



Mumbles Coastal Protection Project, Swansea

**Archaeological Written Scheme
of Investigation**

by

**The
Glamorgan-Gwent Archaeological Trust Ltd
(GGAT Projects)**

Marine License Application Number – RML1928

August 2019

Project No. P2029
Report No. 2019/042
NGR SS 61940 87875



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Summary

An attached condition prior to the granting of a Marine License (RML1928) to carry out Ground Investigation works as part of the Mumbles Coastal Protection Project, Mumbles, Swansea is that the Licensee was to produce an archaeological Written Scheme of Investigation setting out a programme for an archaeological Watching Brief, prior to commencement of any development work.

The Glamorgan-Gwent Archaeological Trust Ltd Projects Department (GGAT Projects) have been commissioned by the City and Council of Swansea to prepare the archaeological Written Scheme of Investigation (WSI), which provides the framework for archaeological works to be undertaken at the site.

The scheme allows for an archaeological watching brief to be carried out on all machine excavated groundworks required for the investigations. No watching brief is required on the excavation of boreholes but the logs from these activities will be made available for inclusion in the final reporting. The scheme also includes contingency arrangements including the provision of sufficient time and resources to ensure that any archaeological features or finds that are located during the development are properly excavated, recorded and removed. If suitable deposits are encountered, the scheme also includes the provision for any sampling that may prove necessary, post-excavation recording and reporting and possible publication of the results.

The archaeological works will be carried out to the professional standards laid down by the Chartered Institute for Archaeologists' Standard and Guidance for Archaeological Watching Briefs (2014).

Acknowledgements

The project was by managed Martin Tuck MCIfA (Senior Project Manager) and the report was prepared by Johnny Crawford BSc MA MCIfA (Assistant Project Manager) of GGAT Projects, Figure 1 was provided by the client).

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Abbreviations

APM:	Archaeological Planning Management (GGAT)
GGAT:	Glamorgan-Gwent Archaeological Trust Ltd.
HER:	Historic Environment Record (curated by the Glamorgan-Gwent Archaeological Trust)
ICON:	Institute of Conservation
LB:	Listed Buildings Grade I, II and II* (Cadw)
LPA:	Local Planning Authority
NGR:	National Grid Reference
NMR	National Monuments Record (curated by the RCAHMW)
NPRN:	National Primary Record Number (in NMR)
PRN:	Primary Record Number (in HER)
RCAHMW:	Royal Commission on the Ancient and Historical Monuments of Wales
SM:	Scheduled Monument (Cadw)

1 Introduction

1.1 Development proposal and planning background

1.1.1 An application for a Marine Licence (RML1928) for ground investigations associated with the Mumbles Coastal Protection Project is sought for an area centred on NGR SS 61940 87875 (Figure 1).

1.1.2 A condition of the granting of a Marine Licence was that

‘The Licence Holder must submit a ‘Written scheme of investigation for a Watching Brief’ to NRW on behalf of the Licensing Authority for written approval at least 6 weeks prior to commencement of the works. No works may be undertaken prior to written agreement from NRW on behalf of the Licensing Authority.’

1.2 Site description

1.2.1 The proposed coastal protection works are located to the northeast of Mumbles Road (B4433) and centred on NGR SS 61940 87875 (Figure 1). The proposed development area comprises a section of Mumbles promenade between a slipway to the front of the Yacht Club and the northwest end of Oystermouth Car Park with associated seashore, car parking areas, Southend Garden, bowls field and tennis court to the southeast of Oyster Wharf. The area is generally flat inland at approximately 6m to 8m OD and the seashore about 0m to -2m OD.

1.2.2 The geology of the proposed development area consists of superficial deposits of Glaciofluvial Ice Contact Deposits, Devensian - sand and gravel; and Marine Beach Deposits - sand, silt, and clay. The bedrock comprises Oxwich Head Limestone Formation – limestone; Oystermouth Formation - limestone and mudstone, interbedded; and Bishopston Mudstone Formation - mudstone, siltstone and sandstone (BGS 2019).

1.3 Archaeological Background

1.3.1 The mumbles foreshore is an area that holds significant archaeological potential and any development work within that area is likely to be subject to archaeological conditioning. The current WSI has been written to comply with a condition for the granting of the Marine License (RML1928) deemed necessary to carry out the development works. The following is a brief summary of the currently known archaeological information for the development area. A more detailed archaeological background may be found in the archaeological desk based assessment compiled as part of the scheme (Dabal 2019).

