

# **DELTA LAKES, LLANELLI, CARMARTHENSHIRE: ARCHAEOLOGICAL WATCHING BRIEF (NGR SS 5083 9851)**



Prepared by Dyfed Archaeological Trust  
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# DELTA LAKES, LLANELLI, CARMARTHENSHIRE: ARCHAEOLOGICAL WATCHING BRIEF

Gan / By

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*Paratowyd yr adroddiad yma at ddefnydd y cwsmer yn unig. Ni dderbynnir cyfrifoldeb gan Ymddiriedolaeth Archaeolegol Dyfed Cyf am ei ddefnyddio gan unrhyw berson na phersonau eraill a fydd yn ei ddarllen neu ddibynnu ar y gwybodaeth y mae'n ei gynnwys*

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**SUMMARY**

*A planning application (Planning Application No. S/26070) was submitted to Carmarthenshire County Council for the development of a foul sewage pumping station and associated infrastructure and drainage at Delta Lakes, Llanelli, Carmarthenshire (NGR SS 5083 9851).*

*The site lies close to the south of the centre of Llanelli in an area of former industrial development. The area is known to have a significant number of post-medieval period archaeological sites in close proximity which were associated with the industrial activity of the 19<sup>th</sup> century, as well as churches and chapels associated with the working community. The area has been altered significantly over the years with the majority of former structures and features having been demolished, infilled or levelled*

*Due to the archaeological potential of the site a condition was placed upon the planning permission requiring the attendance of an archaeologist during the ground works to undertake an archaeological watching brief.*

*Carmarthenshire County Council, via Arup, commissioned DAT Archaeological Services to undertake the watching brief during ground works. Site visits were undertaken on the 19<sup>th</sup> and 21<sup>st</sup> of May, 2014.*

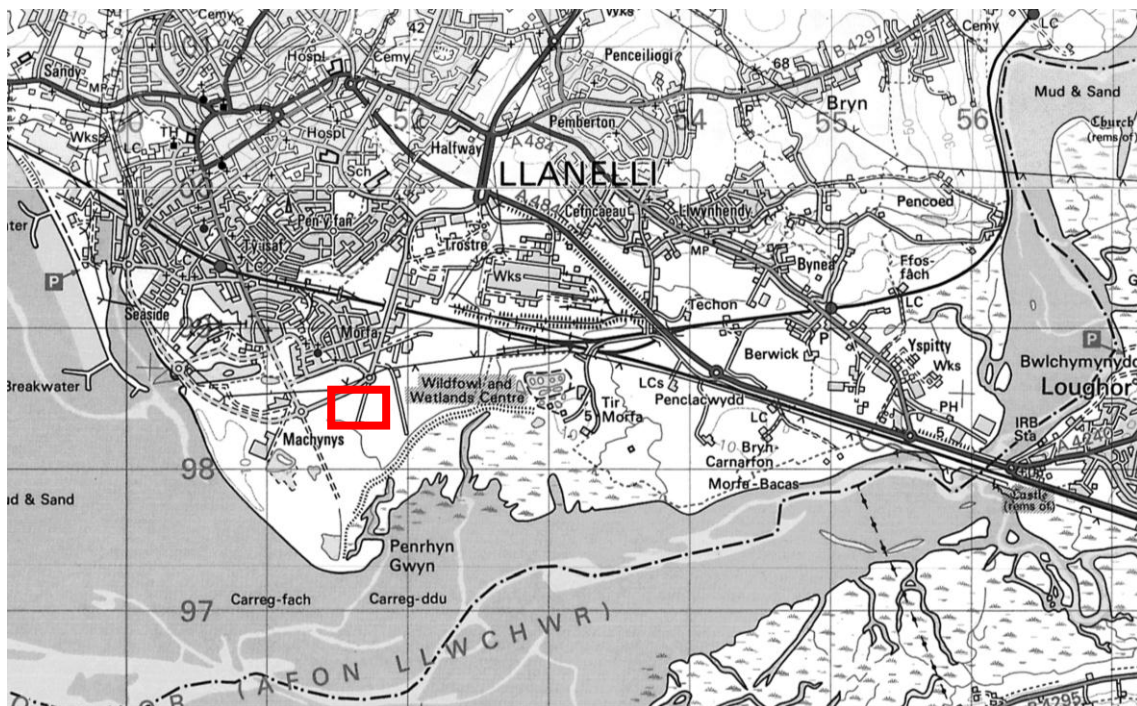
*No features, finds or deposits of archaeological significance were observed during the site visits. The site area itself appeared to have been previously disturbed, landscaped and levelled. The majority of the site area covered the line of the former Dock Terrace, including the road itself and structures on its northern side. The far eastern end of the drainage works may have extended into a former reservoir associated with the Brickfield Chemical Works.*

