
TREARDDUR BAY SEA DEFENCES ARCHAEOLOGICAL WATCHING BRIEF (G1949)



Archaeological Watching Brief

GAT Project No. 1949

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REPORT NUMBER **763**

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TREARDDUR BAY SEA DEFENCES

ARCHAEOLOGICAL WATCHING BRIEF (G2029)

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Plate 05: excavation of promenade path detailing existing structural material; note sheet piling on left of image denoting edge of path, also the thick sand deposit between the sheet piles and the sea wall; note also the reinforced concrete on the right of image that replaced degraded sheet piles as part of current works programme

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Plate 07: excavation at northern end of the promenade; note the reduced level of excavation (1.2m to 1.5m below ground level); construction of sea wall as before (Plates 03 to 06) but degraded sheet piles not extant; excavation material below path included foundation material and sand

Plate 08: excavation at northern end of the promenade of a 1.0m wide; the trench partly truncated the existing path and the foundation levels of the path are visible; the trench also cut into a thick deposit of sand; the backfilled excavation from Plate 07 can be seen towards the right of the image

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TREARD DUR BAY SEA DEFENCES

ARCHAEOLOGICAL WATCHING BRIEF (G1949)

Gwynedd Archaeological Trust was commissioned by Haskoning UK Ltd. to provide to conduct an intermittent watching brief during improvements to sea defences at Trearddur Bay, Ynys Môn (centred on NGR SH25467887). The proposed works were outlined in the Project Appraisal Report by Faber Maunsell Ltd dated 09/05/06 and in an Environmental Scoping Report by Haskoning UK Ltd, dated 11/12/06.

The watching brief was conducted during all major groundworks, which included the excavation and replacement of the existing promenade/sea defences. All exposed sections and stratigraphic layers exposed during this activity were recorded. The mean excavation depth was 2.0m, with the majority of the exposed sections containing beach sand deposits and/or construction horizons indicative of previous work associated with the sea defences/promenade. No apparent evidence of peat deposits or any other layers indicative of buried soil horizons/cultivation deposits were identified, but glacial clays were recorded during the Ravenspoint Road excavation. The western side of a former chapel mound, located within the sea defence area, was enhanced by the removal of modern building waste and the replacement of the existing turf with marran grass. These improvements were monitored as part of the archaeological watching brief but no archaeological activity was identified.

1.0 INTRODUCTION

Gwynedd Archaeological Trust was commissioned by Haskoning UK Ltd. to conduct an archaeological watching brief during improvements to sea defences at Trearddur Bay, Ynys Môn (centred on NGR SH2546078870). The proposed works were outlined in the Project Appraisal Report by Faber Maunsell Ltd dated 09/05/06 and in an Environmental Scoping Report by Haskoning UK Ltd, dated 11/12/06.

The development comprised coastal improvement works along the existing sea wall and promenade at Trearddur Bay. The sea wall runs parallel with the promenade on a northwest to southeast orientation (NGR SH225437914 to SH25697880) and also continues southwestwards, parallel to Ravenspoint Road (NGR SH25687880 to SH25647870). The total length of the sea defences was c.558.0m.

Both the promenade and the sea wall had been improved throughout the twentieth century. Prior to start of the development, the promenade comprised a c.3.0m wide concrete path, with sand dunes on the eastern side and the sea wall on the western side. The sea wall was also built from concrete, with rock armour protecting the wall from the tide. A 1.20m high tubular metal barrier ran along the western side of the promenade path, parallel to the sea wall. The sea wall parallel to Ravenspoint Road was built from rock armour.

The works programme monitored by the watching brief included:

- Refurbishment of promenade and sea wall (length 458.0m; Figure 01): the existing stone and concrete sea wall was not replaced but the promenade path was removed to enable access to the rear of the sea wall. A series of drainage channels were cut through the wall and the rear of the wall reinforced with imported concrete. The promenade path was replaced by reinforced concrete and a drainage channel was placed along the eastern side of the path. To enable access to the rear of the sea wall, beneath the promenade path, the existing deposit was excavated to a depth between 1.5m and 2.0m. The sand dunes along the eastern side of the path were also truncated to accommodate the new promenade path and drainage channel. The tubular barrier was removed and replaced.
- Replacement of sea wall along Ravenspoint Road (length 100.0m; Figure 01): the existing rock armour was removed and replaced by reinforced concrete. A 2.0m deep excavation was completed along the length of the sea wall to accommodate the concrete. Rock armour was then placed atop the concrete.
- Enhancement of dune/scrub area within the former chapel mound area (NGR SH25607900; Figure 01): the portion of the mound within the confines of the development area included a “Millennium Cross” sculpture (built in 2000) and a west facing sand dune, 3.00m long. The dune was “faced” with building rubble and modern rubbish. This material was to be removed as part of the development and the dune improved with coir matting and the planting of marran grass.