1.3.2 The settlement of Mumbles only grew in size after the mid-1850s, in part due to an increased holiday trade (Clements and Roberts 2017). Traditionally, up to the middle of the 19th century, it was a fishing village, where oyster dredging was conducted from small rowing boats. The oyster fishery provided employment and enjoyment for the families of the oystermen and tourists who were buying oysters from the oyster carts at the square opposite George Hotel (now The George Public House).

1.3.3 Limestone extraction and lime production was also an important industry with quarries at Norton (418959) and Southend (06328w) and associated with them limekilns at The Kab (02108w) and at Castle Road (02555w and 02556w). Features associated with the Iron extraction industry are also known in the area.

Iron ore was extracted from Mumbles Hill and Limeslade (06523w and 06665w).

- 1.3.4 The Swansea and Mumbles Railway (HER – 02811.0w) began life as a horse-drawn carriage tramway (03107w). It ran along the seashore and was built to transport limestone from Mumbles to Swansea. It opened in 1804 and shortly after in 1807 it became a passenger-carrying railway (1954 Swansea and Mumbles Railway). The original route ran from the Brewery Bank by the Swansea Canal around Swansea Bay to Castle Hill - today is known as Clements Quarry - in the village of Oystermouth. Later in 1898, it was extended from Oystermouth to the Mumbles Pier (02811.0w, 03101w). Paddle steamers that had been taking day trips passengers from Oystermouth from the 1830s now landed at the pier (Gaab 1986). The line closed in 1960 (Gaab 1986).
- 1.3.5 Mumbles Islet is a site of early coastal defences of the Bristol Channel. Mumbles Island Battery (02243w) was built around the base of the Mumbles Lighthouse (00828w) and was designed to protect Swansea Bay. Construction of the battery began in 1859 and was completed by 1861 (Crawford 2014). The site also housed the Port War Naval Signal Station (Huckfield 2018).
- 1.3.6 More recent remains include several gun emplacements and defensive remains on at the Mumbles Island as well as Mumbles Hill (02244w) relating to the World War II; these features are dated between 1940 and 1945 (03102w, 06268w-02670w, 06330-06334w).
- 1.3.7 A submerged forest has been identified to the west of the Oystermouth of the peat shelf in 2010 (Sherman 2010). George (1930) recorded evidence for this submerged forest between Oystermouth station square (NGR SS 61586 88281) to the Vivian or Singleton stream, but estimated that it once extended between Southend (SS 62750 87736) and Swansea docks (SS 65871 92360) and to stretch inland at Sandfields and Oystermouth (Gabb 2006).

2 Specification

2.1 Purpose

- 2.1.1 The purpose of this written scheme is to set out a quantifiable schedule of works against which performance, fitness for purpose and achievement of quality can be measured.
- 2.1.2 This written scheme has been prepared to ensure that the work is undertaken to the standard required by the Chartered Institute for Archaeologist's *Standard and Guidance for an Archaeological Watching Briefs* (2014).

2.2 Objectives

- 2.2.1 An investigation of the potential archaeological resource through observation and recording in order to ensure the safeguarding of the resource in the development area prior to and during construction works.
- 2.2.2 The presentation of these observations in a written report, taking account of related documentary and historical evidence.
- 2.2.3 The preparation of an archive of data recovered and records made as a result of the project, and the deposition of this archive in a suitable receiving museum or similar institution.

2.3 Timing

- 2.3.1 The archaeological watching brief will commence following the notification of a start date for the development works as provided by the client.
- 2.3.2 The timing of on-site works will be phased according to the development programme and each component will be agreed in advance.

2.4 Nature of effect

- 2.4.1 The ground investigations will consist of a combination of machine excavated trenches (currently 14 in number) and boreholes (currently 27 in number) of varying types including windowless sampling and horizontal coring into concrete (Arup 2019). There is the potential for encountering previously unknown archaeologically significant artefacts and features within the proposed development, especially those relating to maritime utilisation of the Mumbles foreshore area.

2.5 Assessment of potential impact

- 2.5.1 Without appropriate forms of mitigation, the following development activities are deemed likely to have a potential impact on the archaeological resource:
 - Machine excavation of trial pits
 - Construction of site compounds
 - Landscaping works, including any levelling
 - Any other ground intrusive works

