

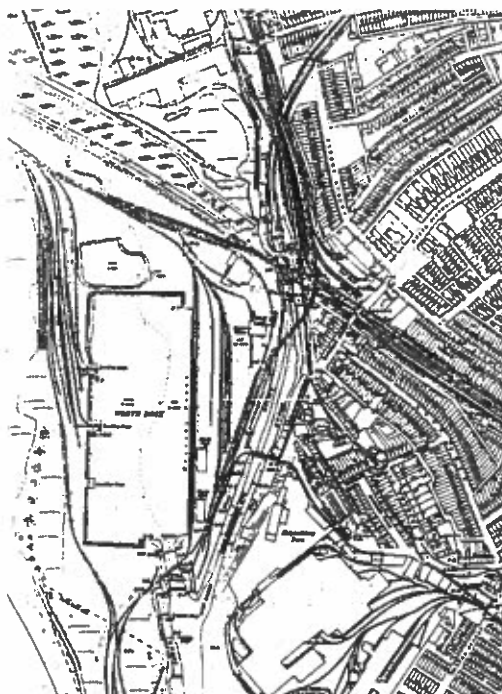
The Glamorgan-Gwent Archaeological Trust Ltd
Contracts Division



North Dock
Llanelli
Carmarthenshire

Cultural Heritage
Archaeological Assessment

Feb.
1999



North Dock (Extract from 3rd edition 25-inch OS map)

A report for Chapman Warren

by Richard Roberts BA

GGAT report no. 99/004

Project no. A514

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ILLUSTRATIONS

- Fig. 1 Location of Study Area, showing PRNs in the adjacent area
- Fig. 2 Study Area, showing interests (PRNs)

SUMMARY

A desk-based assessment allowed cultural heritage interests to be identified and assessed in terms of significance. Recommendations have been made to ensure adequate mitigation of the possible impact on the cultural heritage. These are based on criteria of significance and the effect the scheme will have on the cultural heritage resource. The risk of damage to archaeological interests, including any not established is considered on present evidence to be slight.

Specific recommendations have been made to mitigate the effects of the proposed development on known interests at the entrance to North Dock. It is considered that these interests will be preserved *in situ*, and mitigation by record prior to the commencing of works has been recommended.

ACKNOWLEDGEMENTS

The author is indebted to Jennifer Hall, SMR Officer, and Louise Austin, Development Control Officer, Dyfed Archaeological Trust, Llandeilo. Further information was kindly provided by Rosemary Jones of the National Monuments Record of Wales, Maria Jenkins and Dr. Peter Wakelin, Inspector of Ancient Monuments, Cadw - Welsh Historic Monuments. The staff at the Carmarthenshire County Record Office, Carmarthen, and Llanelli Public Library, Llanelli also gave valuable assistance. Illustration by GGAT Illustration Department. Baseline information provided by Chapman Warren.

2 EXISTING CONDITIONS

2.1 *The North Dock*

2.1.1 The present study is concerned with the area of the redundant North Dock and its immediate vicinity, centred on NGR SS 499 996. The Millennium Coastal Park is proposing to undertake an enhancement scheme at North Dock, Llanelli.

2.1.2 The scheme is located within the Community of Llanelli, in the County of Carmarthenshire and is located on the north-western edge of the town, bordering the shallows of Cefn Padrig and the Burry Inlet. The area around the dock basin is reclaimed land, which has been developed for various industrial purposes since the 19th century. The study area is currently occupied by late-20th century industrial and commercial structures and associated hard standing, with an area of landscaped dunes to the south-east. The former dockside rail network has been replaced by an access road. The interior of the dock basin is at present heavily silted. The area around the remaining buildings of the 19th century Old Castle Iron and Tinplate Works to the north appears to have been used for refuse tipping.

2.1.3 The area has been subject to a number of previous studies including a report produced by ARUPS (1990) and two surveys undertaken by Dyfed Archaeological Trust (Cambria Archaeology): the *Llanelli Wetlands Survey 1996 & 1997* by Page and Allen, and the *Coastal Survey 1997-98 Carmarthen Bay. Ginst Point to Loughor 1998* by Nigel Page, edited by Heather James.

