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GWYNEDD ARCHAEOLOGICAL TRUST
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ARCHAEOLOGICAL ASSESSMENT OF PROPOSED
TREBORTH SEWAGE TREATMENT WORKS

Report No. 48

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1. INTRODUCTION AND BACKGROUND.

It is proposed that a new Secondary Sewage Treatment works be constructed at Treborth, to be served by three new pipelines from Bangor, Felinheli and Menai Bridge.

Wallace Evans Limited commissioned the Gwynedd Archaeological Trust to provide a preliminary assessment of the archaeological implications of building the treatment works and the pipelines, for inclusion in an Environmental Assessment to accompany their planning application.

The work follows a brief suggested by Gwynedd Sites and Monuments Record in a letter dated 26 November 1992 in response to an initial enquiry from Wallace Evans, and has involved

- a) a desk top study to list known and potential sites which may be affected by the Sewage Treatment Works and pipeline construction, and
- b) fieldwork along the route of the pipelines to identify and confirm areas of archaeological interest as far as ground conditions allowed.

This report outlines the broad archaeological/historical background to the area, lists the archaeological information as requested by the client, and discusses the impact of the development on the known archaeological remains. Recommendations for the mitigation of damage to archaeological sites resulting from the proposals including further work, are included.

2. SURVEY METHODS.

2.1 Stage 1 - Desk-top Study.

The initial phase of the desktop survey followed guidelines set down by IFA in their first draft SIBA - Desk-based studies. To this end, it has included involved listing known sites that lay along the route of the pipeline. The sources consulted included the County Sites and Monuments Record, held by the Gwynedd Archaeological Trust, the list of Scheduled Ancient Monuments published by Cadw, and the National Monuments Record maintained by the Royal Commission on Ancient and Historical Monuments (Wales) at Aberystwyth, as well as collections of aerial photographs held by the National Monuments Record and the Gwynedd Archives. The full list of Listed Buildings for the area concerned, held by Cadw, has not yet been received, but the list for the Bangor area allowed Listed Buildings in that area to be plotted. Maps and relevant documents were examined at the Gwynedd Archives in Caernarfon, and the University Archives at Bangor. Documents examined included early OS maps, Tithe maps and schedules, estate maps, documents pertaining to the construction of the university playing fields etc. In addition a general survey of the archaeological and historical literature relating to the Bangor area was undertaken, including a review of relevant articles in the Transactions of the Caernarfonshire Historical Society, Archaeologia Cambrensis and Archaeology in Wales. A full list is included in section 6 (p. 9).

2.2 Stage 2 - Fieldwork.

The lengths of the three pipelines were walked, in both directions, and careful note taken of any potential archaeological features. The proposed pipeline and existing pump station at Garth were also visited. Details of weather and ground conditions are listed below under each pipeline.

Photographs were taken where relevant, and copies of these can be provided if required.

3. THE EXISTING ENVIRONMENT.

3.1 General Archaeological/Historical Survey.

The three pipelines will be treated separately so that future changes made to the routes can be more easily assimilated into any revised report.

3.1.1 Bangor Pipeline.

Physical Environment.

This line runs along the low-lying lands which border the Menai Straits, usually known as the Arfon coast plateau. This area is typified by glacial clays overlying limestone, with low limestone ridges dominating the Treborth area. The land is classed as grade 3 agricultural land, now used mainly for grazing sheep and cattle.

Prehistory.

No prehistoric sites are known which will be affected by the route of the pipeline, although the area would seem to be suitable for prehistoric settlement, as evidenced by the terraced fields on the Anglesey side, and the two late prehistoric or Roman settlement sites two miles south of Treborth at Fodol and Brithdir. A complex archaeological site at Llandegai, three miles south-east of Treborth, produced evidence for Neolithic, Bronze age, Iron age, and Early Christian activity. The route of the pipeline passes close to the enigmatic earthwork above Garth, possibly the site of a prehistoric or Roman enclosure.

Finds from the area dating from the prehistoric period include two bronze palstaves from Maesgeirchen (SH 592 715), and two bronze moulds for palstaves found at Glanadda (SH 571 712).

Medieval.

The nucleus of the City of Bangor is the Cathedral, usually considered to be the site of the monastic cell of Deiniol, founded in the C6. There was, however, little urban development here until the C19, and the parts through which the pipeline passes were open countryside until 1850.

In 1938 a number of Christian burials associated with a stone of C10 date were found a short distance south of the present route of the pipeline, during construction of the UCNW playing fields at Ffriddoedd.

A Dominican Friary was established in Bangor in about the middle of the C13, and the initial site of the Friary would appear to have been in the Seiriol Road area, some 30 m south of the route of the proposed pipeline.