*The lack of archaeological remains observed during the watching brief does not preclude the possibility that significant archaeological activity exists in the wider area.*

## 1 INTRODUCTION

## 1.1 Project Commission

- 1.1.1 DAT Archaeological Services were commissioned by Carmarthenshire County Council/via Arup to undertake an archaeological watching brief on ground works associated with the development plans of Delta Lakes, Carmarthenshir (located at NGR SS 5083 9851, Figure 1).
- 1.1.2 The development area is known to have a number of significant post medieval archaeological sites in close proximity. These are predominantly associated with industrial activity that occurred here in the 19th century, as well as churches and chapels associated with the working community.
- 1.1.3 The requirements for the archaeological work was placed as a condition on planning permission for this development (planning application number S/26070) recommended by the archaeological advisors<sup>1</sup> to Carmarthenshire County Council.
- 1.1.4 The condition placed on the planning approval stated that: *'No development shall take place until the applicant, or their agents or successors in title, has secured the implementation of a programme of building recording in accordance with written scheme of investigation which has been submitted by the applicant and approved in writing by the local planning authority'*.
- 1.1.5 The archaeological condition was placed on the development as the proposed works could potentially expose, damage or destroy archaeological remains.



**Figure 1:** Site location map based on the Ordnance Survey (Area marked in red).

Reproduced from the 2003 Ordnance Survey 1:25,000 scale Landranger Map with the permission of The Controller of Her Majesty's Stationery Office, © Crown Copyright Dyfed Archaeological Trust, The Shire Hall, Carmarthen Street, Llandeilo, Carmarthenshire SA19 6AF. Licence No100020930.

<sup>1</sup> Dyfed Archaeological Trust Planning Services – Heritage Management.