2.2 *The Field Visit*

2.2.1 This was undertaken on the 6th of January 1999. The area of the proposed scheme was walked and remains of archaeological interest noted. Conditions for field walking were reasonable for the time of year, though poor light and rain hampered photography. The area surrounding the dock is characterised by partly cleared and landscaped industrial land. The area entirely comprises reclaimed land, formerly intertidal mudflats and saltings to the east and west of the former course of the Afon Lliedi as it approached the area of mudflats known as the Llanelli Flats, at the west end of Cefn Padrig Bay, north of Mach-ynys. Part of the area has been landscaped following the clearance of dock rail sidings and later industrial building. Though a number of 19th and 20th century industrial structures remain notably the North Dock and loading stages associated with it.

2.2.2 A total of 58 sites were identified for the purpose of this the study, during the initial documentary search – i.e. those sites, noted from the county SMR, cartographic and other documentary evidence. No further sites were identified during the field walkover stage. Sites identified for the purpose of this study not previously on the County SMR have been allocated PRN numbers.

2.2.3 Of the 58 sites identified for the purpose of this study, 30 were located

North Dock, Llanelli: Cultural Heritage Archaeological Assessment

PRN 30865	SN 498 004 to SN 560 131	Post-medieval	Linear feature: tram-road / railway, site of	Carmarthenshire Tram-road, Carmarthenshire Railway, Llanelli and Mynydd Mawr Railway, site of	Earthwork, documents / Removed	B/E
PRN 34010	SN 5030 9857 to SS 4985 9935	Post-medieval	Linear feature: breakwater	Breakwater, embankment to the south of the Carmarthenshire Dock	Structure Extant - good	C
PRN 34038	SS 5014 9859	Post-medieval	Harbour	The Flats Harbour, Llanelli	Structure Extant - fair	C
PRN 34039	SS 4986 9944; SS 4953 0009	Post-medieval	Scouring reservoir, site of	The Flats-Scouring Reservoir	Structure Destroyed	D
PRN 34043	SS 4967 9986 to SS 4978 9942	Post-medieval	Linear feature: embankment, site of	Embankment and scarp, west of North Dock.	Documents / Destroyed	D
PRN 34042	SS 4986 9934	Post-medieval	Loading stage, site of	The Flats Loading Stage	Structure Destroyed	D
PRN 34044	SS 4980 9989	Post-medieval	Reservoir, site of	Reservoir, North Dock	Structure Infilled	D
PRN 37012	SN 5000 9987	Post-medieval	Bridge	Road bridge over new cut for Afon Lliedi	Building Extant - good	B/C
PRN 37013	SS 4994 9994	Post-medieval	Coal tips, site of	Colliery tips, Old Castle Colliery	Documents / Removed	D
PRN 37014	SN 4996 9956	Post-medieval	Rail-side building(s)	Goods sheds east side of North Dock	Building Extant - good/fair	D
PRN 37015	SN 4987 9940	Post-medieval	Dock entrance	Entrance to North Dock, Llanelli	Structure Extant - good/fair	B/C
PRN 37016	SS 4998 9957	Post-medieval	Bridge	Trammed road bridge crossing northern end of Carmarthenshire Dock	Building Listed Building - Grade II / Extant - good	A
PRN 37017	SS 4987 9939	Post-medieval	Loading stage, remains of	Loading stage, south east of entrance to North Dock	Structure Extant - poor	D
PRN 37018	SS 4968 9972; SS 4993 9965	Post-medieval	Railway sidings, site of	Site of GWR rail sidings to east and west of North Dock	Documents / Removed	D
PRN 37019	SS 4985 9970	Post-medieval	Shipping place	'Thomas Bowen's Shipping place' (Afon Lliedi)	Documents / Removed	D
PRN 37020	SS 499 996	Post-medieval	Pit, site of	'Old Coal Pit' - unnamed	Documents / Unknown	D
PRN 37021	SS 500 997	Post-medieval	Pit, site of	Unnamed pit	Documents / Unknown	D

