on the left in Bay 3. View west; 0.5m scale



Photo 19: Tiled floor [15] bounded by walls [9] and [17] in Bay 3. Drain pipe [12] runs between floors [10] and [15] to the left. View east; 2 x 1m scale

- 4.2.15 The prior removal of overlying deposits from within Bay 3 revealed a series of four parallel brick drains [18] (Photo 20) which ran into a makeshift culvert placed on top of earlier drain pipe [12], which, in turn fed a small, rough, stone-capped drain [14] (Photo 21). A lime mortar surface [11] was uncovered between walls [8] and [13]. The eastern ends of the surface and both walls had been damaged by the insertion of a modern pipe (Photo 21).



Photo 20: Brick drains [18] within Bay 3 protruding from deposit (4).
View SE; 1m scale



Photo 21: From left to right - stone capped drain [14], wall [13], mortar surface [11], wall [8] and cobble floor [5]. View west; 1m scale

- 4.2.16 Beneath drains [18] lay another unglazed earthenware tile floor [15] (Photos 18 and 19) similar to that seen at the base of Bay 2 [10]. It measured 7.85m by 1.7m and was better preserved than floor [10] with a drain pipe [12] separating both floors.
- 4.2.17 Wall [17] was a single-skinned brick wall with one good face adjacent to floor [15] (Photo 19). The wall was built against a deposit of light brown, silty clay (6) overlain by garden soil (1) (Photo 22). There is probably some significance in the fact that both floor [15] and wall [17] ended in line with wall [9]. Beneath deposits (1) and (6) a mortared surface, possibly bedding for a former tiled floor, was revealed (Photo 23).



Photo 22: Deposits (1) and (6) directly south of wall [17]



Photo 23: Mortar layer [19] between walls [17] and [20]; floor [15] on the left. View east.

Bays 4 & 5

- 4.2.18 To the south, beyond wall [17], a series of parallel, low stone walls were revealed. In order to characterize them, deposits (1) and (6) within Bays 4 and 5 were removed. Walls [16], [20] and [21] were constructed of coursed rubble and measured between 0.30m and 0.5m high and approximately 0.4m wide. Walls [20] and [21] were 10.9m long and 1.85m apart.
- 4.2.19 A low brick ledge ran down both sides of Bay 5. The north facing elevation of wall [21] was slightly sloped and was cut by a modern service pipe at its western end. Wall [16] butted wall [20] and ran northwards ending beside brick wall [9] (Photo 24).
- 4.2.20 The truncated tops of three other walls [22], [23] and [24] running parallel with [21] were uncovered but the deposits between them were not excavated as the level of the walls corresponded with the required formation level for the new Carmarthenshire Archives building (Photo 25).



Photo 24: Walls [20] and [21] and their respective brick ledges. Cross wall [16] in the foreground. View east; 2x1m scale



Photo 25: Walls [21] with the tops of walls [22], [23] and [24] just visible to the left. View SW; 1m scale

The Walled Garden Wall

- 4.2.21 In the northern part of the site area lay the remains of the 'walled garden' wall [1] of Furnace House, as shown on earlier mapping. The walled garden lay to the north of the new Carmarthenshire Archives building. The walled garden wall was situated approximately 0.45m north of wall [2]. A furnace room lay on its northern side to the west.



Photo 26: Wall [1] on the right, wall [2] on the left; the furnace room can be seen in the background, having been inserted into wall [1]. View west; 1m scale.

4.2.22 The walled garden wall was aligned in an east-west direction and was a random coursed, stone construction. It measured approximately 23.7m long, 0.7m wide and up to 0.6m tall (Photo 26).

4.2.23 At its eastern end it returned north (Photo 27), whilst its western end was truncated by a modern drain. There was a gap of approximately 0.45m between walls [1] and [2], within which an iron pipe with a brick surround was uncovered (Photo 28). The remainder of the gap was filled with soils, stone and brick.



Photo 27: Southeast corner of Furnace House garden wall [1].



