MAP

ARCHAEOLOGICAL PRACTICE Ltd.

Scarborough Waste Water Treatment Works
Including Toll House Pumping Station
Coastal Road, Burniston
Marine Drive, Scarborough
NorthYorkshire

TA 02032 92175 & TA 05147 88852
MAP 10.89.2012
11/02581/CC & 11/02601/CC
Archaeological Watching Brief

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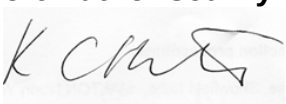
Archaeological Watching Brief Report

Report Prepared By **Zara Burn**	**Report Authorised By** 
Date: **31/10/2012**	**Date:** **31/10/2012**

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Archaeological Watching Brief Report

Summary

An Archaeological Watching Brief was carried out by MAP Archaeological Practice Ltd at Scarborough Waste Water Treatment Works (WwTW), Coastal Road, Burniston, Scarborough, North Yorkshire (TA 02032 92175) throughout June, July and August 2012 and Toll House Pumping Station, Marine Drive, Scarborough, North Yorkshire (TA 05147 88852) on the 17th, 18th and 19th October 2012.

The work at Scarborough WwTW involved monitoring the groundwork's associated with the erection of additional waste water treatment facilities including 2 no. open storm water settlement tanks, with associated distribution and collection chambers, an ultraviolet (UV) treatment plant for treatment of storm water prior to discharge, a sludge treatment facility including a sludge balancing tank and a blind tank for storage of sewage sludge, odour control plant, and a kiosk to contain motor control equipment (11/02581/CC).The work at Toll House Pumping Station involved monitoring the groundwork's associated with the construction of a pumping station building and a 4000m underground retention tank for the storage of storm water, 9 parking spaces, retaining wall and vehicle and pedestrian access.

A cobble used as a possible rubbing stone and a single flint scraper were recovered from the Scarborough WwTW.

No archaeological finds, features or deposits were identified at the Toll House Pumping Station.

1. Introduction

1.1 This report sets out the results of an Archaeological Watching Brief that was carried out on land at Scarborough Waste Water Treatment Works (WwTW), Coastal Road, Burniston, Scarborough, North Yorkshire, (TA 02032 92175; Fig. 1) as well as Toll House Pumping Station, Marine Drive, Scarborough, North Yorkshire, (TA 05147 88852; Fig. 3). The archaeological work was commissioned by Morgan Sindall Grontmij, on behalf of Yorkshire Water. The archaeological work took place throughout June, July and August 2012 at the Scarborough WwTW and involved monitoring the groundwork's associated with the erection of additional waste water treatment facilities including 2 no. open storm water settlement tanks, with associated distribution and collection chambers, an ultraviolet (UV) treatment plant for treatment of storm water prior to discharge, a sludge treatment facility including a sludge balancing tank and a blind tank for storage of sewage sludge, odour control plant, and a kiosk to contain motor control equipment. The archaeological work undertaken at Toll House Pumping Station took place on the 17th, 18th and 19th October 2012 and involved monitoring the groundwork's associated with the construction of a pumping station building and a 4000m underground retention tank for the storage of storm water, 9 parking spaces, retaining wall and vehicle and pedestrian access. The Watching Brief was undertaken to fulfil an archaeological condition attached to the Planning Application Consents (Refs: 11/02581/CC; 11/02601/CC).

1.2 The Watching Brief was designed to provide the appropriate level of recording for archaeological remains, deposits or finds that might be affected by the development, in accordance with the recommendations of the National Planning Policy Framework (March 2012).

1.3 All work was funded by Morgan Sindall Grontmij on behalf of Yorkshire Water.

1.4 All maps within this report have been produced from the Ordnance Survey with the permission of the Controller of Her Majesty's Stationery Office, Crown Copyright, Licence No. AL 50453A.

2. Site Description

2.1 The site at Scarborough WwTW is comprised of an existing operational waste water treatment works to the north of Scarborough. The site lies to the north-west of Burniston and can be accessed from the A165 (Burniston Road/Costal Road : Fig. 1). The site is situated on the cliffs on rolling arable farmland and is bounded by the North Sea to the east, farmland to the north and south and Burniston Road itself to the west. The application site is approximately 1.25 hectares forming an extension to the west of the existing treatment works.