No brief has been prepared for this work by Gwynedd Archaeological Planning Services (GAPS), but recommendation was given for an intermittent watching brief of the site during works (see Appendix I for definition). Reference was made to the guidelines and definitions specified in *Standard and Guidance for Archaeological Watching brief* (Institute of Field Archaeologists, 1994, rev. 2001).

2.0 PROJECT BACKGROUND

Gwynedd Archaeological Trust has conducted an archaeological assessment in advance of the engineering works (GAT Report 677). The assessment involved the consultation of existing documentary records, maps, aerial photographs and a field search. The report concluded that much of the area of the proposed works had been modified by 20th century construction, but that archaeological potential remained within the vicinity of the chapel mound in the centre of the bay and beneath the undeveloped dune area to its north.

The most significant archaeological site within close proximity to the promenade development is a former early medieval chapel mound/cemetery situated to the immediate east of the promenade at NGR SH25617900 (Primary Recognition Number (PRN) 2001). GAT conducted a series of excavations at this location between 1997 and 2003. The excavations confirmed that the site was used for burial from at least the 7th and 12th century AD and probably into the 16th and 17th century (GAT Report 325: 04). During the 2002 and 2003 programme, over seventy inhumations were excavated, including ten cist burials and sixty burials were excavated.

In response to the excavation programme the scheduled ancient monument classification was revoked.

Several significant archaeological finds have also been found within the local area, including a Roman coin hoard (PRN 2012), an early medieval brooch (PRN 2011), and lead crosses (PRN 11397, PRN 19615), some of which may relate to the chapel and cemetery (GAT Report 677). The identification of rare and important pre-sixth century buried soils (PRN 17237), during the recent excavation at Towyn y Capel indicates the potential for similar deposits to survive elsewhere along the shoreline. The soils include evidence for plough marks in a buried soil approximately 1.0m deep. In addition to the potential for archaeological evidence relating to early cultivation, peat deposits may survive at a greater depth. Prehistoric peat deposits have been exposed on the shoreline at Trearddur Bay (PRN 16572): their survival relates to a sequence of flooding, marshland and woodland that occurred many thousands of years ago when the Afon Alaw flowed out to sea at this point.

3.0 METHODS AND TECHNIQUES

The watching brief was undertaken between the 21st of April and 4th September 2008.

The aim of the watching brief was to monitor all groundworks associated with the replacement/reinforcement of the existing sea walls, the replacement of the promenade path and the improvement of the west-facing dune associated with the chapel mound. Particular attention was paid towards any excavation work that may expose any examples of buried soils associated with early cultivation or any prehistoric peat deposits.

The excavation of the promenade path and the access to the rear of the sea wall was completed via a series of 12.0m long “bays” that were opened sequentially along the path (Plate 02). In tandem with this, a drilling team accessed the sea wall from the seafront, inserting a series of drainage holes. The watching brief monitored each bay in turn.

A photographic record and written record was maintained throughout the watching brief. The archive is held by GAT under the project number **G1949**.

4.0 RESULTS OF THE WATCHING BRIEF

Refurbishment of promenade and sea wall (Plates 01 to 08)

The promenade path was excavated to a depth between 1.5m and 2.0m (Plates 06 and 07). This enabled an inspection of the rear elevation of the sea wall and the composition of the material beneath the promenade path. The watching brief revealed evidence of previous repair work to the sea wall but no examples of buried soils or peat deposits were identified.

The rear elevation of the sea wall was constructed from irregular mortar-bonded sub-angular stones (Plate 03); the front (seaward) elevation was lined with concrete (Plate 01). Modern sheet piling was used along the

opposite side of the promenade path, at foundation level, supporting the sand dunes (Plates 05 and 06). Beneath the promenade path was a foundation layer of imported material, including fragments of building material. The excavation along the path identified extensive deposits of sand between the sea wall and the sheet piles (Plates 05 and 06). It was unclear whether this material represented windblown sand truncated by the construction of the sea wall and path or imported sand deposited between the sheet piling and the sea wall during the original construction phase. The sand was extant to full excavation depth except where there was evidence of later repair.