PRN 8760	North Dock Engine House: situated on west bank of the Afon Lliedi, close to north east corner of North Dock. After the RCAHM(W) description (1986) the building dates to 1900 (at base of north tower pilaster) with later additions and comprises 3 parallel ranges. These include a boiler house, engine house with north accumulator tower and maintenance shed with projecting north front. Additions include a corrugated iron shed to north east and east, and a red brick range to south-west end. The main external details are coursed rubble facings, free stone dressings, reused gable parapets with corbelled kneelers, corrugated iron roofs (lowered), surviving slate roofs to west range, segmental headed window and door-heads with voussoirs, modern blocking including brickwork to tram arches through west range. The north tower is crenellated with string-courses, pilaster and clasping buttresses, paired ventilator openings at mid-height. The Royal Commission report noted the following surviving internal features - inspection pit for engines and rolling stock and hydraulic equipment for operation of the North Dock gates and bridges (removed). The building appears to be as described above though in an increasingly derelict state. Listed building - grade II. ⁷
PRN 8761	Signal box, Llanelly & Mynydd Mawr Railway (later GWR) located to the east side of the entrance to North Dock. Site of former small two-storey corrugated sheet clad-building identified on 2nd edition 6" OS map (1907) and 3rd edition 25" OS map (1916). Site now under new roundabout. ⁸
PRN 8763	North Dock Swing Bridge. Single deck swing bridge constructed c.1900, span of approx. 75ft with rail deck. The bridge has been recently removed, however, the swing bay and tracks for the bridge remain intact. ⁹
PRN 8971	The Dolphin, shipwreck. ¹⁰
PRN 9746/30702	Old Castle Iron & Tinplate Works, partly demolished. The works built 1866-1867 by the Llanelli Associated Tinplate Companies Ltd., represented a significant expansion of the tinplate industry, initially of 5 mills, this was later extended by 4 in 1888 and later to become the largest pure tinplate works with 14 mills. The Old Castle Works was important for being the first tinplate company works to be financed under limited liability (following the Limited Liability Act of 1856), and as a result was financed locally rather than by English finance. The best known of the directors at the time being Samuel and Henry Thomas. When the works of the Steel Company of Wales closed in 1957 it employed some 440 people. Closure blamed on the plant's inability to compete with those plants using modern cold-reduced tinplate technology. ¹¹
PRN 30865	Carmarthenshire Tram-road, Carmarthenshire Railway, Llanelly and Mynydd Mawr Railway, site of. The Carmarthenshire Railway is one of the oldest railways sanctioned by Parliament: the Carmarthenshire Railway Act (42 Geo III c80) dated 1802 authorised construction of railway or tramroad from Llanelli Flats to Castell-y-Garreg. This included the purchase and re-use of Raby's rail system (1.5 miles opened 1799 between Raby's Dock and the Cwmddyche Iron Works). The Carmarthenshire Railway, was of 4ft gauge flange rails set on stone blocks and horse-worked over its 12 mile length, when it opened between May 1803 and late 1805. The Carmarthenshire Railway or Tramway Company ceased trading in 1844 and the rails were lifted. In 1875 the Llanelly and Mynydd Mawr Railway (L&MMR) was incorporated by Act of Parliament, this Company acquired the rights of the 'Old' Carmarthenshire Railway for the purpose of laying a standard gauge line. After initial difficulties the L&MMR, constructed, financed and eventually managed by a John Waddell of Edinburgh, was finally opened to local freight in July 1881 and public mineral traffic by the 1st January 1883. The new line was opened slightly to the east of the original Carmarthenshire Railway. By 1887 and the opening of Waddell's Great Mountain Collieries, the Line ran 13 miles between Llanelli and Cross Hands. The Line was absorbed by the GWR in 1922. The Railway appears on the 1st, 2nd and 3rd edition of the 6" and 25" OS map. The line appears to have been made redundant with the closure of the North Dock in 1951 and the line appears to have been taken up (c.1961?) by the publication of the 1: 25,000 1964 OS map. ¹²

⁷ Dyfed SMR; RCAHM(W) Description; Cadw listing (Record No. 18,043); field obs.

⁸ Dyfed SMR; field obs.

⁹ Ibid.

¹⁰ Dyfed SMR.

¹¹ Edwards, J (ed.), 1995; Innes, J, 1902; Dyfed SMR; field obs.