2.2 The site at Toll House is located on an existing Yorkshire Water pumping station on the seafront and at the foot of Castle Cliff, with Scarborough Castle on the top of the cliffs. The site can be accessed via marine drive which is the road linking the North and South Bays of Scarborough. The site is approximately 0.26 hectares in size and currently comprises a long rubble wall running along the rear of the site, the current Toll House Pumping Station, curved pavilion and a car park associated with the existing pumping station. The cliffs behind the site are designated as a geological SSSI (North Bay to South Toll House Cliff SSSI).

3. Historical and Archaeological Background

3.1 Evidence for Prehistoric and Roman activity within the vicinity of Scarborough WwTW is sparse. The closest prehistoric site to the works is located 1.5km to the south-east and was a findspot of a hoard of 24

bonze axes together with broken spearheads and other implements and three ‘ingots’.

3.2 A settlement was recorded at Burniston in Domesday. The area of the proposed development area at Scarborough WwTW lay to the south-east of the medieval village under a regime of medieval farming as identified by plots of ridge and furrow in a Desk Based Assessment by Northern Archaeological Associates (2010-2011). This system of farming around Burniston had fallen out of use by 1771, when land was enclosed by Act of Parliament. Following enclosure, the area encompassing the proposed development has remained under arable agriculture with the exception of the insertion of the current Scarborough WwTW.

3.3 The site at Marine Drive lies just south of the Scheduled Monument of Scarborough Castle. The headland upon which the castle stands was the site of a probable settlement during the Bronze Age to Iron Age, presumably taking advantage of the defensive qualities of the promontory. A signal station which lies only 50m from the northern end of the site was constructed during the later Roman period. The castle was erected in 1156, by William, earl of Albemarle. The principle element of the medieval castle comprised a keep, separate barbican and gatehouse and inner and outer baileys with respective curtain walls enclosing a number of halls and other buildings. Moats or ditches defended the bailey walls. The defences were remodelled several times during the later medieval and post medieval periods.

3.4 Scarborough is first mentioned during the Saxon period as *Scardeburgh*, from *Scar*, a rock, and *burgh*, a town, or fortified defence. Scarborough continued to develop into the medieval period focusing on the castle and harbour. Immediately west of the development site, on Quay Street, archaeological investigation has revealed evidence for medieval settlement including a timber framed building (Pearson, 1996). Immediately west of the castle, along Castlegate and Paradise

Street, archaeological excavation revealed a medieval building, stone boundary wall as well as a medieval clay quarry pit (Pearson, 1998-1989). Other medieval features have included a yard, drain, foundations and boundary wall (Pearson, 1992). It is likely that the harbour may have had Roman origins but perhaps was at its peak during the 17th century, and at one point during the Civil War was significant as the only Royalist Controlled port on the east coast.

3.5 Marine Drive was not present on the 1893 Ordnance Survey Map but had been completed by the time of the 1912 edition. The road was probably constructed in the early 20th century to connect the harbour with North Bay.

4. Aims and Objectives

4.1 The aims of the Archaeological Recording Brief were to record and recover any archaeological remains that were affected by the development, and to prepare a report summarising the results of the work.

5. Methodology

5.1 The archaeological work at the Scarborough WwTW involved the supervision of a large excavation area to house two large storm tanks each with the storage capacity of 3000m³ of water, a new 3100 m³ blind tank and a 15m high sludge balancing tank as well as a mile long stretch of trenching to house two parallel water pipes feeding into the treatment works. The pipe line trenches followed the route of the sea cliff edge and varied in depth due to the varying degree of the sloping land. All below groundwork was excavated by a tracked 360^0 mechanical excavator, operating under close archaeological supervision.

5.2 The archaeological work at Toll House involved the supervision of a large below ground retention tank to house 4000m³ of storm water. The

tank was excavated by a tracked 360^0 mechanical excavator in shallow spits down to a depth of approximately 3m, operating under close archaeological supervision.

5.3 All work was carried out in line with the Institute of Field Archaeologists Code of Conduct (IFA 1998).

5.4 A photographic record of the monitored groundwork's was maintained throughout the Recording Brief on a high resolution digital camera.

