Archaeological Monitoing Report at

MILL LANE CAERNARFON

For Dwr Cyrmu

Blair Poole MSc MIfA & Catherine Rees MA

L-P:ARCHÆOLOGY

Archaeological Monitoing Report at

MILL LANE CAERNARFON

Client:	Dwr Cyrmu
Local Authority:	Gwynedd Council
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Abstract

An archaeological watching brief was carried out during the excavation of a trial trench at Mill Lane, Caernarfon. The Watching Brief was implemented because of the potential for archaeological remains on the site. The work was carried out by Catherine Rees between 2nd and 6th February 2012 on behalf of Dwr Cymru.

The site lies close to the town walls of Caernarfon and is thought to be situated within an area of Medieval activity. Historic research indicates that the site itself does not appear to be developed until the 19th century. During this period it was first used as gardens for nearby terraced buildings and subsequently used as a yard. The site was converted to a car park in the 20th century.

An undated archaeological horizon was identified below a major Post Medieval build up of material at a depth of 0.56m below ground level.

A stone wall was identified in the northern section of the trench at a depth of 0.62m below ground level, cut into the natural clay. As this feature was only seen in section and was not fully excavated it cannot be said with any certainty what this stone feature's function or date is.

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1. Introduction

1.1. Dwr Cymru propose a scheme of water main refurbishment at Mill Lane, Caernarfon. In advance of the works Gwynedd Archaeological Planning Service (GAPS) requested that archaeological monitoring of a trial trench adjacent to the Mill lane CSO be carried out. The reason for this archaeological monitoring comes from the results of previous work in the area. It is thought that the area has a high potential for *in situ* archaeological remains relating to one of Caernarfon's Medieval mills, specifically remains of the mill race.

1.2. The site is located within a car park to the southeast of Mill Lane, centred at NGR SH 47958 62742 (FIGURE 1).

1.3. The fieldwork was carried out by Catherine Rees between 2nd and 6th February 2012. All archaeological work was carried out in accordance with an agreed project design (APPENDIX 1).

1.4. The Local Authority is Gwynedd Council, who take archaeological advice from Gwynedd Archaeological Planning Service (GAPS).

1.5. L – P : Archaeology have allotted an internal site code of CAR/ML 12 for this site.

2. Site Background

2.1. PLANNING BACKGROUND

2.1.1. Planning Policy Wales, 4th edition (2011) and the associated Welsh Office Circulars 60/96 and 61/96 provides guidance for planning authorities, property owners, developers and others on the preservation and investigation of archaeological remains within a planning context. These documents supplement the Adopted Unitary Development Plan Policies relating to archaeology.

2.1.2. Planning Policy Wales (2011) outlines the Welsh Assembly's planning policies. The historic environment is discussed within Chapter 6. Welsh Office Circulars 60/96 - Planning and Historic Environment: Archaeology, and Welsh Office Circular 61/96 - Planning and the Historic Environment; Historic Buildings and Conservation Areas, advise on legislation and procedures relating to historic buildings, conservation areas and archaeology.

2.1.3. The relevant policy contained within the Gwynedd Unitary Development Plan relating to archaeology is as follows:

POLICY B7

Proposals that will damage or destroy archaeological remains of national importance (whether scheduled or not) or their setting will be refused.

A development which affects other archaeological remains will be permitted only if the need for the development overrides the significance of the archaeological remains.

In areas where there are likely to be archaeological remains, the developer will be required to commission either an Archaeological Assessment and/or field evaluation in order to determine the archaeological impact of the proposed development before the Planning Authority determines the application. The assessment/evaluation results must be submitted with the planning application, in addition to a plan showing how the impact of the proposal on the archaeological remains will be mitigated.

If a proposed development would affect nationally important archaeological remains, then the developer should prepare sympathetic plans, which retain the remains in situ. Where preservation in situ is not feasible planning conditions or agreements will be used in appropriate cases to ensure that the work of excavating and recording the remains takes place prior to commencement of the development.

Schemes that will facilitate the appropriate management and interpretation of archaeological sites

for educational or tourism purposes will be supported.

2.2. AIMS OF WORKS

2.2.1. The trench was located specifically to identify ground conditions around an existing CSO in advance of upgrading works.

2.2.2. The aims of the archaeological works were:

- to establish the archaeological date, character and nature of any deposits or features present
- to assess the impact of the future proposals on surviving monuments or remains
- to help inform future decision making, design solutions and potential mitigation strategies.

2.3. GEOLOGY & TOPOGRAPHY

Geology

2.3.1. The British Geological Survey indicates that the solid geology of the area consists of Rhyolitic and trachytic lava and tuff. However this information is presented in a low resolution and therefore only gives a general indication of the geology of the area.

2.3.2. The superficial deposits are thought to comprise a sandy silt, representative of glacial deposits.

Topography

2.3.3. The site is situated within a car park, which is bounded to the north by Mill Lane (FIGURE 2). To the west lies Lon Crwyn and to the east lies Bont Bridd.

2.3.4. The site lies at an approximate elevation of 7mOD.

2.3.5. The area is a mix of residential and commercial properties within the town centre.

2.4. ARCHAEOLOGICAL & HISTORIC BACKGROUND

PERIOD	FROM	TO
PREHISTORIC		
PALAEOLITHIC	450,000	12,000 BC
MESOLITHIC	12,000	4,000 BC
NEOLITHIC	4,000	1,800 BC
BRONZE AGE	1,800	600 BC
IRON AGE	600	43 AD
HISTORIC		
ROMAN	43	410 AD
EARLY MEDIEVAL	410	1066 AD
MEDIEVAL	1066	1485 AD
POST MEDIEVAL	1485	PRESENT

Table 1 - Timescales used in this report

2.4.1. This section will outline the historic background to the site. It is not intended as a definitive history of Caernarfon.

Prehistoric

2.4.2. Although there is limited evidence of prehistoric activity within Caernarfon, the wider area shows a great deal of prehistoric activity. Funerary monuments dating from the Neolithic onwards are known on Anglesey and along the Llyn peninsula.

2.4.3. Within Caernarfon it has been suggested that Twt Hill may be the location of an Iron Age hillfort, possibly associated with the Ordovices (EVANS 1973). There are abundant natural resources in the area and the location of the town, at the junction of two main rivers with a natural harbour and high natural outcrops, make it a good candidate for early settlement.

Roman

2.4.4. In the 1st century the Romans fortified the summit of a ridge overlooking the rivers Cadnant and Seiont, forming the fort of *Segontium* (CASEY & DAVIES 1993). The fort was occupied until Magnus Maximus withdrew from the area

around AD383 (DAVIDSON ET AL 2008), however It is possible that the fort survived into the 5th century (EVANS 1941). There is evidence of an auxiliary fort called Hen Waliau, a smaller rectilinear enclosure, 200m to the west of *Segontium*. It has been suggested that this represents a late 4th century storage compound (DAVIDSON ET AL 2008).

Early Medieval & Medieval

2.4.5. Following the withdrawal of the Roman occupation of *Segontium* the focus of the settlement appears to have been centred around Llanbeblig, to the north of Caernarfon (DAVIDSON ET AL 2008). It is likely that in the sub Roman period the activity around the area would have mainly comprised an agricultural and fishing economy (WALKER 1990).

2.4.6. It has been suggested that a small settlement occupied the area below the fort close to the strait. It is this area that the Norman's chose to erect their initial Motte and Bailey castle in the 11th century. The initial Motte and Bailey would have been a small wooden defensive structure used as control measure during the Norman expansion.

2.4.7. Gwynedd was retaken from the Normans in 1115 and Caernarfon Castle came into the possession of the Welsh princes. Historic writing suggests that Llywelyn the Great and later Llewellyn ap Gruffudd occasionally stayed at Caernarfon (WALKER 1990). In 1221 a charter granted to the canons of Penmon priory in Anglesey, by Llywelyn the Great, refers to Kaerinarfon and in the Medieval tale of Breuddwyd Macsen the town was referred to as Caer Gystennin or the Castle of Constantin.

2.4.8. The stone castle at Caernarfon dates to between 1283 and 1330 and was constructed on behalf of Edward I. It is known that a small welsh settlement was destroyed to make way for the larger stone castle (DAVIDSON ET AL 2008). Edward had the castle built to replace the earlier motte and bailey to act as the administrative centre of north Wales. The town walls are thought to be contemporary with the castle construction forming a defensible town (BANHOLZER 2005).

2.4.9. In 1284 Caernarfon was made a borough and market town, and the seat of

Edward I's government in North Wales

2.4.10. The castle fell into decline in the 15th century, however it was used for its intended purpose during the Civil War when it was besieged a number of times by parliamentarian forces (LEWIS & THACKER 2003).

2.4.11. The site lies outside of the fortified walled township in an area where the river Cadnant forms a large pool which subsequently splits into three channels (RCAHMW 1960).

2.4.12. The pool was an enlargement of the River Cadnant set within a shallow valley to the east of the town (EVANS 1941). It is not clear if the pool was a natural feature or relates to a modification of the river, however it can be seen to divide into three streams at this point and travel under a stone or earthen bridge, known as Pont Bridd (EVANS 1941). The three streams shortly rejoin each other and flow as a single river into the Menai Strait. The study site is located to the immediate west of the bridge, close to the pool. It is likely that an escarpment or bank was present forming the pool prior to the construction of a bridge (EVANS 1941). The bridge operated into the 19th century and now is thought to lie below the line of Bridge Street.