2.6 Specification strategy

- 2.6.1 The strategy is proposed based on the likely extent and form of archaeological interests and the proposed extent and form of development effect.
- 2.6.2 The effect of the development on potential archaeological interests will be safeguarded by means of an archaeological watching brief undertaken on the groundwork's specified in 2.5.1 above to meet the requirement of the Chartered Institute for Archaeologist's *Standard and Guidance for Archaeological Watching Briefs* (2014). It should be noted that **no** watching brief is required for the excavation of boreholes as the technique leaves little in the way of archaeologically tangible results on the ground. Borehole logs will, however, be made available for inspection.
- 2.6.3 If archaeologically significant remains are discovered during the watching brief, the archaeologist carrying out the works, in consultation, where appropriate, with the resident engineer (or equivalent agent), will make a decision as to whether it can be adequately recorded and removed without disruption to any nearby development works.
- 2.6.4 In the event that a significant discovery is made during the watching brief, and the provision in paragraph 2.6.3 cannot be put into effect, then arrangements will be made to modify the construction programme and fence off the area of interest to allow its safe and effective investigation and recording.
- 2.6.5 In the event that remains are encountered during the watching brief which are of such complexity or significance that the contingency arrangements would not be of sufficient scope, a meeting with the NRW, the LPA, their archaeological advisors and any other parties that may be relevant to the issue, should be

convened in order to agree an appropriate strategy.

- 2.6.6 The borehole logs from the ground investigation will be made available for inspection in order to determine, in broad terms, the nature of the underlying ground. These findings will be included in the final reporting on the results of the geotechnical investigations.

3 Resourcing

GGAT Projects will provide the following input to carry out the subsequent archaeological works.

3.1 Staffing

The project staff involved are experienced archaeologists drawn from the team regularly used, these will include:

- Martin Tuck MCIfA, Senior Projects Manager, responsible for the tracking of the project and maintaining quality
- Assistant Project Manager/Archaeologist, responsible for carrying out the watching brief

Additional input is provided by:

- Finds Specialist, responsible for finds recovery policy and arrangement of specialist services
- Project Archaeologists (finds), responsible for cleaning, cataloguing and analysing finds
- Illustrator, responsible for preparing publication-standard drawings, artistic reconstruction drawings, information boards, leaflets and advertisements

3.2 Specialists

Specialist expertise, if required, will be obtained from suitably qualified internal and external individuals. These specialists will be drawn from the following list used by GGAT:

- Ceramic building material: Martin Locock (Freelance)/Dr Edith Evans (GGAT)
- Clay pipes: Charlotte James-Martin (Archaeology Wales)
- Coins: Steve Sell (Freelance)
- Conservation: Phil Parkes, Cardiff Conservation services (Cardiff University)
- Faunal remains: Hannah Bowden (GGAT)
- Flints: Elizabeth Walker (NMW)
- Glass: Joyce Compton (Freelance)
- Metalwork: Dr Mark Redknap (NMW) / Prof Bill Manning (Freelance)
- Medieval stone: Dr Mark Redknap (NMW)
- Medieval and Post-medieval coins: Steve Sell (Freelance)
- Medieval pottery: Joyce Compton (Freelance)
- Metalwork and industrial slag: Dr Tim Young (Cardiff University and GeoArch) / Daria Dabal (GGAT)
- Mortar analysis: Rob Dunning (GGAT)
- Palaeoenvironmental remains: University of Wales Lampeter, Archaeological Services (UWLAS) / Wendy Carruthers (Freelance)

Mumbles Coastal Protection Project, Swansea: archaeological written scheme of investigation

- Post-medieval pottery: Joyce Compton (Freelance)
- Prehistoric pottery: Jody Deacon (NMW)
- Roman pottery: Joyce Compton (Freelance)
- Waterlogged wood: Prof Nigel Nayling / Dr Rod Bale (UWLAS (UWTSD))

Further specialist expertise in other disciplines will be obtained as required from suitably qualified individuals/institutions.

4 Implementation

4.1 General implementation

- 4.1.1 The specified archaeological works will be undertaken to the highest possible standards in line with the requirements of the Chartered Institute for Archaeologist's *Standard and Guidance for Archaeological Watching Briefs* (2014).
- 4.1.2 If stray finds or deposits of minor interest are encountered these will be recorded by the archaeologist as the specified ground works proceed.
- 4.1.3 If more significant deposits are found these will be investigated and recorded within a secured area.
- 4.1.4 Should human remains be encountered, the nature and extent of those remains will be established and recorded, and the coroner informed. However, the remains will be left *in situ*, with suitable measures in place to ensure their protection. Special circumstances may dictate the need to remove human remains if they are thought to be vulnerable to further damage or obstructive to the broader aims of the work. In such cases, the human remains will be archaeologically recorded and removed under conditions that comply with all current legislation. This will include reporting to the relevant authorities, the obtaining of proper licences, and the provision for eventual reburial following appropriate analysis. All human remains will be excavated by hand in accordance with the Chartered Institute for Archaeologist's *Excavation and Post-Excavation Treatment of Cremated and Inhumed Human Remains: Technical Paper Number 13* (1993) and in accordance with guidance in the Chartered Institute for Archaeologists' *Guidelines to the Standards for Recording Human Remains* (Brickley and McKinley 2004) and *Updated guidelines to the standards for recording human remains* (Mitchell and Brickley 2017).
- 4.1.5 It is intended that the site archive, including any finds assemblage, will be deposited with an appropriate institution (Swansea Museum), or retained by the landowners, as required.
- 4.1.6 The finds, including artefacts and ecofacts, excepting those, which may be subject to the laws of *Treasure Act* (1996) and/or *Treasure Order* (2002), will be deposited with the same institution, subject to the agreement of the site owners. An agreement with an appropriate institution to accept this material will need to be made on completion of fieldwork and assessment of the nature of the finds recovered.
- 4.1.7 A report describing the works carried out and findings made will be prepared and submitted to the local planning authority.