Photo 28: Gap between the furnace room section of wall [1] and wall [2], with hot water pipe and brick surround. View east; 0.5m scale

- 4.2.24 On the north side of the wall [1] (adjacent to Bay 1) its face had been removed to incorporate the construction of a brick built furnace room with a brick floor (Photos 26 and 29).
- 4.2.25 It measured 2.15m by 1.8m and was 1.05m deep. Its north wall contained a 0.95m opening and possibly the remains of an arch (Photo 30). Access into the room was via three slate steps. This structure can be seen on the 1888 1:500 Ordnance Survey map.



Photo 29: Furnace room. Brick wall on left is incorporated into Garden wall [1].
View west; 1m scale



Photo 30: North wall of furnace room with possible collapsed arch.
View north; 1m scale.

4.3 Eastern half of site

- 4.3.1 During ground reduction a number of modern land drains were removed from this half of the development. Apart from the continuation of the walled garden wall [1], no other post-medieval features were encountered. A few metres from the edge of the development, wall [1] turned north (as shown in historical maps) (Photo 27). When the wall was removed a soil profile associated with the formal gardens within the walled garden of Furnace House was exposed (Photos 31 & 32).



Photo 31: Exposed soil profile of Furnace House gardens after removal of wall [1]. View north; 1m scale.



Photo 32: Wall [1] and soil profile of Furnace House garden (left) contrasting with garden soils outside the wall (right). View north; 1m scale

- 4.3.3 After the removal of wall [1] the rest of the site was reduced down to a compact, mid brown, silty-clay (7).
- 4.3.4 Test pit 2, measuring 1.3m by 1.1m was sunk into layer (7) to determine what lay beneath. At a depth of 0.45m a cobbled surface [25] was revealed (Photo 33). The cobbles were larger than those seen in floor [5]. A sherd of Roman grey-ware and a sherd of colour-coated ware were recovered from the surface of the cobbles (Photo 34).



Photo 33: Cobbled surface at base of Test pit 2. View north; 1m scale.



Photo 34: Roman pot sherds (grey ware and colour-coated ware) found on cobbled surface [25] in Test pit 2; 0.1m scale

5 DISCUSSION

5.1 Introduction

- 5.1.1 For interpretation the remains are divided into two sections: Roman and Post-Medieval. The Post-Medieval discussion is further divided to describe the phasing of the structure shown in historical mapping.

5.2 Post-Medieval

- 5.2.1 It is assumed that the earliest post-medieval structure built within the development site is wall [1]. This is the southern wall of a rectangle measuring 28m by 45m that once constituted the walled garden of Furnace House. The Education/Community Centre lies within much of the area that was formerly enclosed by the walled garden.
- 5.2.2 Only the southern wall of the walled garden was revealed during the archaeological watching brief.
- 5.2.3 A structure is shown corresponding with the area of 'Bay 1' recorded during the watching brief on earlier maps of the area: 1786 Golden Grove Estate map; Wood's 1834 map of Carmarthen and the 1888 1:500 Ordnance Survey map (Figures 4, 5 and 6).
- 5.2.4 This structure was interpreted as a glasshouse based on the crosshatching shown on the 1888 1:500 Ordnance Survey map. The archaeological watching brief has demonstrated that this structure has quite a complex development and does not merely represent a single phase of glasshouse, but four different phases of development can be determined.

Phase 1 (Figure 8)

- 5.2.5 The first phase of development of the structure involved the construction of the furnace room on the north side of wall [1] and the building of the 'hot' wall [2] (pink wall on Figure 8), together with its flue [6] to the south of the walled garden. Cobbled floor [5] was then laid ending in a line of setts butting up to wall [2].
- 5.2.6 The furnace room would have contained a boiler of some sort which would have created hot air which circulated through flues, one of which went into wall [2], thereby heating it up (and hence a 'hot' wall). This arrangement would enable plants in pots grown to be beside wall [2] to benefit from the warmer ambient temperature.