2.4.13. Archaeological works were carried out at 23-25 Bridge Street, 30m to the northeast of the site in 2007 (BERKS ET AL 2008). These works revealed Medieval stonework thought to relate to a Medieval mill structure and associated stone lined mill leat (BERKS ET AL 2008). It is thought that this area housed a number of Medieval mills as the divided river allowed for several mills to be powered directly from the Cadnant without impacting each other (EVANS 1941).

2.4.14. In 2003 a phase of archaeological investigation was undertaken in a car park 35m to the west of the site (LAWS 2003). This work revealed evidence of below ground structures potentially dating to the Medieval period (LAWS 2003).

Post Medieval

2.4.15. The earliest cartographic depiction of Caernarfon is John Speed's map of 1610. The pool and bridge can be clearly seen on Speed's map, however no development is shown within the site area.

2.4.16. Griffith's map of Caernarfon, dated to between 1724 and 1796, shows the pool and the three channels (FIGURE 3). The site area appears to lie between the southern channel and a garden.

2.4.17. The Vaynol estate map of 1777 shows the site as being within a marshy area between two channels (FIGURE 3). Neither of the 18th century maps show development on the site.

2.4.18. The main expansion of Caernarfon began in the 18th century with the development of the slate industries and continued into the 19th century. The rise of Slate Quay reflects the urbanisation of Wales and its rise and fall is directly related to the industrial revolution and the slate mining in North Wales. As more people moved towards towns from rural areas a need for housing increased. As houses required slate for roofs the slate production in North Wales grew and Caernarfon was the ideal location to ship the slate out.

2.4.19. On the back of this urbanisation and development rail links to Caernarfon became essential, especially to Slate Quay, close to the Castle. Since c.1870 there has been rail links to Caernarfon.The 19th century development of the site area relate to this period of expansion.

2.4.20. The archaeological work carried out in 2003, noted above, showed that industrial activity dating from the 1800s was present (LAWS 2003). A stone culvert, thought to represent mid 19th century modification of the Cadnant, was also identified (LAWS 2003).

2.4.21. Wood's 1834 map of Caernarfon (FIGURE 4) shows that the area had been heavily developed in the early 19th century. The site lies in an area of gardens serving terraced housing fronting onto Bridge Street and Skinner Street.

2.4.22. The 1888 edition Ordnance Survey map (FIGURE 4) shows the continued growth of Caernarfon and the addition of the newly constructed railway. The gardens serving the terraces have been replaced by a rail line. The site lies to the immediate west of these new railway tracks.

2.4.23. The 1918 edition Ordnance Survey map (FIGURE 5) shows the railway line to the east of the site still *in situ*. This layout is contimnued on the borough map of 1934 (FIGURE 5) and the 1938 edition Ordnance Survey map.

2.4.24. By the 1958 edition Ordnance Survey map the rectilinear building had been demolished, leaving the site vacant. The site was converted to a car park in the late 20th century and this layout continued until the present.

3. Methodology

3.1. A full methodology can be found in the project design (APPENDIX 1). A single trench measuring 4.9m north south by 1.2m east west was monitored to a depth of 2.2m below ground level.

3.2. The groundworks were undertaken by mid sized plant using a toothless ditching bucket as agreed with GAPS.

3.3. A suitably qualified and experienced archaeologist monitored all machine excavation activities to ensure that appropriate care was taken during the removal of homogeneous Post Medieval and modern disturbed deposits.

3.4. All features were recorded stratigraphically after hand cleaning was undertaken.

4. Results

4.1. The results outlined below comprise an account of the stratigraphic sequence and archaeology recorded within the trial trench excavated on the site. Deposits are shown in (parenthesis). All depths are given below ground level (BGL) unless otherwise stated.

4.2. The trench was located within the southeastern area of the car park and measured 4.9m by 1.2m in plan (PLATE 1 & FIGURE 6).

Plate 1 - Trial trench, looking south. 1m scale

4.3. The excavation of the trench was observed to a depth of 2.2m BGL, and natural was reached at a depth of approximately 1m.

4.4. The uppermost deposit covering the trench was a 0.12m thick layer of tarmac (001). Below the tarmac were a series of Post Medieval make up layers forming the base of

the car park.

4.5. A bedding layer of aggregate and dark silt (002), measuring 0.05m thick underlay the tarmac and in turn overlay a 0.1m thick deposit of firm orange clay (004). Below this clay a 0.14m thick layer of mortar, silt and pebbles (005) was identified. A layer of compact dark coloured silt and gravel (006), measuring 0.16m thick, was identified below the mortar and silt deposit (**PLATE 2**).

Plate 2 - Trial trench, looking east. 1m scale

4.6. At approximately 0.58m BGL a friable fine grey silt layer (007) was reached (**FIGURE 7**). This layer contained no artefactual material but is believed to represent an intact archaeological horizon. It survived the full width of the northern trench end and a maximum length of 3.00m. The maximum thickness of the layer was 0.18m.

4.7. No artefacts were uncovered during the excavation. A single feature was recorded in the northern section of the trench at a depth of 0.62m BGL. This feature is thought to be a Post Medieval wall, 012, but very little was actually visible in the trench and it is not possible to confirm this without further excavation. There did appear to be a linear construction cut [013] running east west, however this may have been pooling of silts (014) around a stone. The stone wall 012 was overlain by the silt (007) and had been cut into the natural orange brown clay (015).

4.8. Below a depth of 0.65m BGL the natural orange brown clay (015) was identified. This extended beyond a depth of 2.2m BGL.

5. Summary & Conclusions

5.1. An archaeological watching brief was carried out on a trial trench at Mill Lane, Caernarfon. The works were carried out in advance of upgrade works by Dwr Cymru to the services in the area.

5.2. The archaeological monitoring was carried out by Catherine Rees on behalf of Dwr Cymru between 2nd and 6th February 2012.

5.3. The site lies in an area close to the town walls of Caernarfon and is thought to be situated close to the site of several Medieval Mills. Historic research indicates that the site itself does not appear to have been developed until the 19th century, when it was first used as gardens serving a terraced building and subsequently converted to a yard beside the railway. The site was converted to a car park in the 20th century.

5.4. The results of the archaeological monitoring of the trial trench shows that there is a significant Post Medieval build up of material on the site extending to a depth of 0.56m below ground level. At this level an intact archaeological horizon was encountered. As no finds were recovered from this deposit it has not been dated.

5.5. A stone wall was identified in the northern section of the trench. This lay at a depth of 0.62m below ground level. As this feature was only seen in section and was not fully excavated it cannot be said with any certainty what this stone feature's function or date is. The wall was cut into the natural orange brown clay drift deposit, which was encountered at a depth of 0.65m below ground level.

5.6. A secure date or interpretation for the archaeological deposit and feature recorded during the trial trench excavation may only be secured should further excavation take place on the site.