4.2 Specification methodology

- 4.2.1 Prior to their implementation, a specific Health and Safety risk assessment, will be drawn up before the commencement of the watching brief.
- 4.2.2 Any ground intrusions will be conducted under archaeological watching brief conditions. These include, but are not limited to, those specified in section 2.5.1. No groundworks should be undertaken in the area to which this scheme applies without liaising with the site archaeologist.
- 4.2.3 In the event of particularly significant or complex discoveries being made

during the course of the watching brief, those areas will be fenced off and clearly demarked.

- 4.2.4 No machines or contractors should work in such areas until such time as recording has been completed.

4.3 Method of recording

- 4.3.1 The techniques employed should conform to best current professional practice. During the watching brief, all archaeological deposits should be recorded with a single continuous context numbering system. The archaeological contractor should, upon request, submit a copy of its recording forms and manual to the client. Contexts will be drawn at a suitable scale in plan, and, where appropriate, in section. All significant contexts will be digitally photographed, with a resolution of no less than ten megapixels. Survey information will be related to the Ordnance Survey National Grid and levels related to the Ordnance Survey Datum.
- 4.3.1 All classes of finds will be retained, cleaned, and catalogued until arrangements for final deposition have been agreed, in line with the requirements of the Chartered Institute for Archaeologist's Standard and Guidance for the collection, documentation, conservation and research of archaeological materials (2014). If substantial quantities of undiagnostic, residual or modern material are recovered, an on-site recording and discard policy for these classes of find will be devised. If human remains are encountered, they will be archaeologically recorded and removed under conditions, which comply with all current legislation, including reporting to the relevant authorities, the obtaining of proper licences, and the provision for eventual reburial following appropriate analysis. All human remains will be excavated by hand in accordance with the Chartered Institute for Archaeologist's *Excavation and Post-Excavation Treatment of Cremated and Inhumed Human Remains*: Technical Paper Number 13 (1993) and in accordance with guidance in the Chartered Institute for Archaeologist's *Guidelines to the Standards for Recording Human Remains* (Brickley and McKinley 2004) and *Updated guidelines to the standards for recording human remains* (Mitchell and Brickley 2017).
- 4.3.2 In the event that suitable deposits are encountered, the management of environmental recording and sampling will follow the principles and tenets laid down in Historic England's (formerly English Heritage's) *Environmental Archaeology: A guide to the theory and practice of Methods, from sampling and recovery to post-excavation* published in 2011. All deposits with a high potential for the preservation of palaeoenvironmental material will be sampled, by column, bulk and other method, for possible subsequent analysis, in accordance with a sampling strategy overseen by a specialist with appropriate expertise. Sampling and recording will be the responsibility of an identified member of the field team with relevant experience.