¹² Dyfed SMR; Symons, MV, 1979; Barrie, DSM, 1980; Innes, J, 1902; Price, MRC, 1992.

	the north-west is substantial and of mortared rubble construction. The bridge has a shallow segmental brick-built arch (not original?). On the north elevation, the arch is inset to seat weir planks to dam the river, probably to assist the scouring of the dock. Large copings are level with the bridge deck, which is typical of early 19th century tramroad bridges in being flat and without parapets. Unusual iron stansions bolted to the copings support modern railings. Listed building - grade II. ²³
PRN 37017	Loading stage, south east of entrance to North Dock. The remains of wooden uprights protruding above the high water mark. 2nd edition 6" OS map and 3rd edition OS 25" map indicate a loading stage with a mooring post at this location. ²⁴
PRN 37018	Site of GWR rail sidings to east and west of North Dock. These were linked to the South Wales Railway/GWR main line to North Dock and to loading stages (PRN 8762), further south on the breakwater (PRN 34010) as indicated on the 2nd edition 6" OS map and later editions, partly removed by 1946. ²⁵
PRN 37019	'Thomas Bowen's Shipping place' (Afon Lliedi), a shipping place close to Thomas Bowen's pits on the old course of the Afon Lliedi, that which Thomas Bowen owned to having built in 1756. The site of the shipping place lies in the vicinity of North Dock. ²⁶
PRN 37020	'Old Coal Pit' – unnamed (Symons pit no. 51), probably associated with John Allen's 18th century mining activities, inherited by Thomas Bowen and depicted on a map of 1845. ²⁷
PRN 37021	Unnamed pit (Symons pit no. 53), on the old seashore (i.e. east bank of the Afon Lliedi) of the inherited by Thomas Bowen. ²⁸
PRN 37022	'Old Pit', unnamed (Symons pit no. 54), from which John Allen drove a westward heading for Golden Vein. ²⁹
PRN 37023	'Old Coal Pits', unnamed (Symons pit no. 55). Pit identified on plan of 1846 at the former seashore (immediately west of Albert Street) from which John Allen, the 18th century Llanelli coal developer drove a heading westwards under the sea. ³⁰
PRN 37024	West Quay, Carmarthenshire Dock. Tidal Harbour begun in 1797/98 (East Quay, see PRN 4654) on the Llanelli Flats, as shipping place by Alexander Raby. Carmarthenshire dock was reconstructed 1804-1806. Engineer responsible for the work was James Barnes. A new quay was constructed on the west side of the Carmarthenshire Dock at this time (1805). The Afon Lliedi was later diverted through the northern end of the Carmarthenshire Docks, this has ensured its survival to the present day. The remains comprise a well-constructed stone quay of dressed sandstone, carefully coursed, with large sandstone copings. The quay is straight and level from its northern end at the former tramroad bridge and extends some 170m roughly southwards. It is crossed at its southern end by a modern road bridge. The wall is approximately 6m high from the current silt level in the Afon Lliedi and is slightly battered to the base. It is thought that the quay wall is tied to a concealed stone dock floor. Listed Building -grade II. ³¹

3 ARCHAEOLOGICAL BACKGROUND

3.1 *Pre-reclamation Industrial Development*

3.1.1 Prior to the nineteenth century the study area formed part of the intertidal zone at the mouth of the Afon Lliedi. The foreshore of the time lay approximately along the eastern bank of the present new cut made for the Afon Lliedi (made after 1839).³² The earliest recorded industrial activity in the area

²³ Cadw listing (Record No. 18,044); Price, MRC, 1992; field obs.

²⁴ Ibid.

²⁵ Ibid.; ARUPS, 1990.

²⁶ Symons, MV, 1979.

²⁷ Ibid.

²⁸ Ibid.

²⁹ Ibid.

³⁰ Ibid.

³¹ Cadw listing (Record no. 18, 42); Price, MRC, 1992; Field obs.

³² Edwards, J (ed.), 1995; Innes, J, 1902; Symons, MV, 1979.

Dock, Pemberton's Dock and the Great Western or New Dock.³⁷Table 3: Known Sites from the Adjacent Area (Selection only, some of which are mentioned in the text)³⁸