Utilisation of the area between Treborth and Bangor in medieval times was closely connected with the ferries which crossed the Straits. Porth (close to the present Antelope Inn), was the settlement on the Caernarfon side associated with the Porthaethwy ferry, and just east of this was another ferry owned by the Bishop. The Porthaethwy ferry was certainly in existence by 1294, and the site was undoubtedly used as a crossing point for long before that. It has been suggested that the Treborth names originate from this site. Treborth is certainly considered to be one of the townships of Bangor, although it does not feature in early documentation until the C16, when Treborth Isa was bought by the Fletcher family. An earlier name for Treborth would appear to have been Tre'r Llwydiaid.

Post Medieval.

The importance of the Porthaethwy ferry increased in the C18, after Bangor became the post

town on the Holyhead road in favour of Beaumaris. Fairs and markets were held in the vicinity of Borth from the end of the C17 until the early C19. The construction of the Suspension Bridge in 1826 and Britannia railway bridge in 1850 brought about the demise of the ferries.

At Garth, an extension to the pipeline runs up from Gorad y Gyt, the site of a fish weir in use from at least the late C16 until 1852, when the stakes were removed, and stone walls constructed on the mudflats to be used for oyster farming. The attempt failed, but the stone walls remain.

A number of fine buildings line the route of the pipeline, many of them listed. The George, now part of Bangor Normal College, was originally built in 1771 as an inn for the Porthaethwy ferry. Y Glyn, formerly Gorphwysfa, was built in 1790 and is a fine example of a late Georgian country house. The estate of Gorphwysfa was split up when the railway company bought it in 1846, but the meadow to the west through which the pipeline runs remained with the house.

The development of Upper Bangor occurred after 1850, aided by the construction of the Normal College in 1858, and the decision in 1883 to establish a University in Bangor. The main university building which dominates Upper Bangor was built in 1911.

3.1.2 Felinheli Pipeline.

Physical Environment.

The route of this pipeline, like the Bangor one, runs along the Arfon coast plateau. The geology is mainly limestone, overlain by glacial clays and brown earths. The land is mainly agricultural grazing land, dominated by Vaynol parkland.

Prehistory.

Evidence for prehistoric activity in the area is provided by the late prehistoric hillfort on the south side of Felinheli, and late prehistoric or Romano-British settlements lying west of the village, one of which was recently excavated in advance of the construction of the Felinheli bypass, and has provided evidence for occupation from 1-4th centuries AD.

Medieval and later land use.

Felinheli was developed as a port for the shipping of slate from the Dinorwic quarries from the late C18 onwards, although most of the development took place in the second half of the C19. The name Felinheli refers to the previous existence of a tide-mill at the north end of the existing settlement from at least the C16 onwards. The settlement was known as Port Dinworwic after 1850.

The pipeline passes through the parkland of Vaynol, a large estate which grew into prominence in the C18 and C19 in the hands of the Assheton-Smiths, who derived much of their money from the production of slate at Dinorwic. However the name "Vaynol", originating from "Maenol", implies a medieval township owned and managed directly by the state or the church. It was certainly not the principal Maenol of Bangor, but it may have been the maenol of the Bishop of Bangor. It came into the hands of the Williams family of Cochwillan in the mid C16, which is the date of the earlier house at Vaynol.

3.1.3 Menai Bridge Pipeline.

The route for this line has not yet been firmly established, but it appears that it will run close to the Holyhead road, and cross over the Britannia bridge to Treborth.

Prehistory.

The south facing slopes, overlain by well drained soils of the Gaerwen series make ideal agricultural land, and terraces dating from late prehistoric or Roman times are evidence of early use. Two settlements of this date were noted by the investigators for the RCAHM(W) in the 1930's lying north of the road amongst the terraced fields, but these are no longer visible.

Medieval and later land use.

The area has been used for agricultural purposes throughout, with little later development. A tidal water mill, operating from the C16 to the C19, lay in the creek north of Llandysilio church, a short distance south-east of the end of the proposed pipeline. The walls used to hold back the water as the tide came in are visible. Also visible are the remains of a fish trap west of the tide mill.

The A5 was constructed in the mid C19 by Thomas Telford; it would not appear to have overlain an earlier road.

3.2 Specific Sites of Interest

3.2.1 Scheduled Ancient Monuments.

There are no Scheduled Ancient Monuments which will be affected by the construction of any of the three pipelines or the Sewage Treatment Works at Treborth. The nearest monument is the earthwork in Garth, Upper Bangor (SAM Cn 073) but this lies some 100 m from the path of the pipeline along Upper Garth Road.

3.2.2 Listed Buildings.

Bangor - Treborth Pipeline.