1.1.6 The proposed development works at Delta Lakes include (Figure 2):

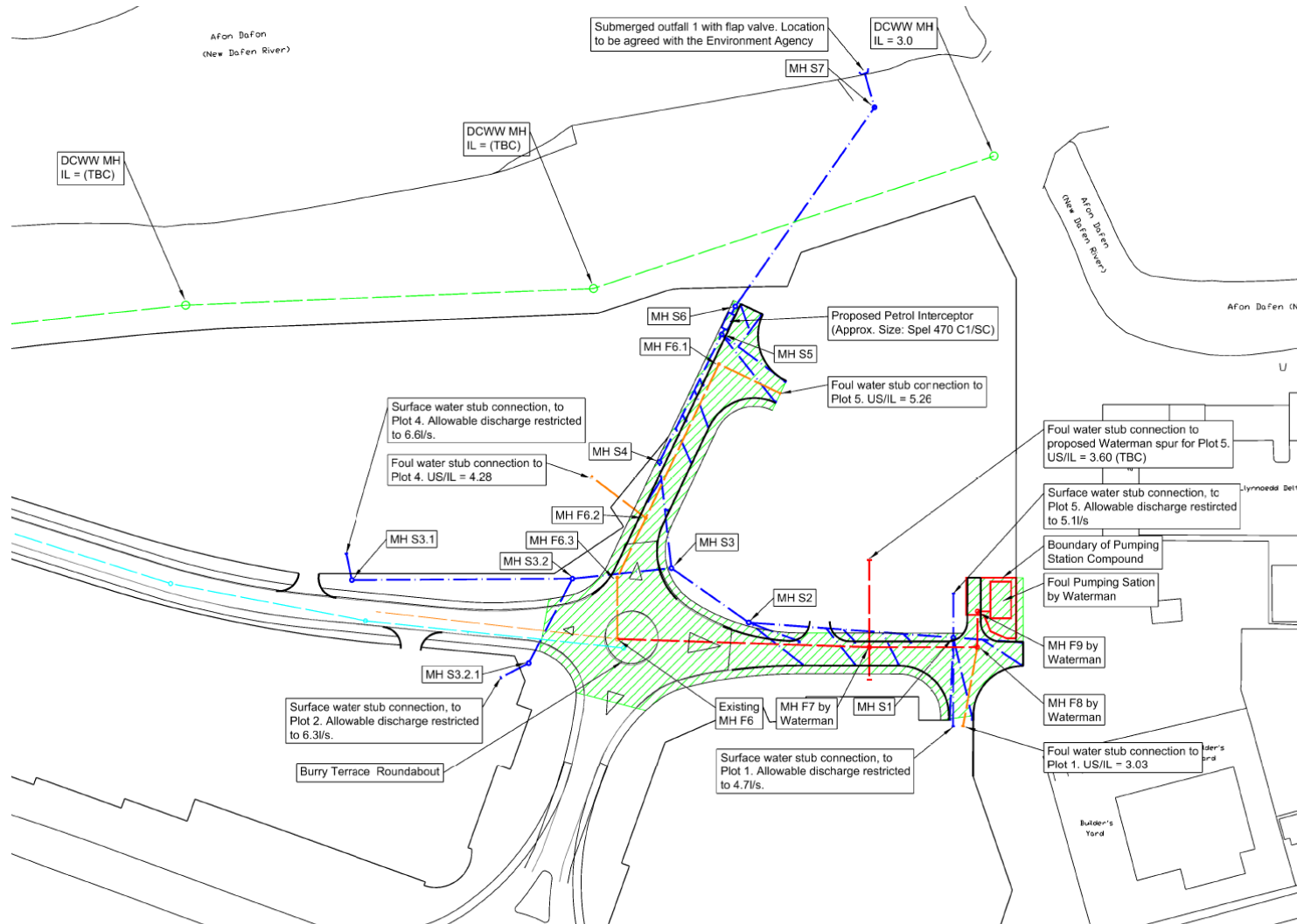
- A foul sewage pumping station and directly associated utilities;
- Earthworks and access roads associated with the above (hatched in green on Figure 2); and
- Foul and storm drainage associated with the above.

## 1.2 Scope of Project

1.2.1 A Written Scheme of Investigation (WSI) for a watching brief was prepared by DAT Archaeological Services prior to the commencement of works. The WSI was commissioned by Arup who put together the original planning application for the development. The WSI outlined methodologies for:

- Provision of a written scheme of investigation to outline the methodology by which the watching brief should be undertaken.
- To identify the presence/absence of any archaeological deposits.
- To establish the character, extent and date range for any archaeological deposits to be affected by the proposed ground works.
- To appropriately investigate and record any archaeological deposits to be affected by the ground works.
- To produce an archive and report of any results.

1.2.2 The proposed scheme of work was summarised in the WSI as:  
***Archaeological attendance and recording during initial groundworks at the site of the proposals at Delta Lakes, Llanelli, which may expose, damage or destroy any underlying archaeological remains, if present within the development area. A report shall be prepared on the results of the watching brief, and an archive created of all finds, records, photographs and plans created by this mitigation strategy.***



**Figure 2:** Plan showing development proposals at the Delta Lakes site, Llanelli development (as supplied by Arup – detail of plan SK001-10)

### 1.3 Report Outline

1.3.1 This report provides a summary and discussion of the archaeological watching brief and its results.

### 1.4 Abbreviations

1.4.1 Sites recorded on the Regional Historic Environment Record<sup>2</sup> (HER) are identified by their Primary Record Number (PRN) and located by their National Grid Reference (NGR). Dyfed Archaeological Trust Field Services – DAT-FS; Dyfed Archaeological Trust Heritage Management – DAT-HM; Scheduled Ancient Monument – SAM; Written Scheme of Investigation – WSI.