Site	NGR	Period	Type/Name & Description	Form / Status / Condition
PRN 271	SN 494 001	Post-medieval	Finds: stone heap - Ballast comprising beach boulders and slabs of slate associated with pottery including Devonshire Green Glazed ware and heavily glazed black and buff wares. Located in area corresponding with the former mouth of the Afon Lliedi, diverted during the 19th century.	Finds / -
PRN 4654	SS 4997 9950	Post-medieval	Dock - East Quay, Carmarthenshire Dock (also known as Raby's Shipping Place, Carmarthenshire Dock). Constructed 1797/98 on the Llanelli Flats, close to Roderick, Bowen and Griffith's Dock. Construction details are unknown, but sited at eastern quay wall of the Later tidal Carmarthenshire Dock (PRN 37024). The shipping place was probably operational from 1799 and was served by an early rail system (see PRN 30741). The quay was altered in 1845 to build a slipway (PRN 8427). The quay is well constructed of coursed rubble sandstone with large sandstone copings and runs straight for c. 120m. The wall is approximately 6m high from the current silt level in the Afon Lliedi at its northern end, and, after a short level section, slopes steeply to form the slipway. The quay has been raised above most of the slipway in concrete, but the original wall is clearly visible. It is thought that the quay wall is tied to a concealed stone dock floor. Listed Building - grade II. ³⁹	Structure / Listed Building - grade II / Extant - fair/good
PRN 4655	SS 4998 9860	Post-medieval	Pier - Llanelli Pier. A short wooden pier connecting harbour light to a breakwater slag embankment. Two, parallel piles 11ft in height, 20ft apart. Enlargement of embankment and pier on western end carried out in 1868.	Structure / Not visited
PRN 4664	SS 5000 9857	Post-medieval	Tower - Harbour Light, stone-built lighthouse tower.	Structure / Not visited
PRN 4666	SS 5005 9937	Post-medieval	Smelting works, site of - Cambrian Works of the English Copper Company	Building / Demolished
PRN 8427	SS 4997 9943	Post-medieval	Wharf, site of - Jobling's Wharf, Carmarthenshire Dock, built on the eastern quay of the Carmarthenshire Dock by E. W. Jobling; shipbuilder, in 1845 to raise large vessels. The site later occupied by Patent Slip.	Structure / Destroyed

³⁷ Dyfed SMR³⁸ PRNs 271-31575 - Dyfed SMR; PRNs 37024-37032 - new sites.³⁹ Cadw listing (Record No. 18, 043); Price, MRC, 1992

PRN 37025	SN 5001 9982	Post- medieval	Bridge - GWR bridge carrying South Wales Railway over the <i>new cut</i> for the Afon Lliedi to the west of Old Castle Crossing on 1st edition and later 6" and 25" OS maps. Single arched stone bridge, brick arch with dressed stone voussoirs; masonry of random blocks brought to course. Signal cable supports or attachments at parapet level.	Structure / Extant - good
PRN 37026	SN 5001 9959	Post- medieval	Signal box, footings, remains of - Abutment/Footings for signal box at Old Castle Crossing identified on 1st and later editions of 6" and 25" OS maps to the south of and adjacent to GWR Railway Bridge. Masonry as for adjacent bridge, probably contemporary.	Structure / Extant - fair
PRN 37027	SN 5003 9980	Post- medieval	Railway crossing, site of - Old Castle Crossing. Crossing at junction of South Wales Railway (GWR) and the Llanelli & Mynydd Mawr Railway (L&MMR) identified on 1st edition 25" OS map (1880). The site also includes the site of a former rail viaduct identified on 1st, 2nd and 3rd editions 25" OS maps, which carried the L&MMR over the lines of the South Wales Railway (later GWR) and the <i>new cut</i> for the Afon Lliedi. The viaduct has recently been replaced by a modern road, as has the southern leg of the L&MMR. Closure of the North Dock in 1951 made crossing redundant and the crossing was taken out in 1961.	Structure / Partially removed
PRN 37028	SN 5002 9965	Post- medieval	Harbour office, site of - Harbour Office, Llanelli. Site of Harbour Office as shown on the 1st edition OS 25" map of 1880. The building appears to have been demolished prior to the turn of the century as it is no longer shown on a map of the 1890s, the Harbour Office having been relocated by that time.	Documents / Demolished
PRN 37029	SN 5005 9961	Post- medieval	Harbour office, site of - New Harbour Office at the southern end of Cambrian Street as shown on the 2nd edition 6" OS map of 1907 and the 3rd edition OS map of 1916. Area has subsequently been redeveloped.	Documents / Demolished
PRN 37030	SN 5006 9968	Post- medieval	Limekiln, site of - Old Limekiln to rear of Cambrian Street as shown on the 1st edition 25" OS map of 1880, appears to have been demolished by the publication of the 2nd edition 6" OS map of 1907. Site currently under modern road.	Documents / Demolished