6. Results (Figs. 1-3; Pls. 2-5, 7 & 8)

6.1 The new storm tanks at Scarborough WwTW were circular, measuring approximately 33m in diameter. The large area excavated to house the additional treatment facilities was excavated to a depth of 15m but only watched to 3m. Natural deposits of clay were revealed throughout the full extent of the excavation area. A dark brownish grey clayey loam topsoil lay above a thin banding of dark yellowish brown clay subsoil which in turn sealed the natural clay. The topsoil deposit had a maximum depth of 0.42m.

6.2 The pipeline trenches were excavated from the north of the site at the treatment works for a mile long stretch, following the route of the sea cliff edge. The trenches were excavated to a maximum width of c. 2.00m (sometimes with an extra metre on each side for safety reasons) and varied in depth, dependant on the gradient of the land. The shallowest trench was approximately 1.20m deep and the deepest around 8m deep. Natural deposits of clay were revealed within the full extent of the excavation trenches. Stratigraphy within the trenches varied between the northern, central and southern areas of the site. Towards the northern end of the site the soil matrix consisted of a dark greyish brown clayey loam topsoil which lay above a horizon of dark yellowish brown subsoil which in turn sealed the natural orange boulder clay. The topsoil deposit had a maximum depth of 0.37m with the

subsoil reaching depths of 0.45m (Pl. 2). Towards the centre of the pipe line excavation the topsoil deposit was again a dark greyish brown clayey loam which in turn sealed a darker brownish orange subsoil. The natural clay varied in colour from a strong brown to yellow (Pls. 3-4). Trenches excavated in the southern end of the site consisted of the same topsoil and subsoil as the central area but the natural clay comprised of a dark grey boulder clay (Pl. 5).

6.3 Two surface finds were recovered from the pipeline area excavations including a cobble possibly used as rubbing stone and flint scraper (Fig. 2).

6.4 The new retention tank for the storage of storm water at Toll House formed an octagonal shape with a 20m diameter and 30m depth. Natural deposits of hard, compact sandstone and boulders were observed within the depths of the excavation. Stratigraphy within the tank, up to 3m deep, consisted of a uniform deposit of brown sandy silt subsoil which lay directly above the natural, and had a maximum depth of 0.90m (Pl. 3). This in turn was sealed by a deposit of rubble and stony material which lay below an old asphalt deposit associated with the old road surface. The sequence in the excavation area was completed with relatively recent hardcore (Pl. 2).

6.5 No archaeological features, deposit or finds were revealed during the archaeological monitoring and observation at Toll House Pumping Station.

7. Conclusions

7.1. Natural deposits were revealed at both sites during the archaeological watching brief. The finds identified at Scarborough WwTW are likely to be from the Prehistoric/Roman periods but are stray finds rather than associated with archaeological features or settlements. The absence of archaeological finds at Marine Drive could be due to the relatively recent disturbance of the site, with the insertion of the road in the early 20th century.

8. Bibliography

Pearson, T. 1989 Paradise, Scarborough. A Report on Archaeological Evaluations May-June 1989. Report No. 75.

Pearson, T. 1992 An Archaeological Evaluation Adjacent to 35 Castlegate, Scarborough. *Scarborough Archaeological and Historical Society. Scarborough.*

Pearson, T. 1996 An archaeological Assessment of Land Adjacent to 22A Quay Street, Scarborough. *Scarborough Archaeological and Historical Society. Scarborough.*