### 1.5 Illustrations

1.5.1 Printed map extracts are not necessarily produced to their original scale.

### 1.6 Timeline

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

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 1086	
Medieval Period –	1086 – 1536	
Post-Medieval Period <sup>3</sup> –	1536 – 1750	
Industrial Period –	1750 – 1899	
Modern –	20 <sup>th</sup> century onwards	

**Table 1:** Archaeological and Historical Timeline for Wales.

<sup>2</sup> Held and managed by Dyfed Archaeological Trust, The Shire Hall, Carmarthen Street, Llandeilo SA19 6AF.

<sup>3</sup> *The post-medieval and industrial periods are combined as the post-medieval period on the Regional Historic Environment Record as held by Dyfed Archaeological Trust*

## **2 THE SITE**

### **2.1 Location**

2.1.1 Delta Lakes is located to the south of Llanelli, Carmarthenshire (NGR SS 5083 9851; Figures 1 & 2).

2.1.2 It is located in an area of former roadway (roundabout and associated roads) lying north of a roundabout on Delta Lakes. The site lies at roughly 10m above sea level and is located on the banks of the Llanrhidian Sands. The land is relatively level, with rough grass and stone chippings on its surface. It is understood that the area has been levelled in the recent past.

### **2.2 Archaeological and Historical Background**

2.2.1 The area is known to have a number of significant post-medieval period archaeological sites in close proximity. These are mostly associated with industrial activity of the 19<sup>th</sup> century, as well as churches and chapels associated with the working community. The information described below is taken from the regional Historic Environment Record (HER) held by Dyfed Archaeological Trust, within a search area of 250m radius centred on the proposed development site. Table 2 summarises the information found in the HER.

2.2.2 The centre of the site area lies on the former line of Dock Terrace (PRN 34028) a row of terraced housing. This is shown on the first edition Ordnance Survey map of c.1880 as being incomplete (Figure 1), and reached its full size by the 1904 second edition (Figure 2). Further terrace housing also used to be situated within the proximity of the site, including Machynys Buildings (PRN 34012) directly to the west, Brick Row (PRN 34013) to the south and a former unnamed terrace (PRN 34015) to the south. Associated with the former workers terraced housing are the former Machynys Mission Room (PRN 31424), Machynys School (PRN 34016) and Capel Joppa (PRN 34017) all of which lie to the south of the proposed development area.

2.2.3 A series of coal yards and associated railway sidings (PRN 34027) are shown on the first edition map in the northern part of the development site. To the south of the site lie two former reservoirs, both now backfilled (PRN 34019 & 34070).