5 Reporting

- 5.1.1 An archive of archaeological records relating to the fieldwork and an archive of records relating to the preparation of the reports will be prepared to the specifications in *The National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales* (National Panel for Archaeological Archives in Wales 2017).
- 5.1.2 Archaeological and historical sources will be consulted, in order to place the results of the fieldwork in an appropriate archaeological and historical framework.
- 5.1.3 Following a review of the potential of the recovered evidence, a programme of analysis and research will be undertaken, resulting in the preparation of a site narrative and supporting data, including finished drawings and photographs as necessary.
- 5.1.4 The archaeological contractor should identify the internal or external specialists who will be responsible for preparing reports on cultural or palaeoenvironmental material, and dating and for overseeing the sampling programme.
- 5.1.5 Reporting will be phased according to the construction programme but will include a synthesis of the data gathered, together with inclusion of supporting evidence in appendices as appropriate, and illustrations. A PDF of the report will be supplied to the client and if requested two hard copies of the report. It is the submission of this report which enables the discharge of the planning condition.
- 5.1.6 Short archaeological digest reports will be submitted for publication in relevant regional, national and thematic learned journals; as a minimum, a report will be submitted to the annual publication of the regional CBA group or equivalent journal. Non-technical reports will also be produced to inform the general public of the archaeological investigations, this may also include web pages, posters, leaflets or other media forms.
- 5.1.7 It is intended that the site archive, including any finds assemblage, will be deposited with an appropriate institution, or retained by the landowners, as required, in accordance with the ICON and the National Panel for Archaeological Archives in Wales guidelines (*The National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales* (2017)), and subject to the agreement of the legal landowner. Swansea Museum will be approached in the first instance.
- 5.1.8 A digital copy of the report and full archive will be deposited with the National Monuments Record, RCAHMW, Aberystwyth, and a digital copy of the report and archive index will be deposited with the Regional Historic Environment Record, curated by the Glamorgan-Gwent Archaeological Trust, Swansea in accordance with the guidance for the Submission of Data to the Welsh Historic Environment Records (HERs).
- 5.1.9 The finds, including artefacts and ecofacts, excepting those, which may be subject to the laws of *Treasure Act* (1996) and/or *Treasure Order* (2002), will be deposited with the same institution, subject to the agreement of the site owners. An agreement with an appropriate institution to accept any such material will need to be made on completion of fieldwork and assessment of the

nature of the finds recovered.

6 General

6.1 Insurance

- 6.1.1 GGAT should hold full insurance cover for this type of work, to include Professional Indemnity and Public Liability cover. Full details of these and other relevant policies should be supplied to the client on request.

6.2 Health and Safety

- 6.2.1 The contractor should provide to the client a copy of its Health and Safety statement in accordance with *The Health and Safety at Work Act 1974*. The contractor should prepare any documentation required by the *Construction Design and Management Regulations 2015*
- 6.2.2 Prior to commencement of work, GGAT will carry out a formal Health and Safety Risk Assessment in accordance with *The Management of Health and Safety Regulations 1999*. A copy of the risk assessment should be kept on any site office and be available for inspection on request.
- 6.2.3 In addition to statutory requirements, GGAT follow best practice for Health and Safety in archaeology as defined in the FAME (Federation of Archaeological Managers and Employers) *Manual of Health and Safety in Field Archaeology* (2010).

6.3 General Limitations

- 6.3.1 The work outlined in this specification will be carried out to the highest professional standards, and the conclusions drawn will be based on a considered review of the evidence available. However, the archaeological resource is unpredictable, and the encountering of unexpected archaeological deposits on the site cannot be ruled out. Examination of such deposits is beyond the scope of the specification and must be agreed by separate negotiation.
- 6.3.2 Should there need to be a variation to the provisions of the specification, this will be agreed in advance with the Client and the relevant Planning Authority or their agents.

6.4 Quality Control

- 6.4.1 GGAT will carry out the work in accordance with the Chartered Institute for Archaeologist's *Code of Conduct*, *Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology*, and other related by-laws, and the *Standard and Guidance for archaeological watching briefs*, currently in force.

6.5 Arbitration

- 6.5.1 Any dispute or difference arising out of a contract in relation to this work will be referred for a decision in accordance with the Rules of the Chartered Institute of Arbitrators' *Arbitration Scheme for the Chartered Institute for Archaeologists* applying at the date of the agreement.

7 References

- Arup, 2019, Technical Note for Job Number 252724 dated 21 June 2019
- Clements S. and Roberts R., 2017, *Mumbles hill, Swansea. Community archaeological excavations*; GGAT report no. **2017/029**.
- Crawford, J., 2014, *First World War Scoping Study Glamorgan and Gwent*, GGAT report no. **2014/025**.
- Dabal, D, 2019, Mumbles Sea Defence, Swansea: archaeological desk based assessment. **GGAT Report No. 2019/026**
- Gabb, G., 1986, *The Story of the Village of Mumbles*. Brown and Sons: Cowbridge.
- Gabb, G., 2006, *Swansea and its History*, Vol. 1.
- Huckfield, W., 2018, *GGAT 137: Defence of The Realm: Coastal defences and port facilities. Southeast Wales and the First World War*. GGAT report no. **2018/010**.