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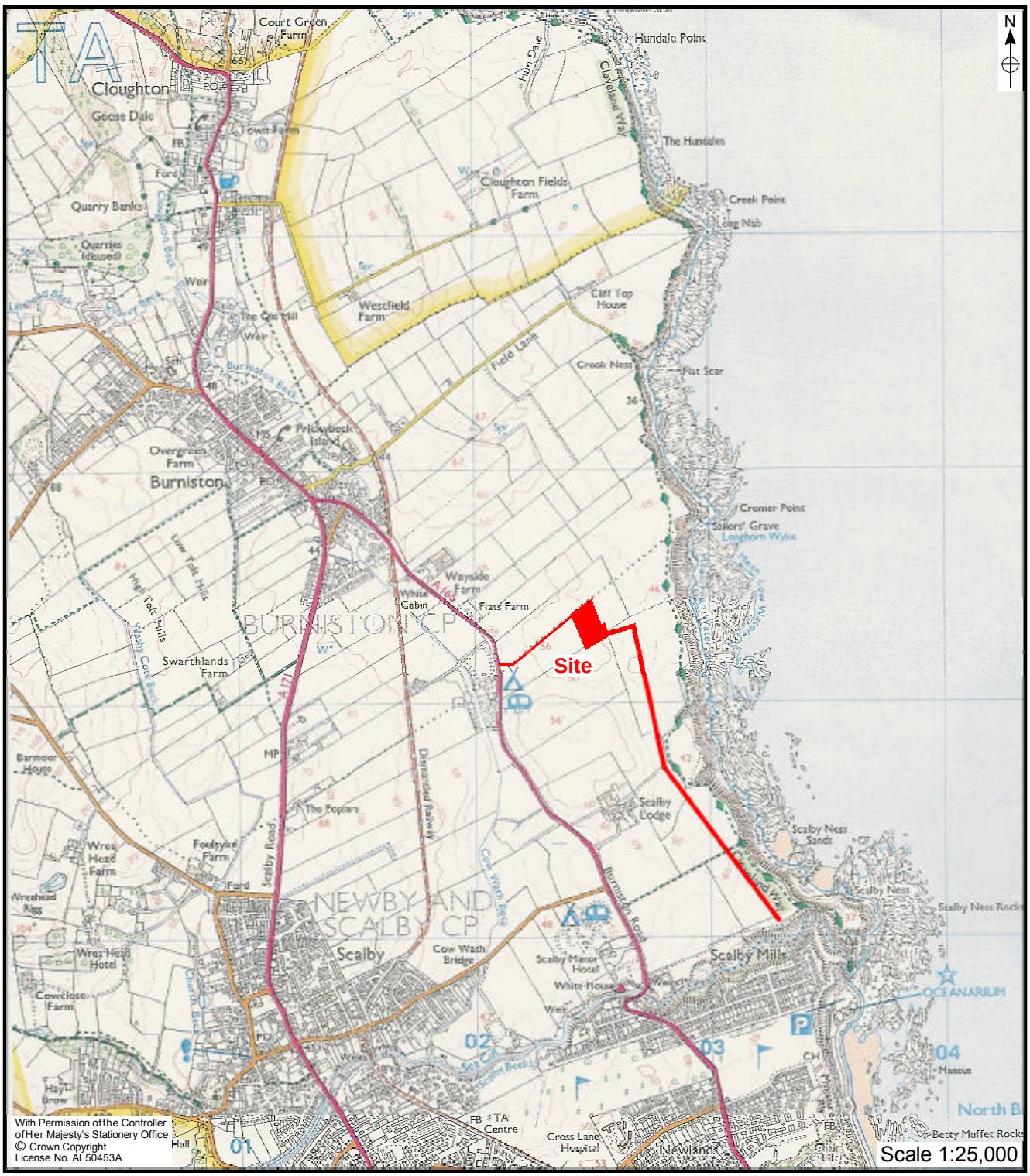

Figure 1. Water Treatment Plant and Pipeline at Burniston.