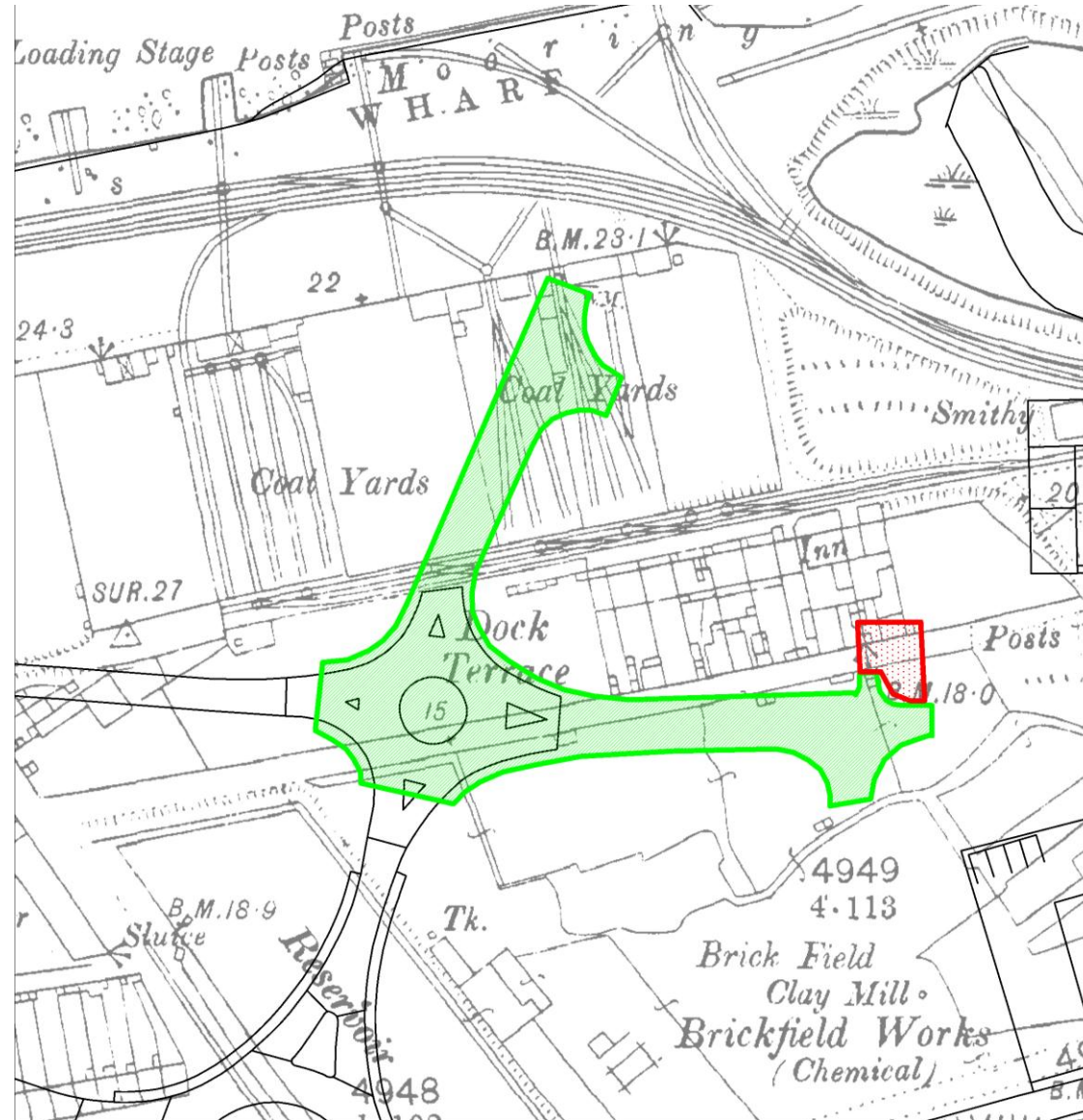
2.2.4 Industrial sites in the area include the Brickfield Chemical Works (PRN 34071) and Morfa Iron Foundry (PRN 4662) to the southeast. Directly to the north was the former South Wales Iron and Tinplate Works (PRN 30708). The Bury Tinplate Works (PRN 30709) was located to the south.

2.2.5 To the northeast of the development site lies the former New Dock constructed in 1835, which expanded the River Dafen for shipping. Within the dock were a number of landing stages and quays associated with a variety of companies, including the Great Western Dock (PRN 8764) and Richard Thomas' Wharf (PRN 8768). Other associated features are recorded on the HER within proximity of the site including the scouring basin (PRN 24439) to the west of the proposed development area, the Great Western Railway scouring basin (PRN 7744) located to the northeast.