Evidence of recent repair work was identified within a 50.0m stretch of the promenade, between NGR SH25627897 and SH25597901, c.230.0m from the southern end of the promenade (Plates 05 and 06). The original mortar-bonded stone-built elevation had been repaired or replaced by a concrete lining similar to that visible on the seaward elevation. The deposits beneath the path in this area comprised layers of clay and lumps of sand and peat (Plate 04), rather than the thick deposit of sand identified elsewhere along the promenade. The deposits within the repair section also contained fragments of plastic and other modern material, suggesting it was imported backfill. The provenance of the lumps of peat and clay were unclear.

In addition to the sea wall repair, a ducting trench was excavated within the northern end of the promenade (Plate 08). The trench was partly excavated into the promenade path, with the remainder was excavated into the natural sand on the eastern side. The path measured 1.50m in width and 0.75m in depth. The total length of the trench was c.100.0m (this had not been completed during the initial visit).

No archaeological activity was identified within the confines of the promenade excavation and no examples of peat deposits were recorded.

Replacement of sea wall along Ravenspoint Road (Plates 09 to 12)

The existing sea wall along Ravenspoint Road was removed and replaced by a reinforced concrete wall and rock armour. The groundworks included the excavation of a 2.0m deep foundation trench for the reinforced wall.

The existing sea wall was constructed from a concrete sealed deposit of irregular stones (depth: c.1.0m), supported by an irregular stone-built wall (Plate 09). The sea defence was built directly over the natural sand and followed the line of the natural topography. This construction was completely removed and an extensive foundation trench was cut into the natural sand (Plate 10). The exposed stratigraphy was dominated by deposits of sand. At the limit of the excavation depth, where the foundation trench was cut to a depth of 2.0m below ground level, a deposit of glacial clay was identified (Plates 10 to 12).

No archaeological activity was identified within the confines of the Ravenspoint excavation and no examples of peat deposits were recorded.

Enhancement of dune/scrub area within the former chapel mound area (Plates 13 and 14)

The existing portion of the mound within the scheme contained modern building waste, surrounding a millennium cross (Plate 13). This material was removed and the turf stripped from the mound, which was then replaced with coir matting and marran grass.

A photographic record was maintained during the removal of the building waste initial turf strip (Plate 13) to assess the extent of impact. Beneath the turf was a deposit of sand, but this was not excavated to any depth and no archaeological activity was identified.

5.0 CONCLUSION

The archaeological watching brief did not identify any significant archaeological activity within the confines of the development area. The excavation of the promenade contained deposits of sand and/or construction horizons where the sea wall had previously been repaired. No direct evidence of peat deposits or buried soils were identified but lumps of peat were recorded where a section of previously repaired sea wall had been backfilled. It was unclear where this peat material had originated and it could not be confirmed whether it had been sourced from the site. The backfill also included lumps of clay that appeared similar to the glacial clay identified during the Ravenspoint Road excavation, but exact provenance could not be confirmed.