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CARTOGRAPHIC

Speed Map of Caernarfon, 1610

Griffiths Map of Caernarfon, 1724-1798

Vaynol Estate Map of caernarfon, 1777

Wood's Map of Caernarfon, 1834

Ordnance Survey Map of Caernarfon, 1888

Ordnance Survey Map of Caernarfon, 1901

Ordnance Survey Map of Caernarfon, 1918

Borough Survey Map of Caernarfon, 1934

Ordnance Survey Map of Caernarfon, 1953

Ordnance Survey Map of Caernarfon, 1975

Ordnance Survey Map of Caernarfon, 2010

FIGURES

FIGURE 1 // Site Location General

Scale 1:25,000 @ A4

0 2,000m

N

PROJECT // 1291C - Mill Lane, Caernarfon

DESCRIPTION // Site Location General

DOC REF: LP1291C-WBRv1

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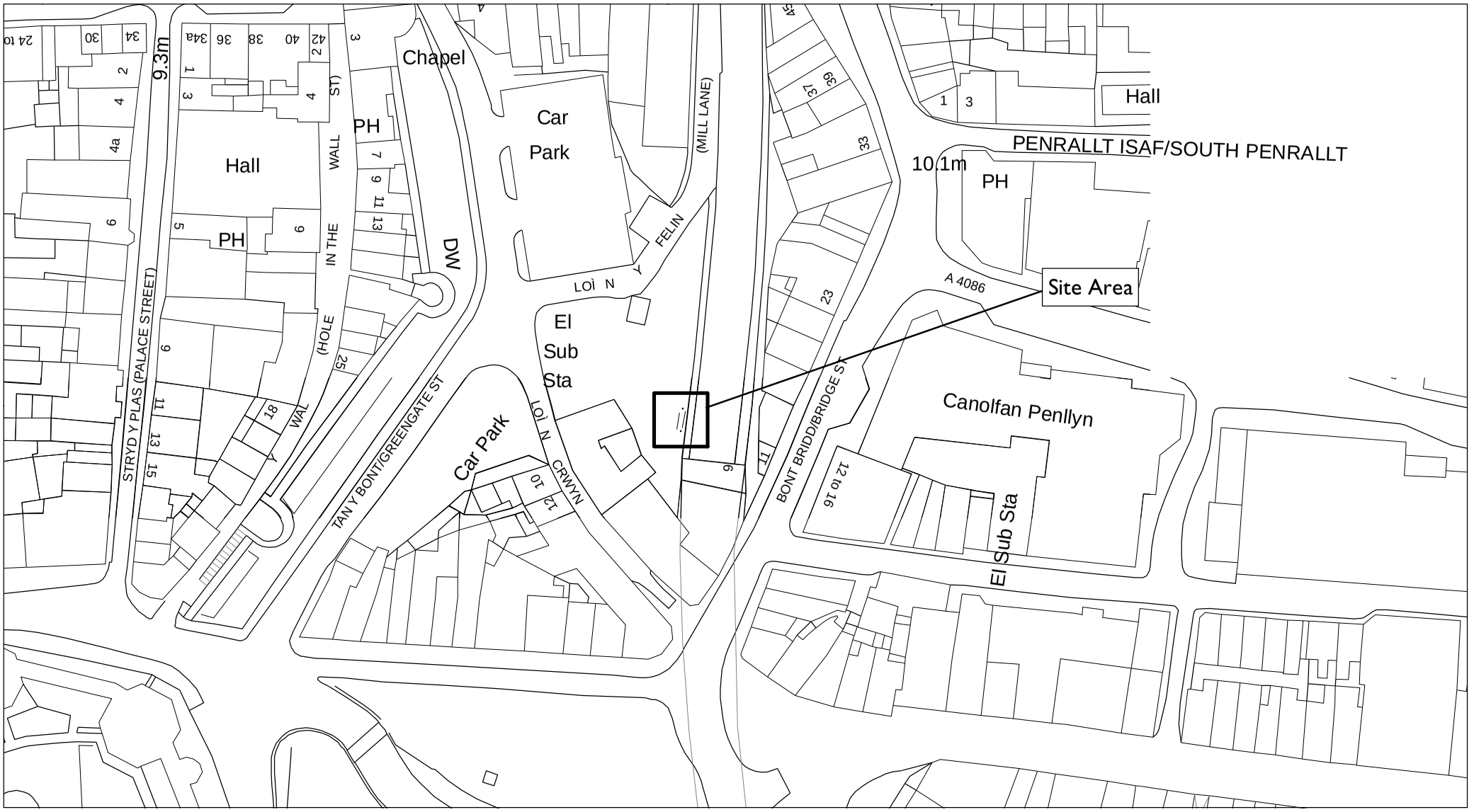
FIGURE 2 // Site Location Detail



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PROJECT // 1291C - Mill Lane, Caernarfon

DESCRIPTION // Site Location Detail

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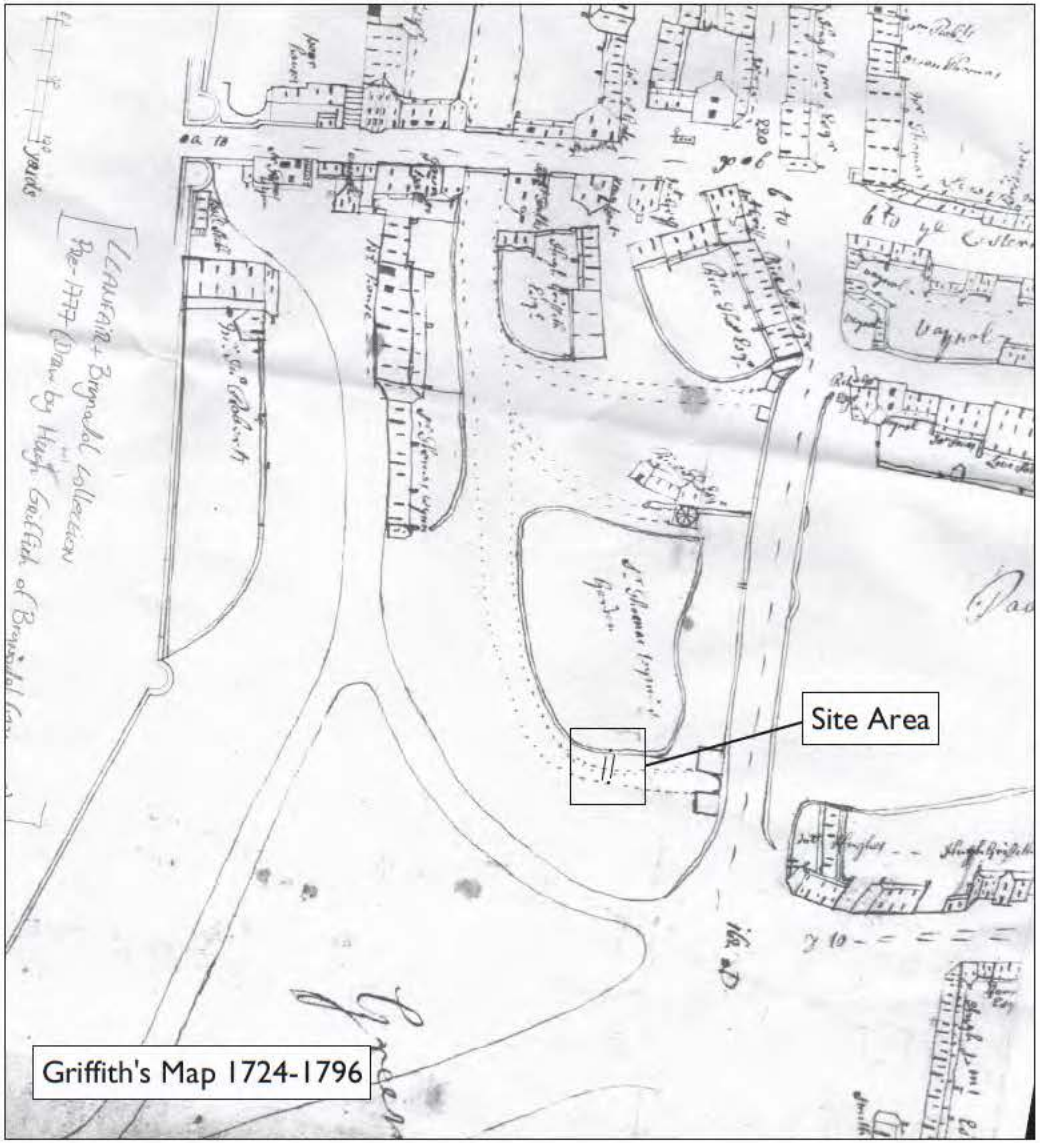
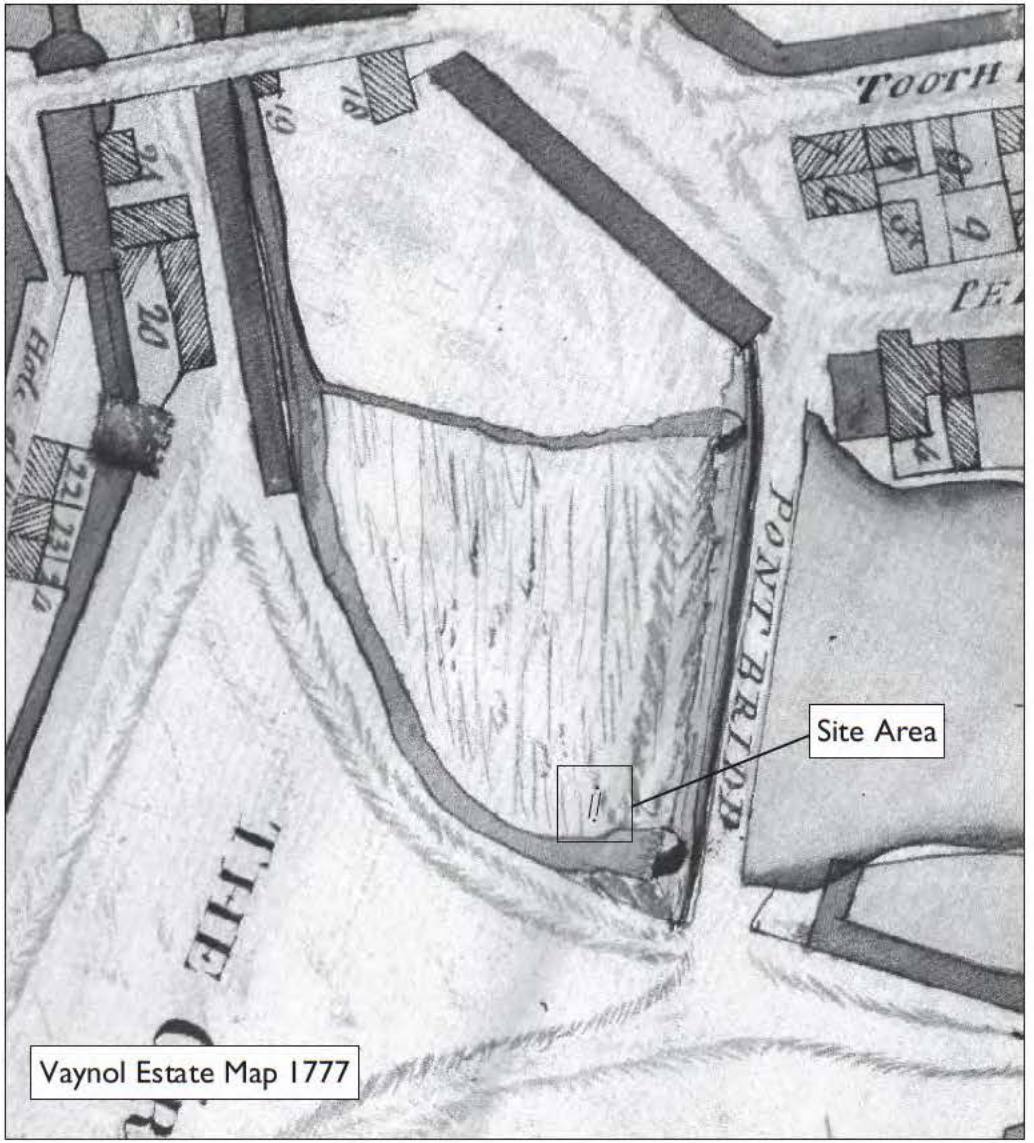
FIGURE 3 // 18th Century Maps