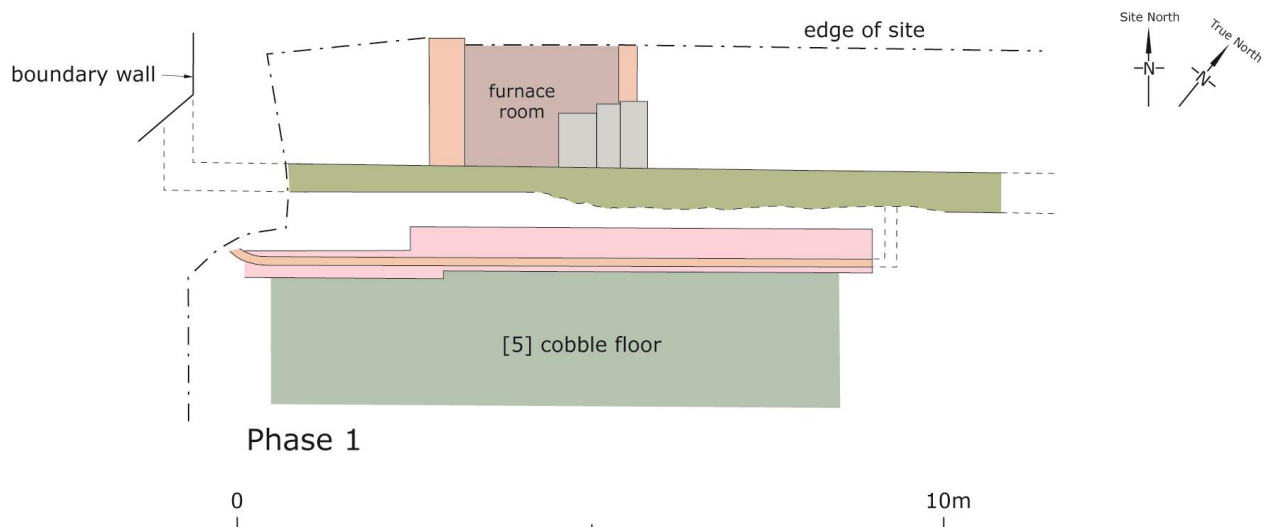


Figure 8: Phase 1 of the structure shown on historic maps in the northern part of the site area

Phase 2 (Figure 9)

- 5.2.7 Wall [7] is built on top of cobbled floor [5], its eastern and western sides butt up to wall [2] creating an enclosed area measuring 8.1m by 1.9m and 0.5m deep (Bay 1). It is possible that tiled floor [10] constructed during this phase, butting up to wall [7].
- 5.2.8 It is possible that this is the first phase of a glasshouse being built at the site on the southern side of the walled garden wall. The likelihood is that the structure was still being heated via the furnace room.