Legislative and CIfA guidelines:

- Chartered Institute for Archaeologists. 2014. *Standard and Guidance for Archaeological Watching Briefs*.
- Chartered Institute for Archaeologists (Brickley, M. and McKinley, J.I.), 2004, *Guidelines to the Standards for Recording Human Remains*.
- Chartered Institute for Archaeologists (Mitchell, P.D. and Brickley, M.), 2017, *Updated guidelines to the standards for recording human remains*.
- Chartered Institute for Archaeologists (McKinley, J. I. and Roberts, C.), 1993, *Excavation and Post-Excavation Treatment of Cremated and Inhumed Human Remains: Technical Paper Number 13* (1993).
- Department for Culture, Media and Sport. 1996. *The Treasure Act 1996 Code of Practice* (2nd Revision)
- Department for Culture, Media and Sport. 2002. *Treasure* (Designation) Order 2002.
- Glamorgan-Gwent Archaeological Trust. 2002. *Manual of Excavation Recording Techniques*
- Historic England, 2011. *Environmental Archaeology: A guide to the theory and practice of Methods, from sampling and recovery to post-excavation*.
- National Panel for Archaeological Archives in Wales. 2017. *The National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales*.

Glossary

Archive

An ordered collection of all documents and artefacts from an archaeological project, which at the conclusion of the work should be deposited at a public repository, such as the local museum.

Assessment

A desk-based assessment is a detailed consideration of the known or potential archaeological resource within a specified area or site (land-based, intertidal or underwater), consisting of a collation of existing written and graphic information in order to identify the likely character, extent, quality and worth of the known or potential archaeological resource in a local, regional or national context as appropriate.

Brief

An outline framework of the archaeological situation which has to be addressed, together with an indication of the scope of the works that will be required.

Bronze Age

A chronological division of the prehistoric period, which sees the introduction of copper and the eventual widespread adoption of bronze for use in weapons, jewellery etc. In Britain it is dated between circa 2300 and 700 BC.

Cadw

Cadw is the Welsh Government's historic environment service: Cadw are responsible for the planning issues which affect statutorily protected monuments and buildings. They also grant aid repairs to historic buildings and monuments and manage ancient monuments which are in direct State care.

Early-medieval

The period after the break down of Roman rule and the Norman invasion (circa 410 to 1066 AD).

Field evaluation

A limited programme of non-intrusive and/or intrusive fieldwork which determines the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts within a specified area or site; and, if present, defines their character and extent, and relative quality. It enables an assessment of their worth in a local, regional, national or international context as appropriate. The programme of work will result in the preparation of a report and ordered archive

Historic Environment Record (HER)

A documentary record of known sites in a given area. In south-east Wales the HER is curated by the Curatorial Division of the Glamorgan-Gwent Archaeological Trust.

Medieval

The period after the Norman invasion nominally finishing at the Battle of Bosworth and the commencement of the reign of Henry VII (1067 to 1485 AD).

Mesolithic

A chronological division of the prehistoric period spanning the period from the end of the last ice age to the introduction of farming. It is dated between circa 10,000 and circa 4,400 BC.

Modern

The period since 1901 AD.

Natural

Archaeological term for undisturbed natural geology on a site.

Neolithic

A chronological division of the prehistoric period during which agriculture and domestic animals were introduced to Britain. It is dated circa 4,400 to circa 2,300 BC.

NGR

National Grid Reference

Palaeolithic

The earliest division of the prehistoric period, from the first evidence of tool making by humans to the final retreat of glacial ice from Britain. It is dated circa 22,500 to circa 10,000 BC.

Post-medieval

Period between 1486 and 1901 AD.

Risk Assessment

A document prepared to meet the requirements of *The Management of Health and Safety at Work Regulations 1992* assessing all risks to the health and safety of employees and others arising from a work activity.

Roman

Period when Britain was ruled by Rome circa 44 - 410 AD

Romano-British

Term used to describe a fusion of indigenous late Iron Age traditions with Roman culture