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PROJECT // 1291C - Mill Lane, Caernarfon

DESCRIPTION // 18th Century Maps of Caernarfon

DOC REF: LP1291C-WBRv1

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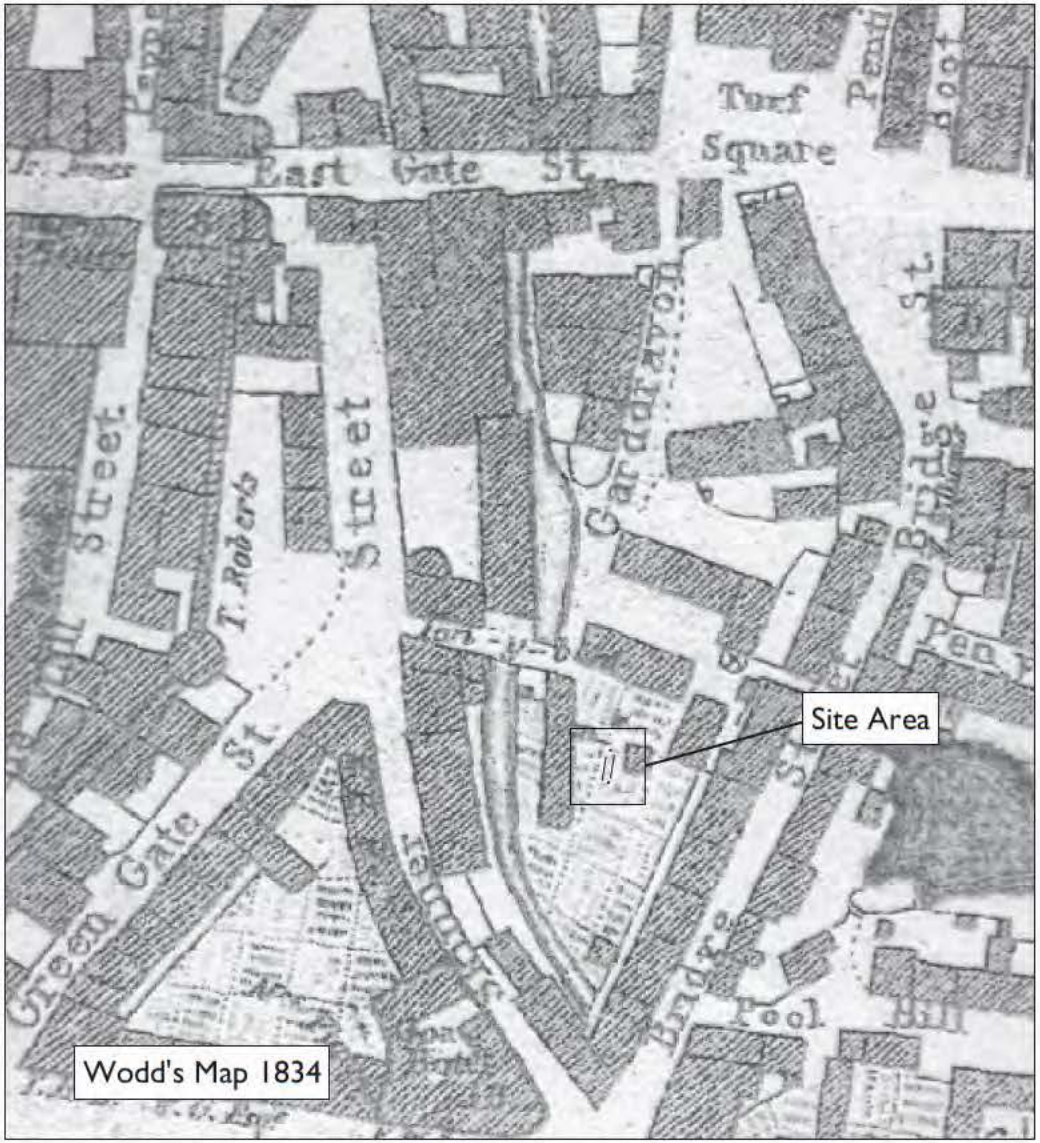
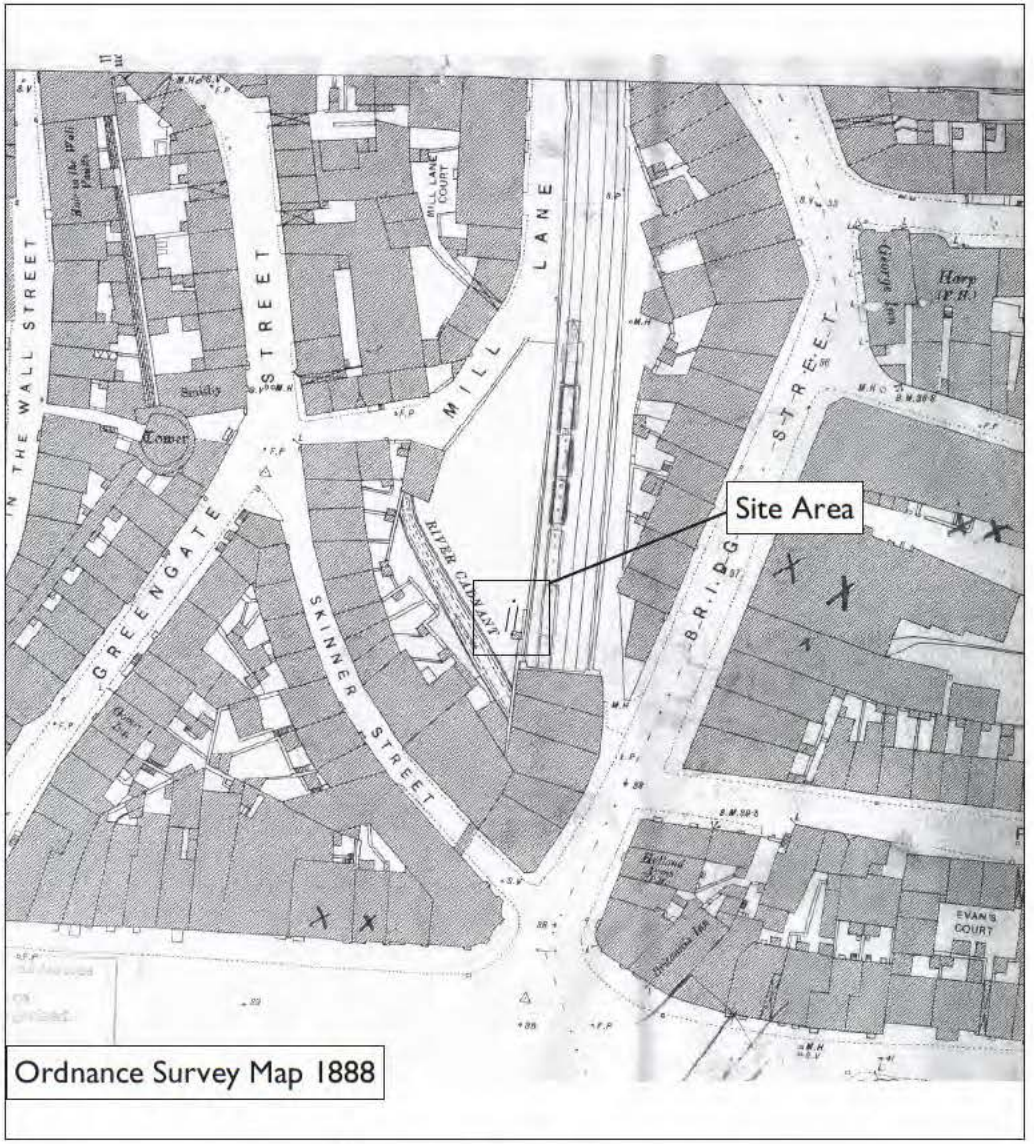
FIGURE 4 // 19th Century Maps





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PROJECT // 1291C - Mill Lane, Caernarfon