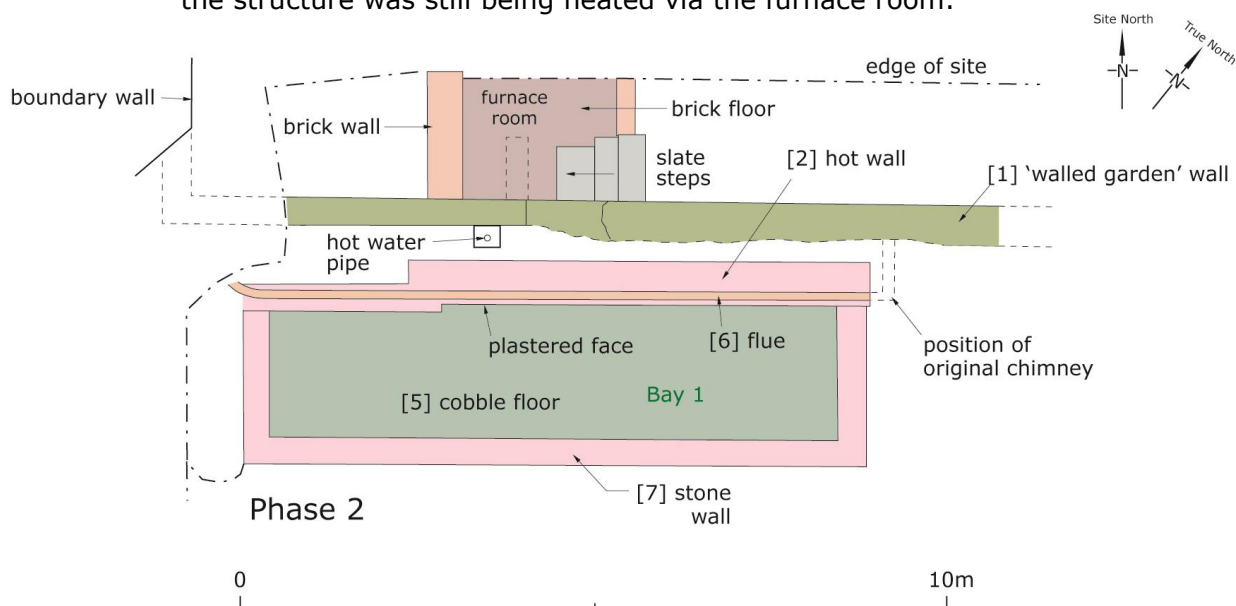


Figure 9: Phase 2 of the structure shown on historic maps in the northern part of the site area

Phase 3 (Figure 10)

- 5.2.9 Wall [8] is built on top of wall [7] and, because it is narrower, creates a small ledge on the inside of the bay. The dimensions of the bay remain the same except the depth has now increased to 1.1m.
- 5.2.10 It is presumed that this would be an adaption to the glasshouse, possibly increasing the size of the walls or depth of soil internally.

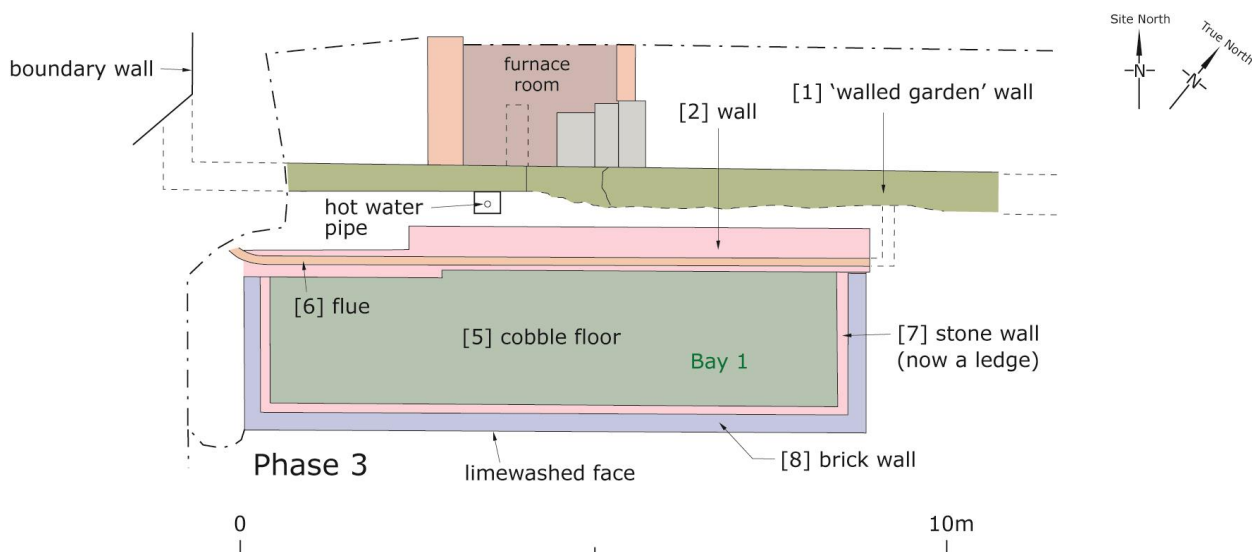


Figure 10: Phase 3 of the structure shown on historic maps in the northern part of the site area

- 5.2.11 It is not certain when deposit (3) was laid on top of the cobbled floor [5]. It might have occurred after the construction of wall [7] or wall [8]. It is assumed it was laid to assist with drainage.

Phase 4 (Figure 11)

- 5.2.12 Wall [9] is latterly constructed to create Bay 2 added on to the south of Bay 1 and separating its western end. The western arm of the wall is built directly upon deposit (3) within Bay 1 whilst the southern arched section is built on top of tile floor [10].
- 5.2.13 It is possible that layer (3) within the remaining part of Bay 1 is now capped by deposit (2) and garden soil (1). Heated wall [2] is still operational during this phase because flue [6] has been extended and appears on the east side of wall [9] where it terminates as a chimney [4].