trading and the rails subsequently lifted. In 1875, the Llanelli and Mynydd Mawr Railway was incorporated by Act of Parliament, this Company acquired the rights of the 'Old' Carmarthenshire Railway for the purpose of laying a standard gauge line. After initial difficulties the Llanelli & Mynydd Mawr Railway constructed, financed and eventually managed by a John Waddell of Edinburgh, was finally opened to local freight in July 1881 and public mineral traffic on the 1st January 1883. The new line was opened slightly to the east of the original Carmarthenshire Railway. By 1887 and the opening of Waddell's Great Mountain Collieries, the Line ran 13 miles between Llanelli and Crosshands. The Line was absorbed by the GWR in 1922.⁴⁶

3.2.4 During the first half of 19th century there was an upsurge in railway/tramroad construction in the Llanelli area connected with the coal industry; among these were the Box Tramway, (PRN 8694), General Warde's Railroad, (PRN 30736), and the Pool Tramroad (PRN 30738). The Box Tramway and General Warde's Railroad both connected with the Carmarthenshire railway in the area of the Old Castle Tin plate Works. General Warde's Railroad served the Old Castle pits, previously known as the Llanelli Pit, which was begun by Warde in December 1809 and opened in 1811 (three separate pits at least one of which was a new sinking to the Fiery Vein at SN 503 999).⁴⁷

3.2.5 The main line of the South Wales Railway/Great Western Railway (PRN 31575), started in 1845 reached the Llanelli area in 1852, following the construction of Brunel's Loughor Bridge in 1852. The line, which runs through the north of the study area, was later absorbed by the GWR.

3.2.6 During the 19th century coal mining continued within the study area. In c. 1839 Old Castle Colliery (PRN 8658) was sunk. A lease of 1899 indicates that the mine had been flooded out by a stoppage, and the works appear to have been disused by the turn of the century.⁴⁸

3.2.7 While both copper and lead formed part of the industrial heritage of the Llanelli area, it was the tinsplate industry that left its mark on the study area during the 19th century. Those in the vicinity of North Dock include the Cambrian Tinsplate Works (PRN 30710; NGR SS 5130 9860), Pemberton Tinsplate Works (PRN 30714; NGR SS 500 993) and that of the Old Castle Iron & Tinsplate Works (PRN 9746/30702). The latter, situated within the study area, was built in 1866-1867 by the Llanelli Associated Tinsplate Companies Ltd and represented a significant expansion of the tinsplate industry and was to become the largest pure tinsplate works in the area with 14 mills. The Old Castle Works was also notable for the fact that it was the first tinsplate company works to be financed under limited liability (following the Limited Liability Act of 1856) and as a result was financed locally rather than by English finance. Of the directors, who came from across the spectrum of local society, Samuel and Henry Thomas were the best known at the time. The closure of the works in 1957 was blamed on the plant's inability to compete with those plants using

⁴⁶ Symons, MV, 1979; Barrie, DSM, 1980; Innes, J, 1902; Hadfield, C, 1960; Morgan, H, 1984; Page, J, 1979; Price, MRC, 1992.

⁴⁷ Barrie, DSM, 1980).

⁴⁸ CRO ML 683

4 ASSESSMENT OF EFFECTS DURING CONSTRUCTION AND MITIGATION

4.1 Assessment of Effects

4.1.1 The Millennium Coastal Park proposes to undertake an enhancement scheme at North Dock with a variety of dockside commercial, leisure and residential developments proposed for the surrounding area. The proposals include impounding the dock with a tidal sill at the position of the original dock gates and the construction of a new access bridge across the entrance of the dock.

4.1.2 An Assessment of the effects of the scheme on the cultural heritage of the North Dock area, using criteria set out above (1.3) is provided in Table 4.