DESCRIPTION // 19th Century Maps of Caernarfon

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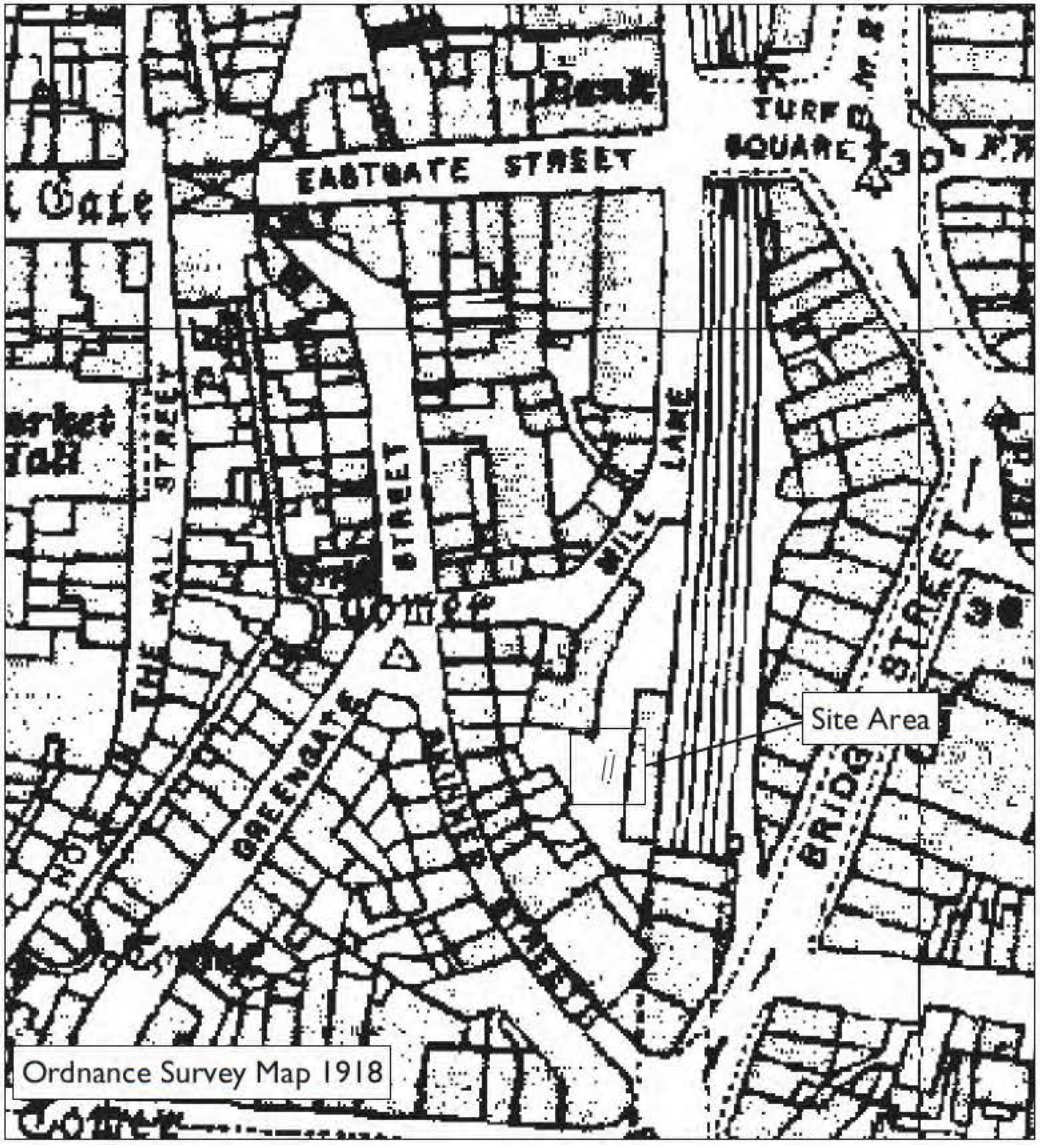
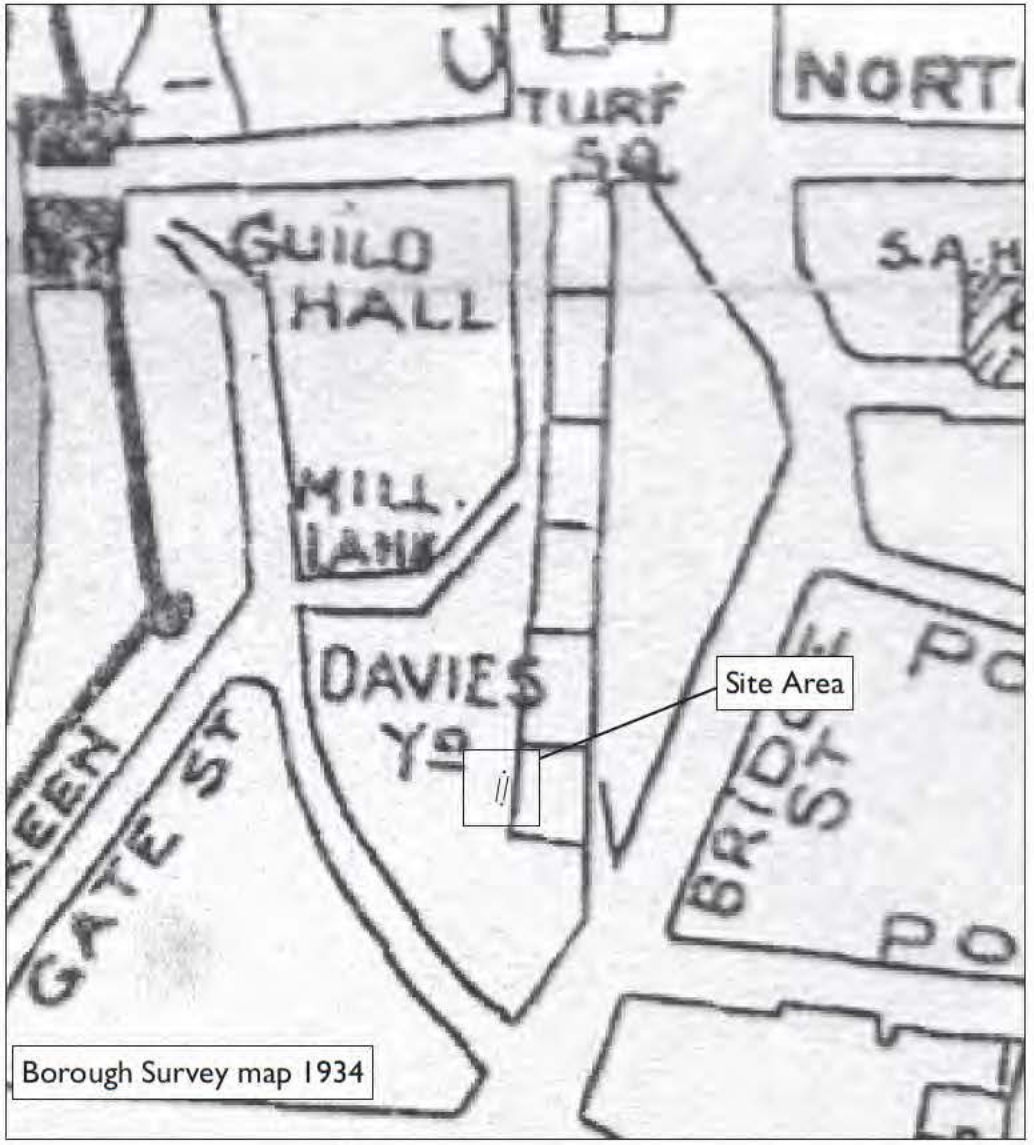
FIGURE 5 // 20th Century Maps





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PROJECT // 1291C - Mill Lane, Caernarfon

DESCRIPTION // 20th Century Maps of Caernarfon

DOC REF: LP1291C-WBRv1

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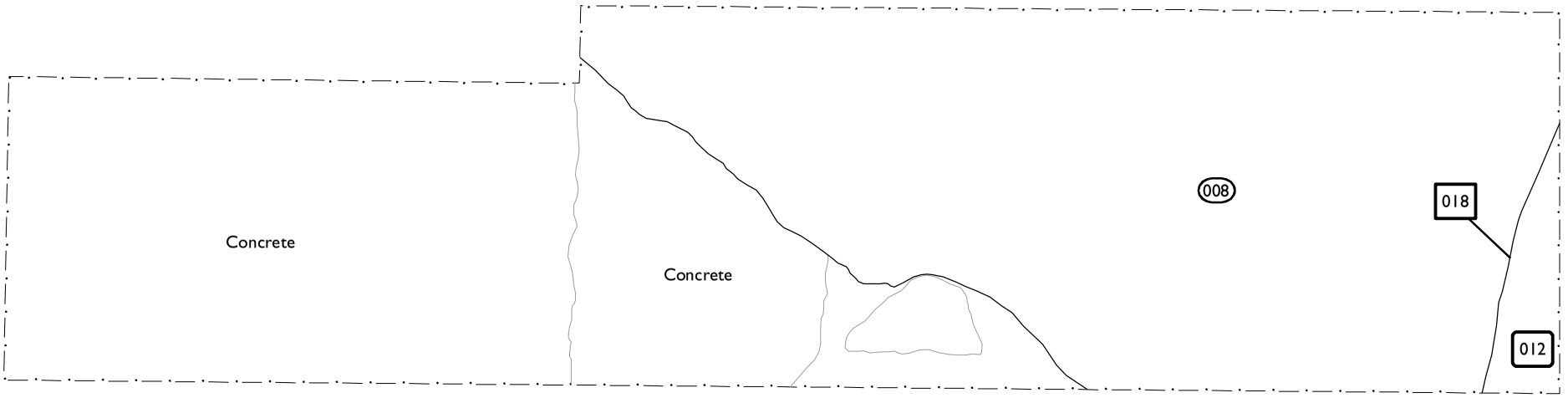
FIGURE 6 // Trench Plan