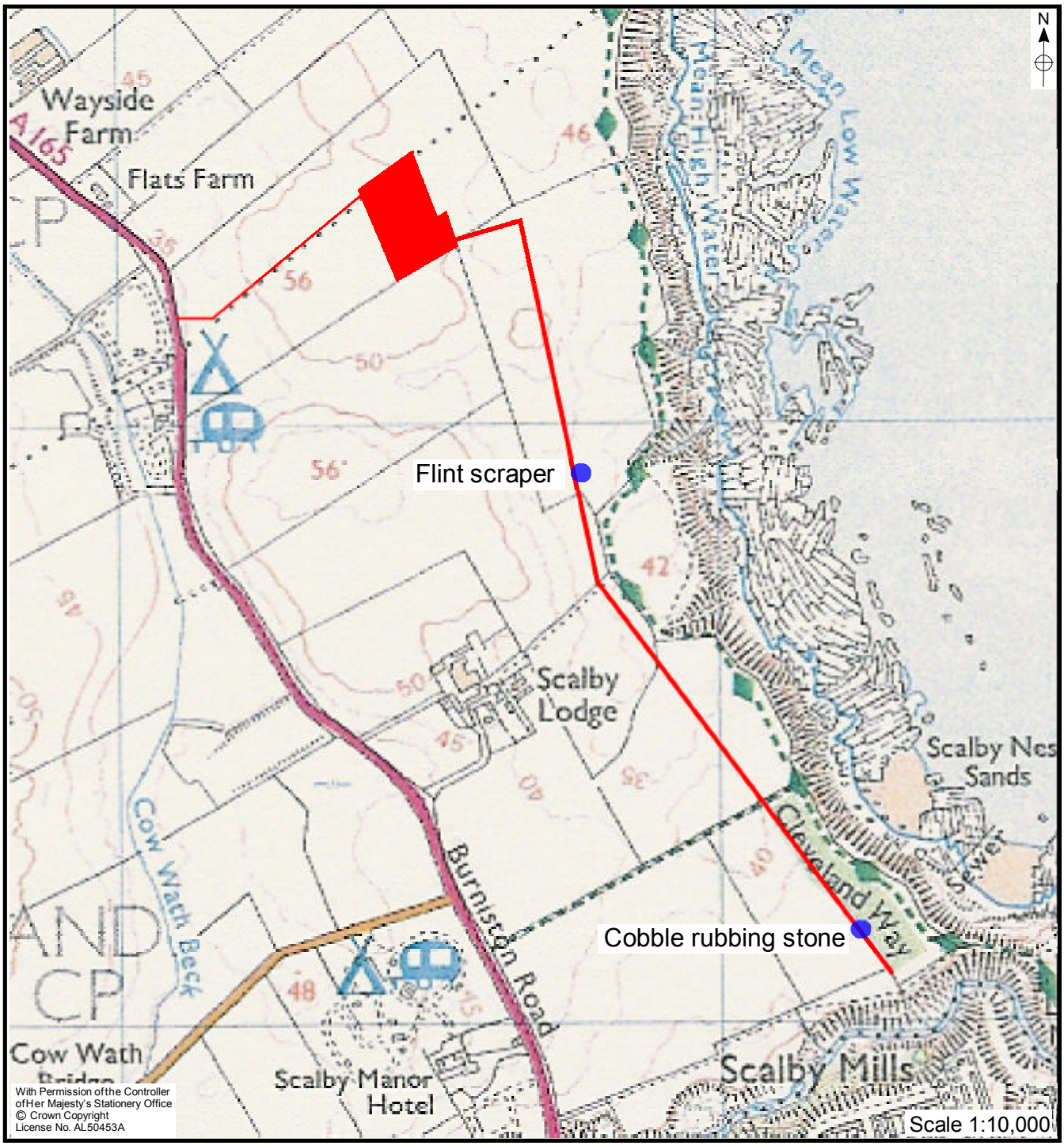

Figure 2. Location of Surface Finds.

Figure 3. Toll House Pumping Station.

Plate 1. General View of Scarborough WwTW.
Facing South.

Plate 2. Section through Pipe Line Excavation Trench
(Northern end of WwTW). Facing North-east.

Plate 3. Section through Pipe Line Excavation Trench (Central Area of WwTW). Facing North-west.

Plate 4. Section through Pipe Line Excavation Trench (Central Area of WwTW). Facing North.

Plate 5. Section through Pine Line Excavation Trench. (Southern end of WwTW). Facing North.

Plate 6. General View of Toll House Pumping Station. Facing North-west.

Plate 7. Underground Storage Tank during Stripping.
Facing North-west.

Plate 8. Section through Underground Storage Tank.
Facing North.

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Archaeological Practice Ltd

STANDARD WRITTEN SCHEME OF INVESTIGATION (WSI) FOR LIMITED ARCHAEOLOGICAL RECORDING ("WATCHING BRIEF")

10.89 100234 Scarborough, North Yorkshire

The purpose of the work is to record and recover archaeological remains, which are:

a) affected by proposed development only to a limited and clearly defined extent,

b) not available or susceptible to standard area excavation techniques, or

c) of limited importance or potential.

The work will not require the construction programme or development to be held up while archaeological investigation takes place, although some developers may give such a facility.

1 The WSI represents a summary of the broad archaeological requirements needed to comply with an archaeological planning condition or obligation. The scheme does **not** comprise a full specification or Bill of Quantities, and the County Council makes no warranty that the works are fully or exactly described. No work on site will commence until the implementation of the scheme is the subject of a standard ICE Conditions of Contract for Archaeological Investigation or similar agreement between the Developer and the Archaeologist.

2 The Archaeologist should notify by letter or e-mail the County Archaeology Service (archaeology@northyorks.gov.uk) at least 10 working days in advance of the start of work on site.