Specification

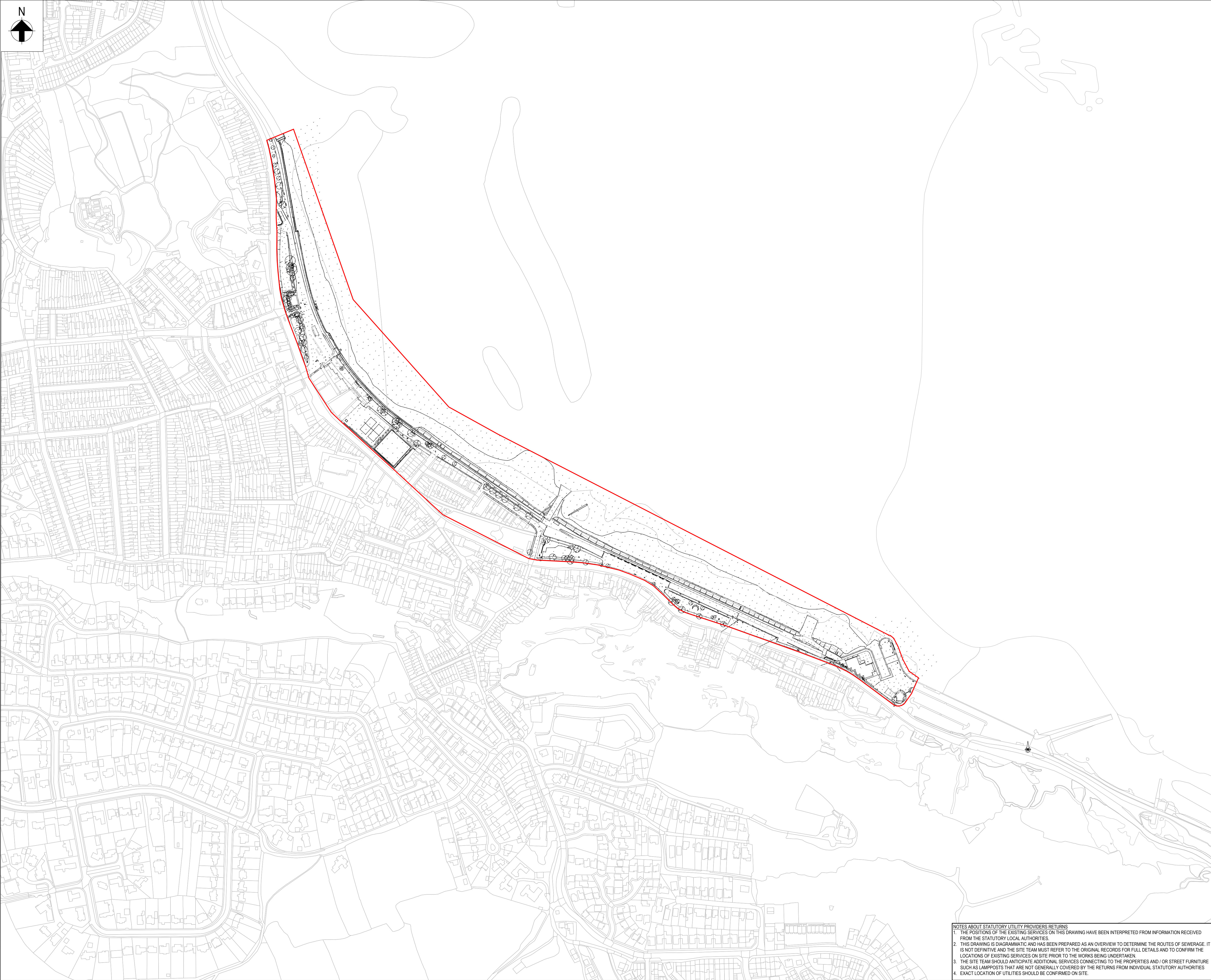
A written schedule of works required for a particular project (by a curator, planning archaeologist or client), set out in sufficient detail to be quantifiable, implemented and monitored. Normally prepared by or agreed with the relevant curator.

Watching brief

An archaeological watching brief is defined as a programme of observation, investigation and recording conducted during any operation carried out for non-archaeological reasons within a specified area or site, where there is a possibility that archaeological deposits may be disturbed or destroyed. The programme of work will result in the preparation of a report and ordered archive.

Welsh Archaeological Trusts

There are four Welsh Archaeological Trusts, Clwyd-Powys, Dyfed, Gwynedd and Glamorgan-Gwent. The Trusts were established between 1974 and 1975 in order to carry out rescue archaeological work in Wales. The Trusts are now divided into Contracts and Curatorial Divisions. They are all charities but are also limited companies.



LEGEND:

STUDY AREA

103050100Metres

Scale 1:2500

P1	13.03.19	TR	FOR INFORMATION	JL	AP	19.03.19
Rev.	Date.	Drawn	Description.	Chkd.	Appd.	Date.

City and County of Swansea
Dinas a Sir Abertawe

Project Name:

MUMBLES PROMENADE

Drawing Title:

LOCATION PLAN

Suitability:

FOR INFORMATION

S2

Originator:

TR

Designer:

JL

Date:

MAR 19

Internal Project Number:

252724

Scale:

1:2500

Rev.