A list of listed buildings which are passed by the route of the Treborth - Bangor proposed pipeline from where the pipeline enters Upper Bangor through the driveway into Glyn follows. It would appear from the plans that none of the listed buildings will be directly affected by the pipeline. LB1, the gate piers and attached walls would appear to be the most vulnerable.

LB1. Gate piers, gates and attached walls at the end of the Northern driveway to Y Glyn. Ref No 42/A/118(1).

Built between 1846 and 1861 when the estate was owned by the Chester to Holyhead Railway Company. Square tall gatepiers with pineapple finials etc.

LB2. Railway Bridge over the Northern driveway to Y Glyn. Ref No 42/A/119(1)

Built between 1846 and 1861 when the estate was owned by the Chester to Holyhead Railway Company. Small Gothic bridge with crenelated and corbelled parapet.

LB3. Y Glyn. Ref No 42/A/120(1).

Built 1790. Late Georgian house with main elevation to SE. Interior retains considerable contemporary detail.

LB4. Bodlondeb. Ref No 42/A/111-113(1).

Georgian house said to have been built in 1830. Later early C20 extensions.

LB5. Gate Piers to the drive at Normal College. Ref 42/A/114(1).

Octagonal painted stone gatepiers. Probably ca 1850 contemporary with enlargements to house.

LB6. Normal College (George Hostel). Ref No 42/A/115(1).

ca 1770 house with large later additions. Built as inn for Porthaethwy ferry, later taken over as hostel for Normal College.

LB7. Lodge to Bryn y Mor. Ref No 42/A/122(3).
Mid C19 lodge. Small 2-storey building with hipped slate roof.

LB8. Bryn y Mor. Ref No 42/A/122(3).
Regency style 2 storey house of mid C19.

LB9. Normal College (Original Building). Ref No 42/A/147(3).
Built 1858-62 by James Barnett of London.

LB10. Gate piers to grounds of Normal College Hostels. Ref No 42/A/148(3).
Probably contemporary with main building. Octagonal freestone gate piers with capitals and ball finials.

LB11. Former Garth Primary School. Ref No 42/A/46
Built in 1848 as the British school.

3.2.2 Listed Buildings (continued)

Felinheli - Treborth Pipeline.

The main concentration of listed buildings which lie close to this pipeline are the two houses at Vaynol and the associated farm buildings (LB12 on the plan). None of these should be affected by the construction of the pipeline, and so are not listed individually.

LB13 and LB14. Boundary wall to Vaynol Park. Ref No 39/41/68.
Stone wall of rubble construction with Dinorwic slate coping set vertically in jagged manner. Built 1860's and 1870's. The present route of the pipeline cuts through this wall twice, on the north and on the south boundaries.

Menai Bridge - Treborth pipeline.

The route of this pipeline has not yet been finalised, but the Britannia bridge (LB 15) would appear to be the principal site affected. Listed building consent will be needed for any work on the bridge.

3.2.3 Other sites/areas of archaeological or historic interest.

Bangor - Treborth Pipeline.

B1. These fields contain a number of low earthworks. They do not appear to form any coherent plan, and without excavation it is difficult to assess their date or function. Various possibilities include natural features; activities connected with the building of the railway or activities connected with the fairs and markets held in the C18. The present route of the pipeline, close to the edge of the road, misses the visible earthworks.

B2. At this point the pipeline passes close to the site of the Friary. It appears from the maps that the route taken by the pipeline is largely on land reclaimed from the sea in the C19, achieved partly by using waste from the local iron foundry. However it is not possible to locate the boundary with certainty, and so a watching brief will be necessary in this area.

Felinheli - Treborth Pipeline.

F1. Early OS maps and other plans show this area as formerly occupied by offices and

workshops belonging to the Vaynol Estate. The only upstanding building left is a tall brick chimney, although foundations of other buildings could remain around it. A brick cottage called Quay Cottage is situated on the edge of the proposed area for development.

F2. There is a curious earthwork feature in field 0139. It comprises a fairly shallow depression on a slight east facing slope, surrounded on its downslope side by a substantial bank. At present its nature and function are not known although it might be connected with either the landscaping of the parkland, or with the dumping of material from the construction of the docks in the last century.

Menai Bridge - Treborth Pipeline.

M1. The projected route of this pipeline crosses a large area of terraced fields, typically dated to the late prehistoric period. These are largely ploughed out, but their pattern is still discernible as a number of low earthworks. A number of these relict field banks would be cut through by the pipeline.