Table 4: Effects of the Proposed Scheme on Known Sites

Site	Name/Description	Form / Status / Condition	Category	Effect
PRN 4485	Lliedi Coal Canal/ <i>New Cut</i> for Afon Lliedi	Structure / Extant - good	B	None
PRN 4652	North Dock, Llanelli.	Structure / Extant - good	B	Moderate
PRN 4653	Llanelli Power Station	Building / Demolished	D	None
PRN 4665	Trammed road bridge over <i>new cut</i> for the Afon Lliedi cut to south of GWR bridge.	Building / Extant - good	B/C	None
PRN 8658	Old Castle Colliery	Earthwork / Demolished	D	None
PRN 8760	North Dock Engine House	Building / Listed Building - Grade II / Extant - good/fair	A	Details currently unknown
PRN 8761	Signal box, Llanelly & Mynydd Mawr Railway (later GWR) located to the east side of the entrance to North Dock.	Building / Demolished	D	None
PRN 8763	North Dock Swing Bridge.	Structure / Partially removed	C	Moderate
PRN 8971	The Dolphin, shipwreck	Structure / Unknown	E	Unknown
PRN 9746/30702	Old Castle Iron & Tinplate Works	Building / Extant but partially demolished	C	Major
PRN 30865	Carmarthenshire Tram-road, Carmarthenshire Railway, Llanelli and Mynydd Mawr Railway, site of	Earthwork, documents / Removed	B/E	Minor / none
PRN 34010	Breakwater, embankment to the south of the Carmarthenshire Dock	Structure / Extant - good	C	None
PRN 34038	The Flats Harbour, Llanelli	Structure / Extant - fair	C	Unknown
PRN 34039	The Flats-Scouring Reservoir	Structure / Destroyed	D	Major

5.1.4 The following sites should be recorded prior to work commencing:- Goods sheds east side of North Dock (PRN 37014); Loading stage, south east of entrance to North Dock (PRN 37017).

5.1.5 The development should include measures for a watching brief in respect of works having affect on the following interests:- 'Old Coal Pit' – unnamed (PRN 37020); 'Old Pit', unnamed, from which John Allen drove a westward heading for Golden Vein (PRN 37022); 'Old Coal Pits', unnamed (PRN 37023).

5.1.6 No action is required in respect of a number of sites, which are either unaffected by the development, as currently proposed, or which, are considered to have been totally removed by later development. These sites are as follows:- Lliedi Coal Canal (PRN 4485); Llanelli Power Station (PRN 4653); Raby's Shipping Place (PRN 4654); Road bridge (PRN 4665); Old Castle Colliery (PRN 8658); Signal box (PRN 8761); Carmarthenshire Tramroad (PRN 30865); Breakwater/embankment (PRN 34010); The Flats Harbour (PRN 34038); Embankment and scarp, west of North Dock (PRN 34043); Road bridge over *new cut* for Afon Lliedi (PRN 37012); Colliery tips, Old Castle Colliery (PRN 37013); Bridge crossing northern end of Carmarthenshire Dock (PRN 37016); Site of GWR rail-sidings, North Dock (PRN 37018); 'Thomas Bowen's Shipping place' (PRN PRN 37019); Unnamed pit (PRN 37021).

5.2 *Recommendations Specific to the Entrance of North Dock*

5.2.1 The entrance to North Dock (PRN 37015) and the remains of the North Dock Swing Bridge (PRN 8763) are considered to be of regional/local interest and, currently, have neither listed building nor scheduled monument status. The survival of both sites is incomplete, the dock gates and the superstructure of the swing bridge having been removed.

5.2.2 The proposals, which include works to impound the dock with a tidal cill at the position of the original dock gates and the construction of a new bridge across the Dock entrance, should, however, allow the interests at the entrance to North Dock to be largely preserved *in situ*.

5.2.3 Given that the surviving features associated with the Dock entrance are to be preserved *in situ*, and that any disturbance to these remains kept to a minimum during the construction works, it is considered that the effect of the proposals will be minimal and can be adequately mitigated. An essential component of the mitigation strategy will be the provision to record the remains prior to any construction work commencing.