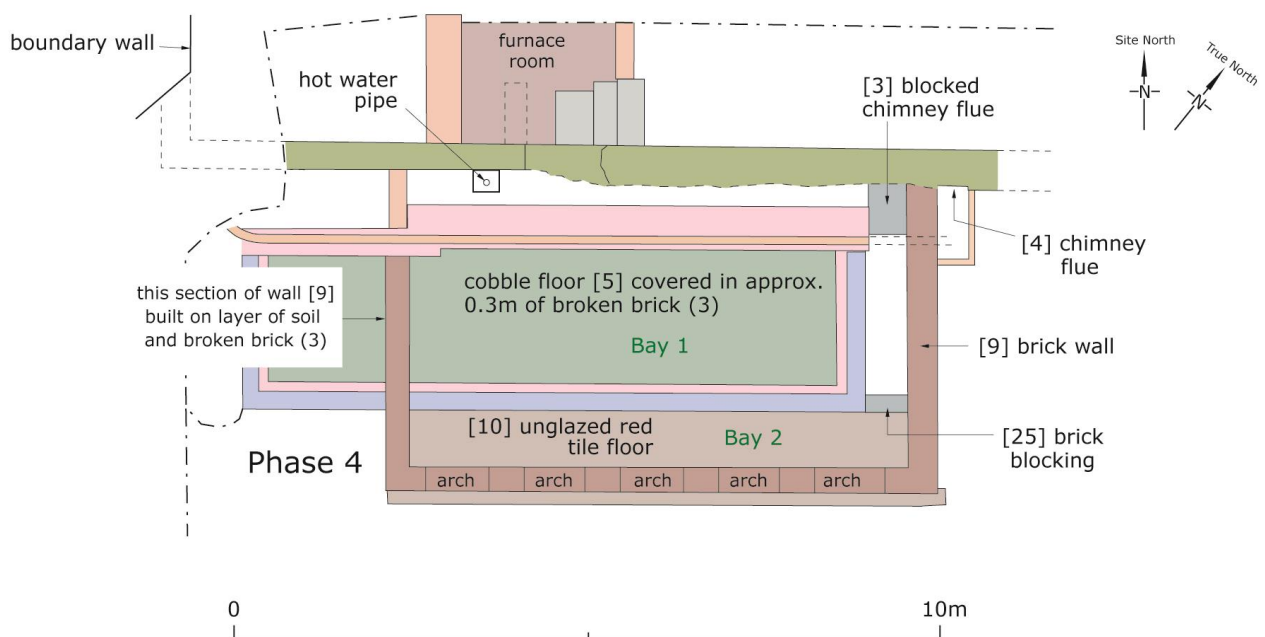


Figure 11: Phase 4 of the structure shown on historic maps in the northern part of the site area

Phase 5 and 6 (not illustrated)

- 5.2.14 The integration of walls [16] to [24] south of Bay 3 (including Bays 4 and 5) indicate they are contemporary with each other but nevertheless probably a little later than Phase 4, based on the observation that wall [16] seems to have built against wall [9] (Photo 35).
- 5.2.15 If this is the case then Bay 3 is later than walls [16] to [24], because wall [17], the southern limit of Bay 3, butts wall [16]. This would represent a sixth phase of garden development at the site.
- 5.2.16 It must be emphasized that the amount of time that elapsed during this period needn't be very long. There may be very little time between each of the six phases identified.



Photo 35: Stone wall [16] and brick wall [9]. Note mortar scar at end of [9] derived from [16]. View west; 0.5m scale