3 The removal of overburden (that is vegetation, turf, loose stones, rubble, made ground, Tarmac, concrete, hardcore, building debris and topsoil) should be supervised by the Archaeologist contracted to carry out the WSI. The Archaeologist should be informed of the correct timing and schedule of overburden removal.

4 Removal of overburden by machine should be undertaken using a back-acting excavator fitted with toothless or ditching bucket only. Where materials are exceptionally difficult to lift, a toothed bucket may be used temporarily. Subsoils (B horizons) or deep, uniform fills of features may also be removed by back-acting excavator but only in areas specified by the Archaeologist on site, and only with archaeological supervision. Bulldozers or wheeled scraper buckets should not be used to remove overburden above archaeological deposits. Where reinstatement is required, topsoil should be kept separate from other soil materials.

5 Metal detecting within the development area, including the scanning of topsoil and spoil heaps, should only be permitted subject to archaeological supervision and recording such that metal finds are properly located, identified, and conserved. All metal detection should be carried out following the Treasure Act 1996 Code of Practice.

6 Where structures, finds, soil features and layers of archaeological interest are exposed or disturbed by construction works, the Archaeologist should be provided with the opportunity to observe, clean, assess, excavate by hand where appropriate, sample and record these features and finds. If the contractors or plant operators notice archaeological remains, they should immediately tell the Archaeologist. The sampling of deposits for

palaeo-environmental evidence should be a standard consideration, and arrangements should be made to ensure that specialist advice and analysis are available if appropriate.

7 Heavy plant should not be operated in the near vicinity of archaeological remains until they have been recorded, and the Archaeologist on site has allowed operations to recommence at that location. Sterile subsoils (C horizons) and parent materials below archaeological deposits may be removed without archaeological supervision. Where reinstatement is required, subsoils should be backfilled first and topsoil last.

8 Upon completion of fieldwork, samples should be processed and evaluated, and all finds identified, assessed, spot-dated, properly stored, and subject to investigative conservation as needed. A field archive should be compiled consisting of all primary written documents, plans, sections, and photographs. The Archaeologist should arrange for either the County Archaeologist or an independent post-excavation specialist to inspect the archive before making arrangements for the transfer of the archive to an appropriate museum or records office.

9 A summary report will be produced following NYCC guidelines on reporting. The report will contain planning or administrative details of the project, a summary of works carried out, a description and interpretation of the findings, an assessment of the importance of the archaeology including its historical context where appropriate, and catalogues of finds, features, and primary records. All excavated areas will be accurately mapped with respect to nearby buildings, roads and field boundaries. All significant features will be illustrated with conventionally-scaled plans, sections, and photographs. Where few or no finds are made, it may be acceptable to provide the report in the form of a letter with plans attached.

10 Copies of the summary report will be provided to the client(s), the County Heritage Section (HER), to the museum accepting the archive, and if the works are on or adjacent to a Scheduled Ancient Monument, to English Heritage. A licence should be granted to the accepting museum and the County Council to use the documentation arising from the work for its statutory functions and to give to third parties as an incidental to those functions.

11 Upon completion of the work, the Archaeologist will make their work accessible to the wider research community by submitting digital data and copies of reports online to OASIS (http://ads.ahds.ac.uk/project/oasis/). Submission of data to OASIS does not discharge the planning requirements for the Archaeologist to notify the County Archaeology Service of the details of the work and to provide the Historic Environment Record (HER) with a summary report on the work.

12 Under the Environmental Information Regulations 2005 (EIR) information submitted to the HER becomes publicly accessible, except where disclosure might lead to environmental damage, and reports cannot be embargoed as 'confidential' or 'commercially sensitive'. Requests for sensitive information are subject to a public interest test, and if this is met, then the information has to be disclosed. The Archaeologist should inform the client of EIR requirements, and ensure that any information disclosure issues are resolved before completion of the work. Intellectual property rights are not affected by the EIR.

13 The County Archaeologist will be informed as soon as possible of the discovery of any unexpected archaeological remains, or changes in the programme of ground works on site. Any significant changes in the archaeological work should be specified in a variation to the WSI to be approved by the planning authority. If there is a need to remove human remains, an exhumation licence will be obtained from the Department for Constitutional Affairs (coroners@dca.gsi.gov.uk), or a faculty obtained where the remains are buried in land consecrated according to the rites of the Church of England.