6.0 BIBLIOGRAPHY

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Appendix I

Definition of an archaeological watching brief

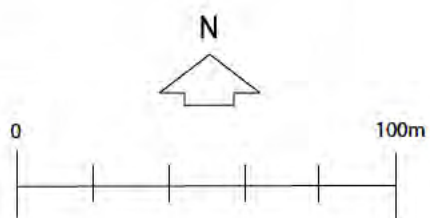
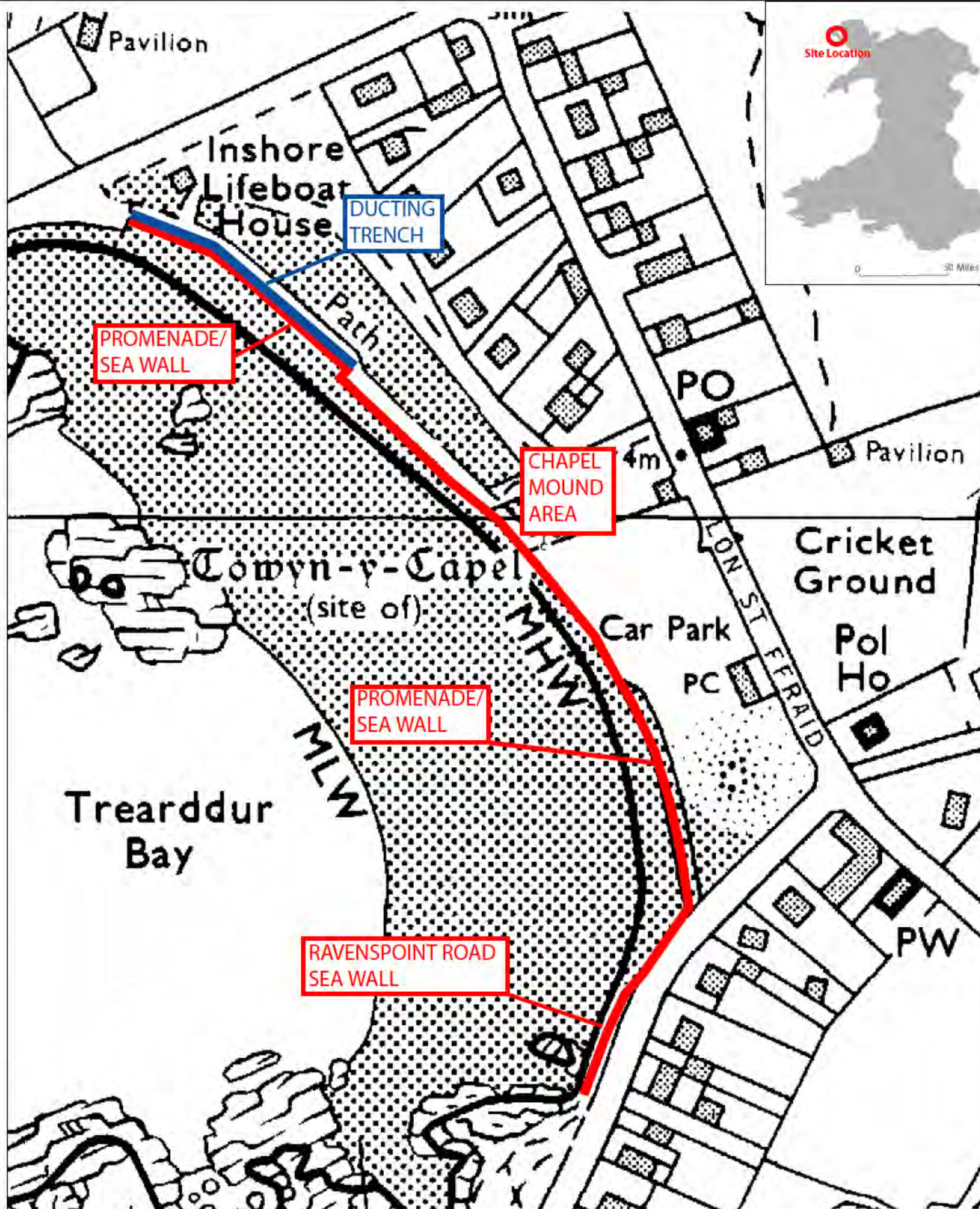
(Reproduced from IFA. 2001. *Institute of Field Archaeologists 2001 Standard and Guidance for an archaeological watching brief*)

The definition of an archaeological watching brief is a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons. This will be within a specified area or site on land, inter-tidal zone or underwater, where there is a possibility that archaeological deposits may be disturbed or destroyed. The programme will result in the preparation of a report and ordered archive.

This definition and *Standard* do not cover chance observations, which should lead to an appropriate archaeological project being designed and implemented, nor do they apply to monitoring for preservation of remains *in situ*.

An archaeological watching brief is divided in to four categories according the IFA. 2001. *Institute of Field Archaeologists 2001 Standard and Guidance for an archaeological watching brief*:

- comprehensive (present during all ground disturbance)
- intensive (present during sensitive ground disturbance)
- intermittent (viewing the trenches after machining)
- partial (as and when seems appropriate).