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PROJECT // 1291C - Mill Lane, Caernarfon

DESCRIPTION // Trench Plan

DOC REF: LP1291C-WBRv1

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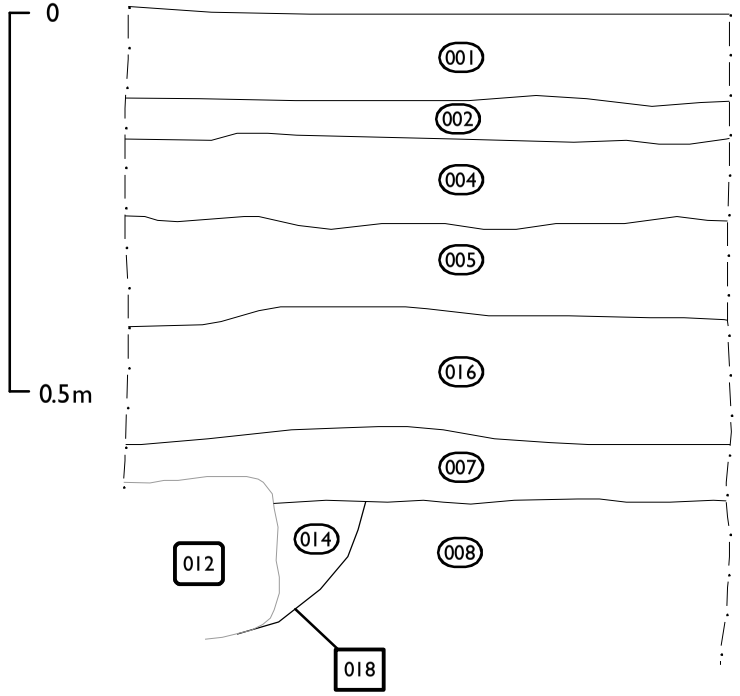
FIGURE 7 // West Facing Section



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PROJECT // 1291C - Mill Lane, Caernarfon

DESCRIPTION // West Facing Section

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PROJECT DESIGN

APPENDIX 1

Specification for Archaeological Monitoing at

MILL LANE CAERNARFON

For Dwr Cyrmu

Blair Poole MSc MIfA

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Specification for Archaeological Monitoing at

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1. Introduction

1.1. As part of the water main refurbishment at Mill Lane, Caernarfon, Gwynedd Archaeological Planning Service (GAPS) have requested that Dwr Cymru instigate archaeological monitoring on the excavation of a Trial trench adjacent to the Mill lane CSO .

1.2. The site is centred at NGR SH 47958 62742 (FIGURE 1). Previous work in the vicinity has identified that the area has a high potential for *in situ* archaeological remains relating to one of Caernarfon's Medieval Mills, specifically the mill race.

1.3. This project design has been prepared by Blair Poole of L – P : Archaeology on behalf of Dwr Cymru in response to GAPS request concerning the archaeological monitoring at the site.

1.4. The Local Authority is Gwynedd Council, who take archaeological advice from Gwynedd Archaeological Planning Service (GAPS), who will continue to monitor works at the site to ensure the correct standards and practices are adhered to.

1.5. L – P : Archaeology have allotted an internal site code of CAR/ML 12 for this site.

1.6. The project will be directed by Blair Poole of L – P : Archaeology with fully qualified and experienced archaeological site staff.

1.7. All site staff will undergo full site induction upon arriving for any relevant site visit, and all relevant health and safety procedures will be adhered to at all times.

2. Planning Background

2.1. Planning Policy Wales, 4th edition (2011) and the associated Welsh Office Circulars 60/96 and 61/96 provides guidance for planning authorities, property owners, developers and others on the preservation and investigation of archaeological remains within a planning context. These documents supplement the Adopted Unitary Development Plan Policies relating to archaeology.

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2.3. The relevant policy contained within the Gwynedd Unitary Development Plan relating to archaeology is as follows:

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A development which affects other archaeological remains will be permitted only if the need for the development overrides the significance of the archaeological remains.

In areas where there are likely to be archaeological remains, the developer will be required to commission either an Archaeological Assessment and/or field evaluation in order to determine the archaeological impact of the proposed development before the Planning Authority determines the application. The assessment/evaluation results must be submitted with the planning application, in addition to a plan showing how the impact of the proposal on the archaeological remains will be mitigated.

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Schemes that will facilitate the appropriate management and interpretation of archaeological sites for educational or tourism purposes will be supported.

3. Geology & Topography

3.1. GEOLOGY

3.1.1. The British Geological Survey indicates that the solid geology of the area consists of Rhyolitic and trachytic lava and tuff. However this information is presented in a low resolution and therefore only gives a general indication of the geology of the area.

3.1.2. The superficial deposits are thought to comprise a sandy silt, representative of glacial deposits.

3.2. TOPOGRAPHY

3.2.1. The site is situated within a car par, which is bounded to the north by Mill Lane (FIGURE 2). To the west lies Lon Crwyn and to the east lies Bont Bridd.

3.2.2. The site lies at an approximate elevation of 7mOD.

3.2.3. The area is a mix of residential and commercial properties within the town centre.

4. Aims of Works

4.1. The trench will be located specifically to identify ground conditions around an existing CSO in advance of upgrading works.

4.2. The objectives of the archaeological works are:

- to establish the archaeological date, character and nature of any deposits or features present
- to assess the impact of the future proposals on surviving monuments or remains
- to help inform future decision making, design solutions and potential mitigation strategies.

5. Methodology

5.1. A single trench measuring 3.5m north south by 1m east west is to be excavated to a minimum depth of 2.5m below current ground level. The location of the trench can be seen in FIGURE 3.

5.2. The initial groundworks will be undertaken using appropriately sized plant as agreed with GAPS. This is suggested as being an 8 tonne 360 degree machine with a toothless ditching bucket.

5.3. A suitably qualified and experienced archaeologist will monitor all machine excavation activities to ensure that appropriate care is taken during the removal of homogeneous post medieval and modern disturbed deposits.

5.4. All machine excavation will be undertaken in spits. The groundworks will be closely monitored and care will be taken to observe all deposits for archaeological significance.

5.5. Undifferentiated topsoil and overburden of recent origin will be removed in successive spits down to the top of the first significant archaeological horizon. Under no circumstances will the site simply be machine excavated to natural without regard for the possible survival of archaeological deposits above the natural.

5.6. All features are to be recorded stratigraphically. Features will be recorded archaeologically, both in plan and section.

5.7. Hand cleaning by context will be undertaken within the trenches to clearly identify the location and extent of any features. All features will be hand excavated to meet the research requirements of the project to adequately record the archaeological deposits and associated features or remains.

5.8. Excavated material will be examined in order to retrieve artefacts to assist in the analysis of the spatial distribution of artefacts.

5.9. All finds which constitute Treasure Trove under the 1996 Treasure Act for England and Wales will be reported to the coroner by the finder within 14 days of discovery.

5.10. Relevant specialists will be used if required, however, only under agreement by the client.

6. Health and Safety

6.1. This section represents pertinent supplementary information. A full risk assessment has been prepared separately and is available on request.

6.2. All relevant health and safety regulations will be followed. Barriers, hoardings and warning notices will be installed as appropriate. Safety helmets/boots and high visibility jackets will be used by all personnel as necessary.

6.3. No personnel will work in deep unsupported excavations. Where the installation of temporary support work and other attendance are required, these will be provided as necessary.

6.4. All archaeological sections will be backfilled upon completion of the fieldwork for safety reasons, unless the applicant or developer has given written instructions to the contrary.

6.5. The site shall have at least one qualified first aider present at any time and all accidents and injuries shall be reported accordingly to HSE and RIDDOR guidelines. All relevant procedures are held within the full risk assessment.

6.6. All staff and visitors shall undergo a full site induction and will be shown the Risk Assessment. Staff shall sign and date their copies of the risk assessment and visitors shall be required to sign a declaration stating that they shall abide by the site safety guidelines. Copies of these documents are available on request.

7. Recording

7.1. A site code has be allocated to the site by L – P : Archaeology, CAR/ML 12. This code will be used to label (using appropriate materials not adhesive labels) all sheets, plans and other drawings; all context and recording sheets; all photographs (but not negatives); all other elements of the documentary archive.