5.3 Discussion of the Structures

- 5.3.1 Background research was undertaken to learn more about the former gardens at Furnace House in order to try and place the archaeological remains into their context. Furnace House was built by Robert Morgan in c.1760, a local industrialist who owned the nearby Carmarthen Iron Works.
- 5.3.2 Although the specific functions of the structure shown within the footprint of the Carmarthenshire Archives building on the earlier historic mapping are not entirely certain, a Lease agreement between the Lessor; Charles Morgan Esq. MD (another descendant of Robert Morgan) of Furnace House, and the Lessee; John Adams, gardener and salesman, for the letting of Furnace House Gardens, for a period of five years and dated 25th January 1819, (part of the Griffith Owen Collection held at the National Library of Wales; Reference Number 25123) does cast some light on the subject.
- 5.3.3 The lease describes the contents of Furnace House Gardens, which, among other items mentioned, include a peach house, pinepits, melonpits, summer house, sheds, gardeners lodge, greenhouse, ponds, cisterns, fireplaces, flues, stoves, frames and also pineplants in the hot house.
- 5.3.4 The 'pineplants' referred to in the inventory are pineapples, and during the last half of the 18th century, the affluent considered the growing of pineapples a symbol of prestige and wealth (the facade of Carmarthen Library, which is all that remains of Furnace House, boasts four carved pineapples mounted on pedestals above the walls), and a great deal of time and expenditure was devoted to their cultivation. The lease states, during a paragraph outlining the conditions for the letting the garden, that apart from an annual rent of £12, produce from the garden should also be given at certain times of the year; to quote..." and also delivering unto said Charles Morgan his heirs or associates yearly as duties during the said

term three of the largest and best pineapples, a basket of the choicest grapes...” etc. It might be possible that the structure excavated during the watching brief is the remains of the hot house mentioned in the inventory and often referred to as a pinery. It includes most of what would be necessary to grow pineapples ie. a south facing, heated wall and a ‘pit’ (Bays 1 and 2). These pits were often lined with stones at the bottom, then a layer of manure followed by a layer of tanner’s bark into which the pots containing the fruit were immersed. Tanner’s bark (oak bark soaked in water) fermented slowly, producing a constant temperature that lasted for a considerable length of time and, together with the hot wall, provided the tropical conditions needed for the growth of the plants. It must be remembered during the time of the above Lease Agreement in 1819 that sheet glass had not been invented and a glass tax (levied by weight) discouraged all but the very wealthy. It is therefore probable that the original structure did not have a glass roof.

- 5.3.5 Two possible explanations for the arches in wall [9] are as follows: the first is a structure named a pinery-vinery, these had been operational since the mid 1700’s. Grapes were grown outside the pinery and the vines fed into the structure through small arches in the wall where they would create a canopy above the pineapples. However, it is thought that the arches in wall [9] differ from known examples and are considered too large and low.
- 5.3.6 The second suggestion is that the arched wall was a component in another system of heating the structure. This involved depositing manure into a pit (in this instance Bay 3), and the heat generated would pass through a line of arches (Bay 2) and rise over wall [9] into the original Bay 1. This was a fairly common method of heating a pinery, although there was usually a similar system at the other side and no hot wall. For this to work the structure must have had a glass roof to contain the heat generated by the manure and it is not certain that wall [17] could support such a structure.
- 5.3.7 The walls further to the south of the structure are possibly associated with other structures mentioned in the lease such as sheds and the gardener’s lodge.

5.4 Roman

- 5.3.1 The only possible Roman feature revealed during the watching brief was cobble floor [25] at the base of Test Pit 2 (Photo 33) by dint of the fact that two sherds of Roman pottery were recovered from its surface; a piece of Roman greyware and a piece of colour-coated ware (Photo 34).
- 5.3.2 One cannot discount the idea that the sherds had originated from another place and were redeposited. The cobbling was larger and less compact than Floor [5], although the levels of both floors were similar. Cobbled surfaces are a regular feature of Roman towns and could represent roads, paths or courtyards.
- 5.3.3 The Roman wall identified to the west of the footprint of the new building seen in January 2018 was considered to be part of a building, being of 0.60m width and seemingly faced on both sides. The top of this wall was seen at 1.3m depth below present ground surface, deeper than the depth of groundworks required for the new building. The implication is that Roman remains will survive beneath the features recorded in the western part of the site.