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**G1949 Trearddur Bay,
 Ynys Mon**
Figure 1. Site Location
 Scale: 1:2500@A4



Plate 01: view southeast of existing promenade/sea wall



Plate 02: view southwest of the promenade during the excavation of a twelve-metre long "bay"



Plate 03: promenade path excavation bay detailing full excavation depth with existing sea wall rear elevation exposed; note degraded sheet piles attached to rear elevation and new drainage pipes

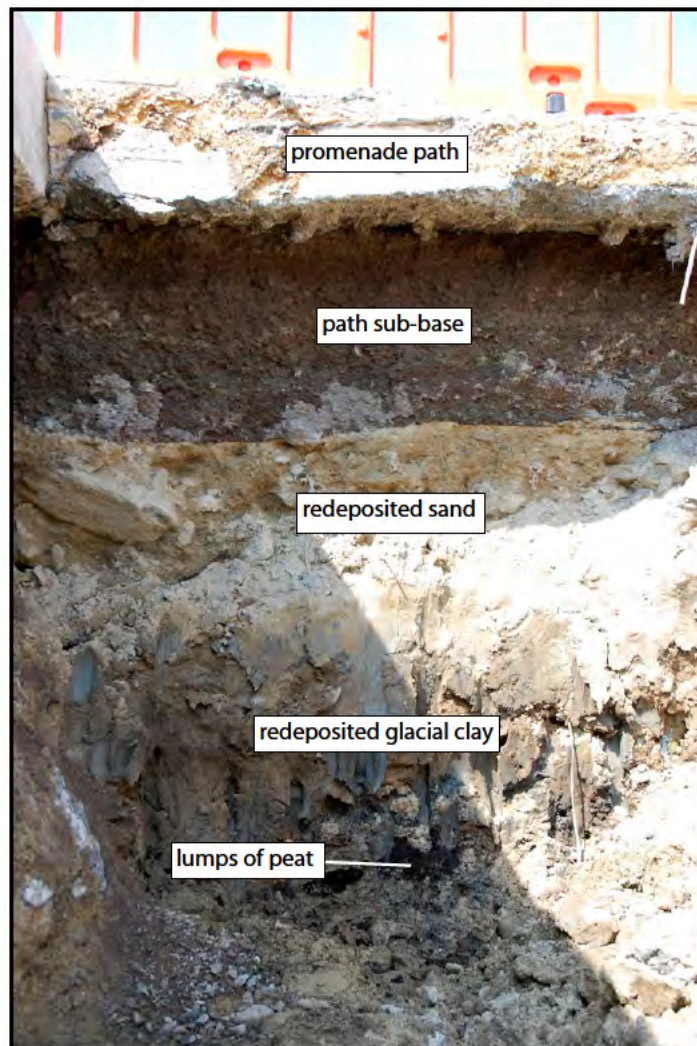


Plate 04: south facing section within a promenade bay detailing full excavation depth; this example contained a series of deposits associated with backfilling following recent repair work; note the redeposited sand, glacial clay and lumps of peat (provenance unknown); the majority of the excavated bays contained thick deposits of sand only



Plate 05: excavation of promenade path detailing existing structural material; note sheet piling on left of image denoting edge of path, also the thick sand deposit between the sheet piles and the sea wall; note also the reinforced concrete on the right of image that replaced degraded sheet piles as part of current works programme



Plate 06: excavation of promenade path detailing full excavation depth (2.0m below ground level); note the degraded sheet piles supporting the existing sea wall as well as the extant sheet piling on left of image denoting edge of path; note also the reinforced concrete on the right of image that replaced degraded sheet piles as part of current works programme



Plate 07: excavation at northern end of the promenade; note the reduced level of excavation (1.2m to 1.5m below ground level); construction of sea wall as before (Plates 03 to 06) but degraded sheet piles not extant; excavation material below path included foundation material and sand



Plate 08: excavation at northern end of the promenade of a 1.0m wide; the trench partly truncated the existing path and the foundation levels of the path are visible; the trench also cut into a thick deposit of sand; the backfilled excavation from Plate 07 can be seen towards the right of the image