4. POTENTIAL IMPACTS AND PROPOSED MITIGATION DURING CONSTRUCTION.

4.1 General Comments.

It has long been recognised that while desktop and fieldwork surveys are valuable in locating some areas of archaeological potential, many sites are only found by more detailed and targeted investigative methods such as geophysical survey, trial-trenching and watching briefs. In this instance there is a remarkable paucity of known sites along the Arfon plateau, possibly because of heavy cultivation over the centuries, aided in the vicinity of Vaynol by the creation of parkland. However, these activities may have removed only surface traces, leaving evidence of earlier activities buried below the top-soil.

It is therefore recommended that a watching brief be maintained over those parts of the pipeline which pass through open countryside. These are marked on the map (in blue) for the three pipelines. A contingency should be allowed for the possibility of further recording work arising from this.

4.2 Bangor - Treborth Pipeline.

B1. The slight earthworks appear to give an indication of previous human activity within the area, and the nature of this activity should be determined, preferably by investigation in advance of construction, or by maintaining a watching brief during construction. (Now the proposed route has been moved to the north edge of the field, a watching brief should be an adequate response.

B2. A watching brief should be maintained on this area during construction operations.

4.3 Felinheli - Treborth Pipeline.

P1. We are unsure as to the precise limits of the proposed site of the main pumping station and control house, but if the area around the chimney is to be developed, then some further investigation may be required. If possible, the chimney, a prominent local landmark, should be retained. Also if Quay cottage is to be developed or demolished then further investigations into this would be required: this would take the form of further archive work, and photographic/written record of the building prior to demolition.

P2. From the plan we have it seems likely that the proposed works will avoid this feature, but if it is to be affected then further investigation of the feature (including geophysical survey and trial trenching) would be desirable prior to construction work getting underway.

LB13 and LB 14. The pipeline will either cut through or pass under Vaynol Park wall in two places. Listed Building consent will be needed before work can begin, and any conditions attached to that consent to minimise disturbance and/or reconstruct would need to be adhered to. Any sections of the wall which may be disturbed should be carefully recorded by an archaeologist, both before work starts and after work has been completed)

4.4 Menai Bridge - Treborth Pipeline.

M1. Interesting and useful results have been obtained from the examination of early agricultural terraces, and it is recommended that further field work and investigation probably during construction, should take place.

The principal area of known archaeological remains to be disturbed are those referred to as "M1", the area of prehistoric fields lying either side the Holyhead road. Disturbance of these remains could only be avoided if the pipeline ran along the line of the road.

5. POTENTIAL IMPACTS AND PROPOSED MITIGATION DURING OPERATION.

The operation of the Sewage Treatment Works should have no affect on the archaeology of the area, providing that the measures suggested in the previous section have been put into place.

6.0 SOURCES CONSULTED FOR ASSESSMENT

6.1 Printed Books.

Archer M S, 1970, The Welsh Post Towns before 1840.
Bassett T M and Davies B L, 1977, Atlas of Caernarfonshire.
Carter H, 1965, Towns of Wales.
Davies H R, 1942, The Conway and Menai Ferries.
Dodd A H, 1968, A History of Caernarfonshire.
Elis-Williams M, 1988, Bangor: Port of Beaumaris.
Griffith J E, 1914, Pedigree of Anglesey and Caernarfonshire Families.
Hall E Hyde, 1952, A description of Caernarfonshire 1809-11.
Lewis Samuel, 1833, Topographical Dictionary of Wales.
Morris Lewis, 1987, Plans in St George's Channel 1748.
RCAHM, 1937, Inventory of Ancient Monuments of Anglesey.
RCAHM, 1960, Inventory of Ancient Monuments of Caernarfonshire, Vol II.
Richards M, 1972, Atlas of Anglesey.

6.2 Published Articles.

Various articles in Transactions of Caernarfonshire Historical Society (TCHS), Archaeologia Cambrensis, Journal of National Library of Wales etc. Including:

Jones P Ellis, 1970, TCHS, The City of Bangor at the time of the Tithe Survey, 1840.
Jones P Ellis, 1979, TCHS, George Inn 1771-1978.
Jones E G, 1976, TCHS, Survey of Ancient and Present State of Caernarfon.
Griffith W P, 1978, TCHS, Richard Fletcher of Bangor (Treborh).
Jones O V, 1985, TCHS, Bangor - The growth of the City during the first half of the C19.

6.3 Unpublished Works.

(i) Library, UCNW Bangor.

Various editions of OS maps from mid C19.
Early estate map of Pen Rallt. (Not catalogued).
Various Bangor MSS, including College records, MS works of Glyn Roberts concerning History of Bangor, and MS works of P Ellis Jones.

(ii) Gwynedd Record Office, Caernarfon.

Various editions of OS maps from mid C19.
Tithe maps and schedules.
Map of Borough of Bangor, 1831.

(iii) Gwynedd Archaeological Trust.

Records held as part of County Sites and Monuments Record, including OS records and various unpublished reports.