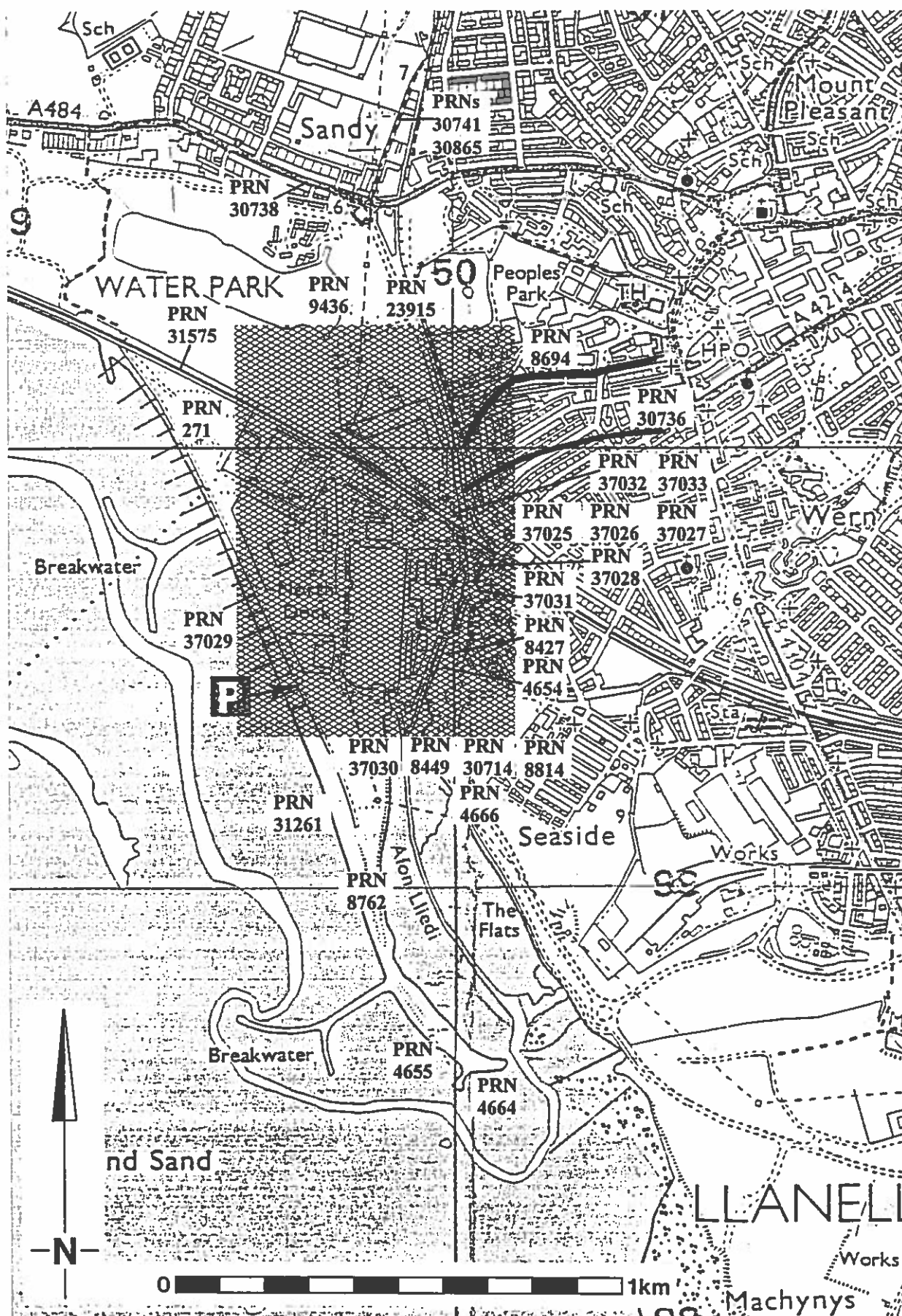
7.2 Secondary Sources (see also Abbreviations)

Periodicals consulted included: *Archaeologia Cambrensis*, *Archaeology in Wales*, *Industrial Archaeology Review*, and *Cymru a'r Mor* in addition the following secondary sources were consulted (*not cited in text):-

- | | | |
|------------------------------|-----------|--|
| Allen, BD & Page, NA | 1996-1997 | <i>Llanelli Wetland Survey 1996-1997</i> (Cambria Archaeology) |
| Barrie, DSM | 1980 | <i>A Regional History of the Railways of Great Britain</i> 12 South Wales (Revised edition, 1994, Nairn) |
| Bowen, DQ | 1980 | <i>The Llanelli Landscape</i> (Llanelli Borough Council) |
| British Transport Commission | 1948 | <i>South Wales Ports</i> (Cardiff) |
| *Burgess, B | 1977 | The Last of the Llanelli Pilots <i>Cymru a'r Mor</i> rhif 2, July 1977 |
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7.3 Abbreviations

BBCS	Bulletin of the Board of Celtic Studies
CRO	Carmarthenshire Record Office, Carmarthen
DOT	Department of Transport



- Fig. 1 Location of Study Area, showing PRNs in the adjacent area