6 CONCLUSIONS

- 6.1 Overall the archaeological watching brief undertaken during the construction of the new Carmarthenshire Archives building to the rear of Carmarthen Library on King Street was successful both in terms of recording archaeology, but also ensuring that the construction methodology avoided disturbing significant archaeological remains.
- 6.2 It was anticipated that remains of the garden structure shown on earlier mapping would be found. What was not anticipated was the extent of survival of this structure and its complexity. It has been noted during a number of recent archaeological investigations of garden features by DAT Archaeological Services that the structures used for the cultivation of more exotic plants in the 19th century were regularly altered as heating methods changed, the plants being grown changed, and alterations and modifications were regularly undertaken based on success or failure of the cultivation methods being used. The structure beneath the Carmarthenshire Archives building certainly indicated many changes and alterations.
- 6.3 It is known that the site contains significant Roman remains, being located within the northeastern corner of the Roman town of *Moridunum*. The stone wall revealed during investigations of the brick chambers found directly to the west of the building during geotechnical works, is considered to be of Roman date. It was 0.60m in width, built of local stone and very well mortared and revealed at 1.30m depth below ground level. It was seemingly faced on both sides, implying superstructure of a building, as opposed to a rampart wall. The feature confirms the very high potential for Roman remains to be present below 1m depth across the entire site area. The later garden structures and the water tanks recorded to the west may well have truncated the Roman remains to some extent, but the survival of the stone wall indicates that this may only be quite localised disturbance. The presence of Roman pottery and the cobbled surface in the eastern half of the site area, where known development over the last 250 years is so much less, is indicative of this.
- 6.4 From the outset of the project the clients (Carmarthenshire County Council), their architects (Acanthus Holden) and structural engineers (Roger Casey Associates) have considered the archaeological implications of the proposals. This enabled a successful mitigation strategy to be developed which limited ground disturbance to a depth of around 1m, thereby preserving well stratified deposits of Roman and earlier date below.
- 6.5 The on-site contractor TRJ who were appointed to construct the Carmarthenshire Archives building were also aware of the archaeological issues and worked very well with the on-site archaeologists. This was clearly evident when the structural remains of the complex garden structure were revealed. The contractors facilitated careful excavation of backfill to reveal the structure and assisted the archaeologists to ensure that a good record of the structure was possible.
- 6.6 TRJ ensured that the majority of the structural walls of the garden building recorded in the western half of the site area were retained *in-situ* and material backfilled around them (excluding the upper parts) to create the required formation level for the raft foundation for the new building. Floor surfaces within the various Bays of the structure were also left undisturbed. The cobbled surface of likely Roman date on the eastern half of the site area was also revealed at a lower level than the formation level for the new building. It too will remain undisturbed below the structure.

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Map

Ordnance Survey 1888 1:500 Carmarthen Town

Ordnance Survey 1890 1:2500 Carmarthenshire Sheet XXXIX.6 and 7

Ordnance Survey 1906 1:2500 Carmarthenshire Sheet XXXIX.6 and 7

Golden Grove Estate map of 1796

Wood's Map of Carmarthen 1834

Database

Dyfed Archaeological Trust Historic Environment Record, Corner House, Llandeilo, Carmarthenshire, SA19 6AE

Cof Cymru - National Historic Assets of Wales

<http://cadw.gov.wales/historicenvironment/recordsv1/cof-cymru/?lang=en>

CARMARTHENSIRE ARCHIVES BUILDING, CARMARTHEN: ARCHAEOLOGICAL WATCHING BRIEF

RHIF YR ADRODDIAD / REPORT NO. 2018-38
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Hydref 2018
October 2018

Paratowyd yr adroddiad hwn gan / This report has been prepared by

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Swydd / Position: **Archaeologist**

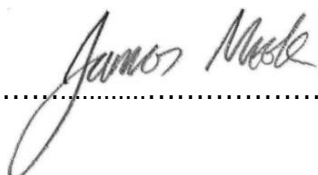
Llofnod / Signature Date 11/10/2018

Mae'r adroddiad hwn wedi ei gael yn gywir a derbyn sêl bendith
This report has been checked and approved by

JAMES MEEK

Swydd / Position: **Head of DAT Archaeological Services**
ar ran Ymddiriedolaeth Archaeolegol Dyfed Cyf.
on behalf of Dyfed Archaeological Trust Ltd.

Llofnod / Signature Date 11/10/2018



*Yn unol â'n nôd i roddi gwasanaeth o ansawdd uchel, croesawn unrhyw sylwadau
sydd gennych ar gynnwys neu strwythur yr adroddiad hwn*

*As part of our desire to provide a quality service we would welcome any
comments you may have on the content or presentation of this report*