7.2. The written recording system used will follow the Museum of London Archaeological Site Manual (SPENCE 1994).

7.3. Context sheets will include all relevant stratigraphic relationships and for complex stratigraphy a separate matrix diagram will be employed. This matrix will be fully checked during the course of the excavation. If there is any doubt over recording techniques, the Museum of London Archaeological Site Manual will be used as a guide.

7.4. Individual descriptions of all archaeological strata and features excavated or exposed will be entered onto prepared pro-forma recording sheets. Sample registers, finds recording sheets, access catalogues, and photo record cards will also be used.

7.5. A site location plan will be prepared (OS 1:1250) showing the investigation areas and development site in relation to surrounding locality and street pattern.

7.6. This will be supplemented by a plan at 1:500 (or 1:1000), which will show the location of the excavation trench in relation to the development area. The locations of the OS bench marks used and site TBM will also be indicated.

7.7. Detailed plans will be drawn at an appropriate scale, usually 1:10 or 1:20.

7.8. The extent of any visible archaeological deposits will be recorded in plan. Long sections showing layers and any cut features will be drawn at 1:50. Short sections will be drawn at 1:20.

7.9. Sections containing significant deposits, including half sections, will be drawn at an appropriate scale, usually 1:10 or 1:20. All sections will be related to the Ordnance Datum using spot heights and registers of sections and plans will be kept.

7.10. Upon completion of each significant feature a minimum of one section will be drawn. The stratigraphy will be recorded, even if no archaeological deposits have

been identified.

7.11. An adequate photographic record will be made of any significant archaeological remains in both plan and section. This will include black and white prints and colour transparencies (on 35mm film) and digital images, illustrating in both detail and general context the principal features and finds discovered. The photographic record will also include working shots to illustrate more generally the nature of the archaeological operation.

7.12. A register of all photographs taken will be kept on standardised forms.

7.13. A Harris Matrix stratification diagram will be compiled on site.

8. Finds and Samples

8.1. All identified finds, artefacts, industrial and faunal remains will be collected and retained. Certain classes of building material can sometimes be discarded after recording if an appropriate sample is retained. No finds will, however, be discarded without the prior approval of the nominated representative of the local authority.

8.2. Unstratified material recovered from the spoil is to be recovered and included with the finds assemblage.

8.3. Material dating to the 19th century shall be retained and included with the finds assemblage.

8.4. All finds will be washed and processed to local standards by L – P : Archaeology.

8.5. The finds assemblage will be subject to summary analysis, dating classification and storage according to the local standards.

8.6. The following classes of finds will be assessed, in house, by L – P : Archaeology:

- Post Medieval ceramic assemblage
- Post Medieval glass assemblage
- Construction material
- Wood

8.7. Where external finds specialists are required, as determined on site, these finds will be assessed by relevant specialists.

8.8. Marking of finds will include the Museum Accession Number, Finds Number and Context Number. Bulk finds will be bagged in clear self-sealing plastic bags marked with the same Accession Number, Finds and Context Number. Storage will be by standard storage boxes that comply with relevant local specifications.

8.9. The finds assemblage will be retained for deposition with the site archive in the relevant Museum, to be agreed with GAPS. Documentary material including the paper archive, photographic negatives and prints will be stored in boxes to the local standards.

8.10. Photographic negatives will be stored in archival quality polypropylene sleeves with strip divisions, three ring holes, centres 107mm apart and dimensions no greater than, 255mm (from the punched side to the opposite edge) by 300mm. The sleeve should have a white writing strip.

8.11. Packaging of all organic finds and metalwork will follow the UKIC/Rescue guidelines, 'First Aid for Finds'. 3rd edition 1998. Any necessary, conservation and treatment of wood or metalwork will be arranged in conjunction with GAPS and specialist conservators.

8.12. All finds and samples will be treated in a proper manner and to the relevant local standards.

8.13. Finds will be exposed, lifted, cleaned, conserved, marked, bagged and boxed in accordance with the guidelines set out in the United Kingdom Institute for Conservation "Conservation Guideline No. 2". Appropriate guidance set out in the Museums and Galleries Commissions "Standards in the Museum Care of Archaeological Collections (1991)" will also be followed, as will the current IFA guidelines.

8.14. Environmental samples will be collected from relevant deposits on agreement with the GAPS such as: riverine silts, pit and ditch fills, deposits overlying floors and contexts relating to refuse disposal, and contexts where organic survival is apparent or suspected. Ongoing communication with environmental specialists will ensure that appropriate samples will be taken during the investigation to satisfy the specialist requirements.

8.15. Should such deposits be encountered during the course of the groundworks the advice of the local Archaeological planning advisor will be sought. A visit will be arranged to determine the importance that will be attached to the deposits exposed during the investigation. If it is considered appropriate these will be sampled by a specialist in accordance with A guide to sampling archaeological deposits for environmental analysis (MURPHY & WILTSHIRE 1994). These deposits will be subject to the following treatment:

- Organic samples will be subject to appropriate specialist analysis. There may be a requirement to submit timbers to dendrochronological analysis and to process some

samples to provide C14 dating.

- For carbonised remains, bulk samples a minimum of 10 litres (but up to 30 litres for early prehistoric features) will be collected.
- Bulk samples of 40 - 60 litres will be taken from waterlogged deposits for analysis of macroscopic plant remains
- Columns for pollen analysis will be taken where appropriate
- Mollusc samples will be gathered when required.

8.16. Other bulk samples for small animal bones and other small artefacts maybe taken from appropriate deposits depending on the aims of the project.

8.17. Residues and any retained samples will be treated as part of the finds assemblage.

8.18. Ceramic material will be subject to spot dating on site and, where necessary, subsequent analysis will be undertaken in conjunction with the reference types and any series held by any relevant local museums.

9. Reporting

9.1. The report will comprise a written description of the sources consulted, significant features identified during research and can be used to inform the client of any potential archaeological issues on the site in question. The report will also aid the curatorial service in their determination of any further work that may be required on the site.

9.2. The report will include:

- A concise non-technical summary of the results
- An explanation of the circumstances of the project, including references to the planning application
- Location of the site, given to an accurate national grid reference
- A summary of the sites geology and topography
- A summary of the historical background of the site
- A description of the aims and methodology employed during investigation
- A description of the archaeological data identified supported by scale illustrations and photographic evidence
- An interpretation of the results
- A full bibliography
- A description of the nature, extent and condition of the archaeological finds
- Summary and conclusion of archaeological works, including comment on the significance of the results both locally and nationally

9.3. A bound copy of the report will be sent to the client, a copy will be sent to GAPS and a further copy sent to the National Monuments Record. A single bound copy and digital version in pdf format will be submitted to the HER.

9.4. Copyright of all material within the programme shall remain with L – P : Archaeology, however the client and the local planning authority will be given a license to use such material for educational, public and research purposes.

10. Archive

10.1. The site code will be used to mark all plans, drawings, context and recording sheets, photographs and other site material during excavation.

10.2. The integrity of the site archive will be maintained. All finds and records will properly be curated by a single organisation, and be available for public consultation. Appropriate guidance set out in the MGC "Standards in the Museum Care of Archaeological Collections" (1992), and the SMA's draft "Selection, Retention and Disposal of Archaeological Collections" (1992) will be followed in all circumstances.

10.3. The minimum acceptable standard for the archival report is defined in the "Management of Archaeological Projects" 5.4 and Appendix 3. It will include all materials recovered (or the comprehensive record of such materials) and all written, drawn and photographic records relating directly to the investigations undertaken. It will be quantified, ordered, indexed and internally consistent. It will also contain a site matrix, a site summary and brief written observations on the artefactual and environmental data.

10.4. United Kingdom Institute for Conservation guidelines for the preparation of excavation archives for long-term storage (1990) will be followed. Arrangements for the curation of the site archive will be agreed with the appropriate museum.

10.5. Pursuant to these agreements the archive will be presented to the appropriate museum within 6 months of the completion of the project (unless alternative arrangements have been agreed in writing with the Local Planning Authority). In addition, written confirmation from the client will be provided for the transfer of ownership.

10.6.A short summary of the results of the work, even if negative, will be submitted to the relevant Historic Environment Record (using the appropriate archaeological report forms).

11. Agreement

11.1. This recommended format attempts to define best practice but cannot fully anticipate all contingencies. Material changes are however only to be made with the prior written approval of Dwr Cymru and GAPS.

SOURCES CONSULTED

STANDARDS & GUIDANCE

ENGLISH HERITAGE, 1991. *Management of Archaeological Projects*

INSTITUTE OF FIELD ARCHAEOLOGISTS, 2006. *Guidelines for Archaeological Evaluations*

INSTITUTE OF FIELD ARCHAEOLOGISTS, 2006. *Guidelines for Archaeological Excavations*

INSTITUTE OF FIELD ARCHAEOLOGISTS, 2006. *Guidelines for Archaeological Watching Briefs*

LEIGH D, WATKINSON D (ED.) AND NEAL V (ED.) 1993. *First Aid for Finds*. United Kingdom Institute for Conservation of Historic & Artistic Works, Archaeology Section.