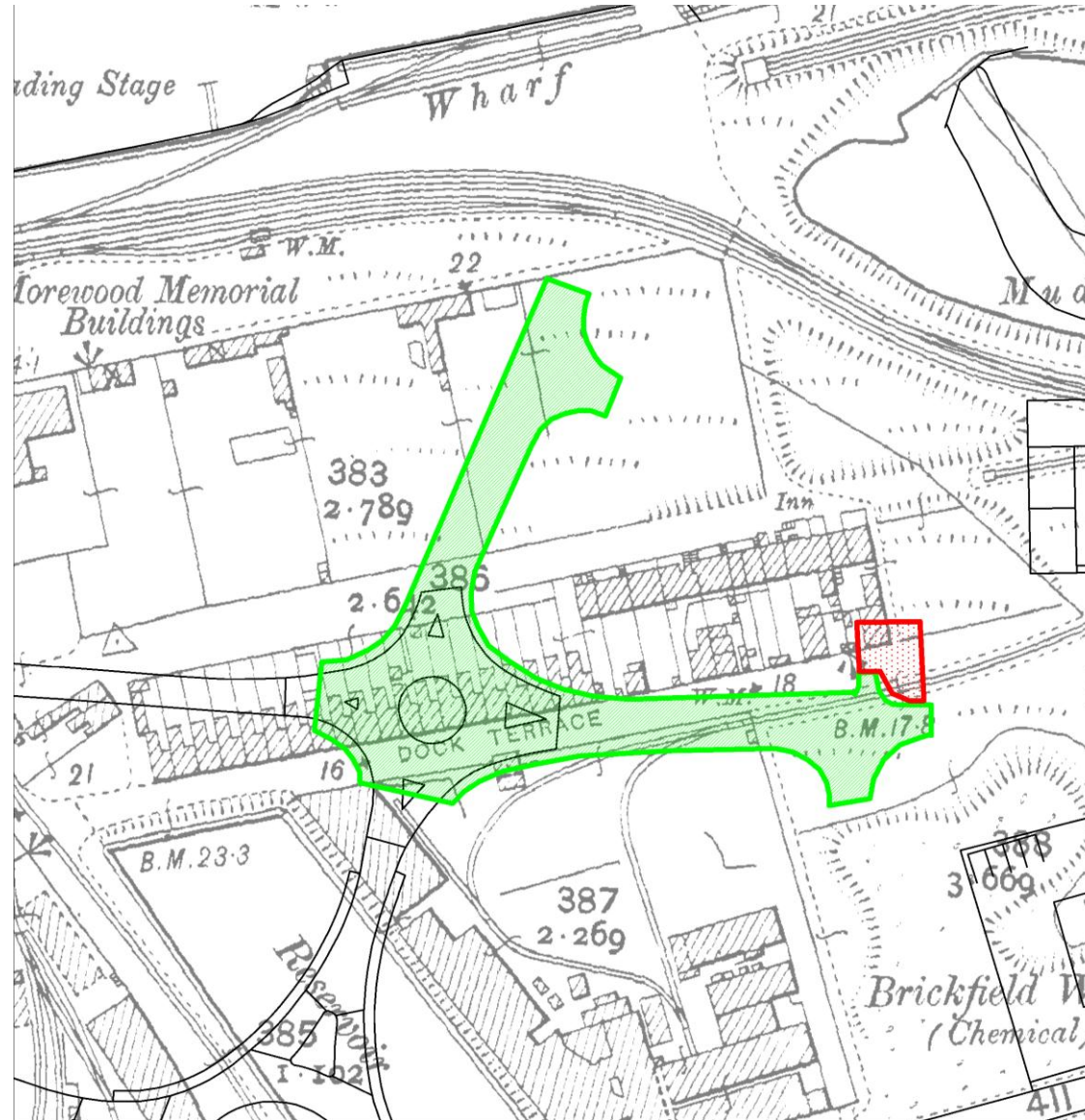
2.2.6 Figures 3 and 4 show the First and Second edition OS maps respectively with the modern road layout superimposed. This demonstrates the potential impact the current developments may have upon the underlying archaeology. The majority of the road lines and areas of drainage trenches etc would cut across Dock Terrace and less developed land to the north. The eastern extremity of the development area would reach the former reservoir of the Brickfield Works chemical factory. The pumping station lies across the former Dock Terrace road and buildings on its northern edge.