Plate 09: Ravenspoint Road - excavation of existing sea wall

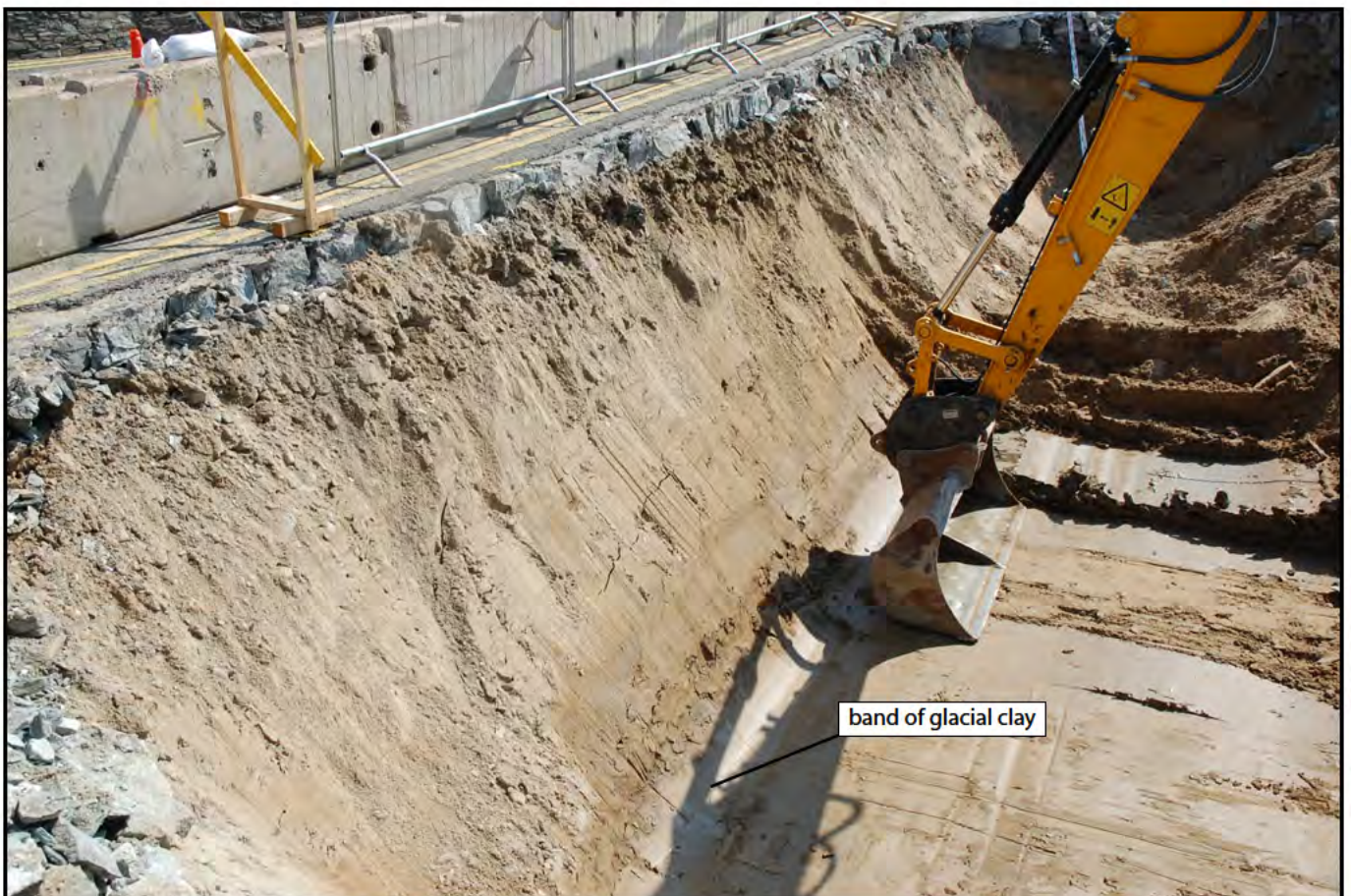


Plate 10: Ravenspoint Road - excavation of existing sea wall foundation levels and beach sand detailing full excavation depth (2.0m); glacial clay was identified at the limit of excavation



Plate 11: Ravenspoint Road - detail of existing sea wall during excavation. The sea wall was built on sand and sealed with concrete



Plate 12: Ravenspoint Road - construction phase for new sea wall detailing full excavation depth (2.0m) and reinforced concrete wall; a band of glacial clay was identified at the limit of excavation



Plate 13: Chapel mound - as extant at start of groundworks



Plate 14: Chapel mound - as re-landscaped prior to laying of coir matting and marran grass plantation



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