MUSEUMS & GALLERIES COMMISSION, 1992. *Standards in the Museum Care of Archaeological Collections*

MURPHY, P & WILTSHIRE, P. 1994. *A proposed scheme for evaluating plant macrofossil preservation in some archaeological deposits,* Circa ea, 11(1), 1-6

SPENCE, C. 1994. *Archaeological Site Manual*, London: Museum of London.

UNITED KINGDOM INSTITUTE FOR CONSERVATION, 1991. *Conservation Guideline No. 2*

UNITED KINGDOM INSTITUTE FOR CONSERVATION, 1990. *Guidelines for the preparation of excavation archives for long-term storage*

WALKER K 1990. *Guidelines for the preparation of excavation archives for long term storage.* United Kingdom Institute for Conservation.

WATKINSON, D & NEAL, V. 1998. *First Aid for Finds*, London: RESCUE.

FIGURES

FIGURE 1 // Site Location General

Scale 1:25,000 @ A4

0 2,000m

N

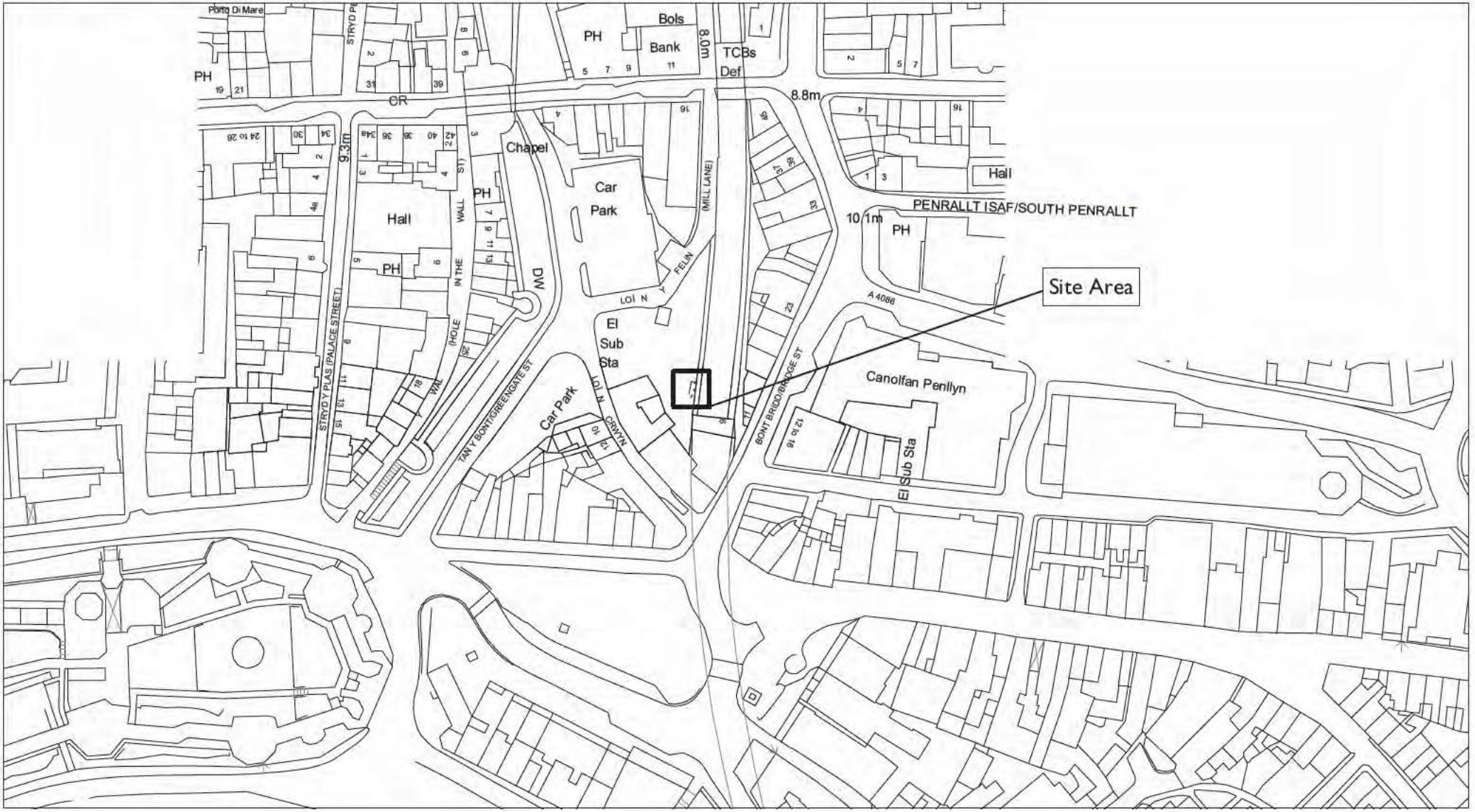
PROJECT // 1291C - Mill Lane, Caernarfon

DESCRIPTION // Site Location General

DOC REF: LP1291C-SWB-v1

L-P:ARCHÆOLOGY

FIGURE 2 // Site Location Detail



Scale 1:1,5000 @ A4

0 100m

N

PROJECT // 1291C - Mill Lane, Caernarfon

DESCRIPTION // Site Location Detail

DOC REF: LP1291C-SWB-v1

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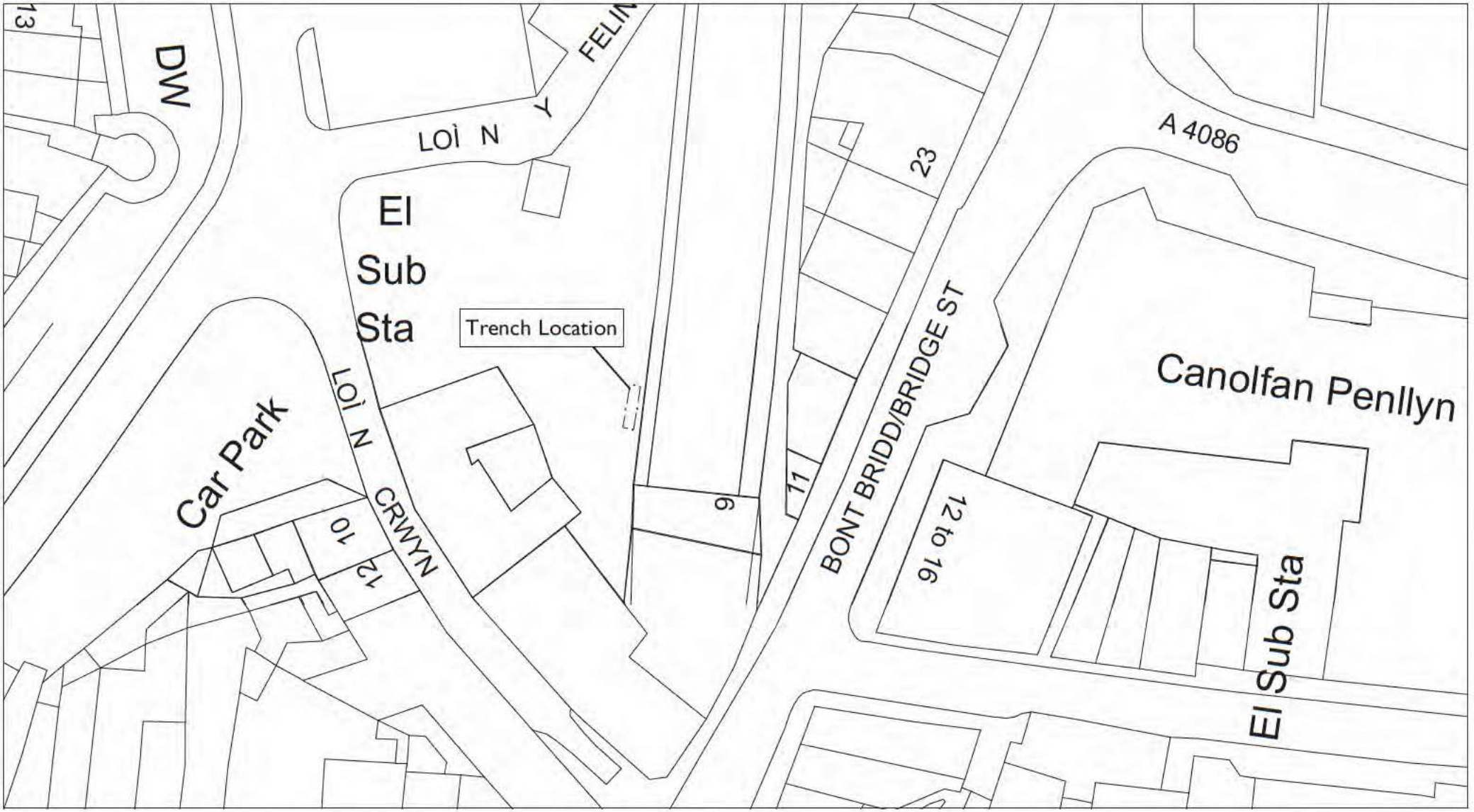
FIGURE 3 // Trench Layout



Scale 1:1,500 @ A4

0 20m

N

PROJECT // 1291C - Mill Lane, Caernarfon

DESCRIPTION // Trench Layout

DOC REF: LP1291C-SWB-v1

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