PRN	Site Name	Description	Grid Reference
4662	Morfa Foundry	Post-medieval Foundry, restored building	SS 5110 9850
7744	Great Western Railway Dock	Post-medieval Scouring Basin, restored	SS 5100 9865
8768	Richard Thomas' Wharf	Post-medieval Wharf, now damaged	SS 5085 9867
24439	New Dock	Post-medieval Scouring Basin, near intact	SS 509 986
30708	South Wales Iron And Tinplate Works;	Post-medieval tinplate works Opened in 1872. Became the first integrated steel and tinplate works in Llanelli in 1879. Closed 1958. Aka South Wales Steel And Tinplate Works	SS 5082 9858
30709	Burry Tinplate Works	Post-medieval tinplate works Opened c.1875.	SS 5099 83
31424	Machynys Mission Room	Post-medieval, Modern Mission Hall, north of school, 34016, identified from 2nd Edition OS, later demolished.	SS 5078 9831
34012	Machynys Buildings	Post-medieval terrace. Machynys buildings was a terrace of ten residential buildings depicted on 1st Edition OS. By 2nd Edition OS this terraced row was demolished to make way for the expansion of the South Wales Works, 30708.	SS 5073 9843
34013	Brick Row	Post-medieval terrace comprised two terrace rows of six residential buildings in each row depicted on 1st Edition OS. By 2nd Edition OS the northern terraced row was demolished to make way for the expansion of the South Wales Works, 30708.	SS 5081 9835
34015	Machynys	Post-medieval, Modern terraced row comprising twenty residential houses just south of the South Wales Works is depicted on 2nd Edition OS. This row was later demolished.	SS 5076 9834
34016	Machynys	Post-medieval, Modern School identified from 2nd Edition OS, later demolished.	SS 5078 9828
34017	Capel Joppa	Post-medieval, Modern Chapel identified from 2nd Edition OS, later demolished.	SS 5083 9830
34018	Machynys	Post-medieval, Modern Reservoir, identified from 2nd Edition OS, later infilled.	SS 5090 9835
34019	Machynys	Post-medieval Reservoir, identified from 1st and 2nd Edition OS, later infilled.	SS 5081 9845
34027	Machynys	Post-medieval Coal yards alongside New Dock shipping channel, 24438, identified from 1st Edition OS, gone by 2nd Edition	SS 5075 9863
34028	Dock Terrace	Post-medieval terrace, depicted on 1st Edition OS, by 2nd Edition OS, a further twenty residential buildings had been added to the west. Later the entire terrace was demolished.	SS 5083 9853
34070	Machynys	Post-medieval Clay pits, identified from 1st Edition OS, later erased by construction of reservoir, 34018, identified from 2nd Edition OS.	SS 5088 9836
34071	Brickfield Chemical Works	Post-medieval Brickfield Chemical Works depicted on 1st and 2nd Edition OS, later demolished	SS 5082 9843

**Table 2:** Summary of known archaeological sites recorded on the regional HER.



**Figure 3:** Extract of the first edition Ordnance Survey map of c.1880 with outline of modern road layout superimposed and also main areas of Delta Lakes development (red area is pumping station)



**Figure 4:** Extract of the second edition Ordnance Survey map of 1904 with outline of modern road layout superimposed and also main areas of Delta Lakes development (red area is pumping station)

- 2.2.7 Overall the archaeological potential of the site is greatest for post-medieval (19<sup>th</sup> century) remains relating to the former industrial nature of the site area. The area has been altered significantly over the years with the majority of former structures and features having been demolished, infilled or levelled. The existing site area has been recently landscaped and levelled to enable future development.
- 2.2.8 It is very possible that the remains of buildings and structures associated with former housing or industrial works and processes are still present in the area but buried beneath demolition and levelling layers.
- 2.2.9 Geotechnical investigations were previously undertaken across the site area, including both bore holes and machine excavated trial pits. These demonstrated a substantial build-up of made ground across the site area (Soil Mechanics, Report No H5070 Delta Lakes, Ground Investigation, dated August 2005). The depth of made ground varies from between 0.4m on the eastern side of the site to 3.4m to the west, although levels are mostly between 1.10m and 2.00m across the site. The character of these made ground deposits was not recorded in detail and the potential that they could contain significant remains of 19<sup>th</sup> century date, including the possibility of surviving structures buried within later rubble levelling material, was highlighted. Potentially the whole area has been raised through the importation of levelling material from elsewhere and any archaeological remains lie buried beneath it or at a depth that will not be affected by the proposed works.

### **3 WATCHING BRIEF METHODOLOGY**

#### **3.1 Fieldwork**

- 3.1.1 An archaeological 'watching brief' was undertaken on 19<sup>th</sup> and 21<sup>st</sup> of May and 24<sup>th</sup> June 2014 at the commencement of ground works and during the excavation of the pumping station area, all of which had the potential to expose, damage or destroy underlying archaeological remains.
- 3.1.2 All archaeological deposits revealed during the ground works were examined and recorded to an appropriate level.
- 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<sup>4</sup> used by DAT Archaeological Services.

#### **3.2 Post-Fieldwork Reporting and Archiving**

- 3.2.1 All data recovered during the fieldwork will be collated into a site archive structured in accordance with specifications in *Archaeological Archives: a guide to best practice in creation, compilation, transfer and curation* (Brown 2007), and the procedures recommended by the National Monuments Record, Aberystwyth.
- 3.2.2 The results of the fieldwork have been assessed in local, regional and wider contexts. The report includes a desk-based research element to ensure that the site is placed within its wider archaeological context.

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<sup>4</sup> Dyfed Archaeological Trust Field Services have adopted the Recording Manual developed by English Heritage Centre for Archaeology. A copy will be available on-site for inspection if required.

## 4 RESULTS

- 4.1 Across the entire excavated area the ground showed signs of being very disturbed. The uppermost layer consisted of a grey, loose, gritty material that is the result of landscaping and levelling of the site. This appears to vary in depth from 1.5m and up to 2m in some places. The material presumably comprises crushed stone and demolition material from the various buildings and structures across the site area.



**Photo 1:** View of excavated area showing disturbed upper layers of 'built material' caused by site levelling.

- 4.2 The underlying geology appears to be a natural alluvium, yellow in colour and made up of fine silt and clay, gravel and frequent large stone inclusions. This was most clearly identified in the deeper areas of excavation for the pumping station where numerous gravel layers were encountered. The area of the pumping station was reduced to some 1.5m below the former ground surface. Sheet piles were then inserted around the buildings footprint and the ground level further reduced through natural gravels. Some sheet piles had already been inserted into this area by the time of the last visit to the site, although these were placed through the natural gravels.
- 4.3 No features, finds or deposits of archaeological significance were observed during the watching brief.



**Photo 2:** Natural alluvium underlying disturbed upper layers



**Photo 3:** Sheet piles around the area of the proposed pumping station

## **5 CONCLUSIONS**

- 5.1 This archaeological watching brief has demonstrated that the development at Delta Lakes, Llanelli has not impacted upon any archaeological significant deposits or remains.
- 5.2 It is evident that over the years the area has been previously disturbed having been landscaped and levelled in preparation for future development. This has resulted in a modern built layer up to 1.5m in depth comprising crushed stone and building rubble. Where excavation has gone beyond the built layer it is apparent that it is overlying natural alluvium, sands and gravels.
- 5.3 From the information gathered during the watching brief there was no indication of any surviving structural remains. This may indicate that all buildings and footings were removed when the area was demolished. As the Delta Lakes site was located over a series of domestic buildings on the former Dock Terrace, then it is possible that these did not have substantial footings and so would be less likely to survive than larger industrial structures.
- 5.4 The site lies in an area of known industrial activity and the potential for associated structures and features to survive within the wider area still remains.

## **6 SOURCES**

Brown, D.H., 2007. Archaeological Archives: A guide to best practice in creation, compilation, transfer and curation, Institute of Archaeologists.

### **6.1 Database**

Dyfed Archaeological Trust Historic Environment Record.

### **6.2 Map**

Ordnance Survey Map. Landranger 2003. 1:50 000.

1<sup>st</sup> Edition OS Map. 1880.

2<sup>nd</sup> Edition OS Map 1906.

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Swydd / Position: Archaeologist

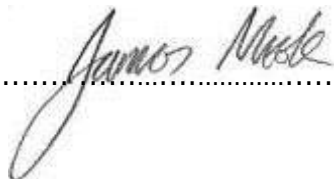
Llofnod / Signature .....  ..... Dyddiad / Date: 06/10/14

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

James Meek

ar ran Ymddiriedolaeth Archaeolegol Dyfed Cyf.  
on behalf of Dyfed Archaeological Trust Ltd.

Swydd / Position: Head of DAT Archaeological Services

Llofnod / Signature .....  ..... Dyddiad / Date: 7/10/14

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