P1

Drawing Number:

00001

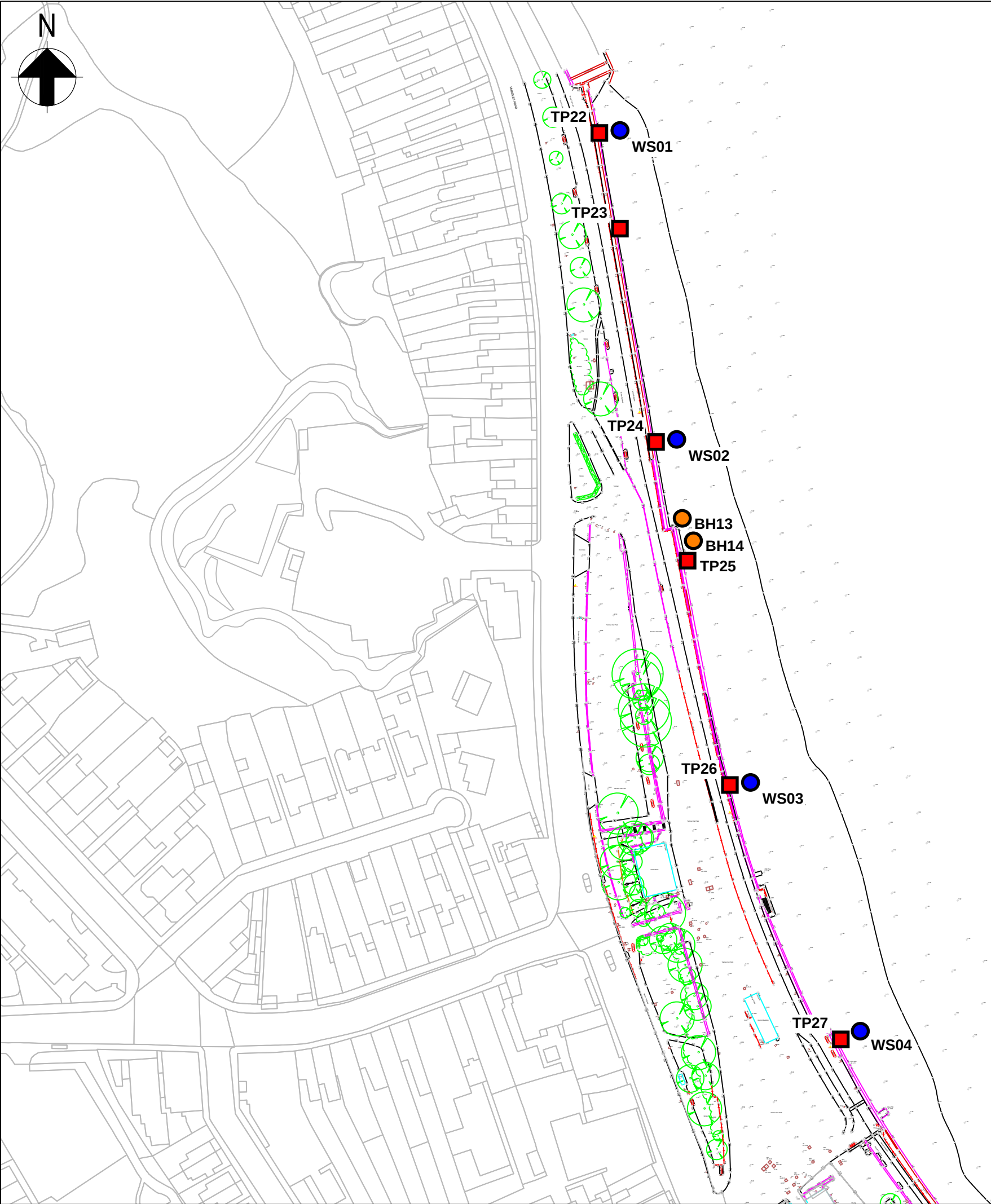
NOTES ABOUT STATUTORY UTILITY PROVIDERS RETURNS

1. THE POSITIONS OF THE EXISTING SERVICES ON THIS DRAWING HAVE BEEN INTERPRETED FROM INFORMATION RECEIVED FROM THE STATUTORY LOCAL AUTHORITIES.

2. THIS DRAWING IS DIAGRAMMATIC AND HAS BEEN PREPARED AS AN OVERVIEW TO DETERMINE THE ROUTES OF SEWERAGE IT IS NOT DEFINITIVE AND THE SITE TEAM MUST REFER TO THE ORIGINAL RECORDS FOR FULL DETAILS AND TO CONFIRM THE LOCATIONS OF EXISTING SERVICES ON SITE PRIOR TO THE WORKS BEING UNDERTAKEN.

3. THE SITE TEAM SHOULD ANTICIPATE ADDITIONAL SERVICES CONNECTING TO THE PROPERTIES AND / OR STREET FURNITURE SUCH AS LAMPPOSTS THAT ARE NOT GENERALLY COVERED BY THE RETURNS FROM INDIVIDUAL STATUTORY AUTHORITIES

4. EXACT LOCATION OF UTILITIES SHOULD BE CONFIRMED ON SITE.



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LEGEND:

Machine excavated trial pit

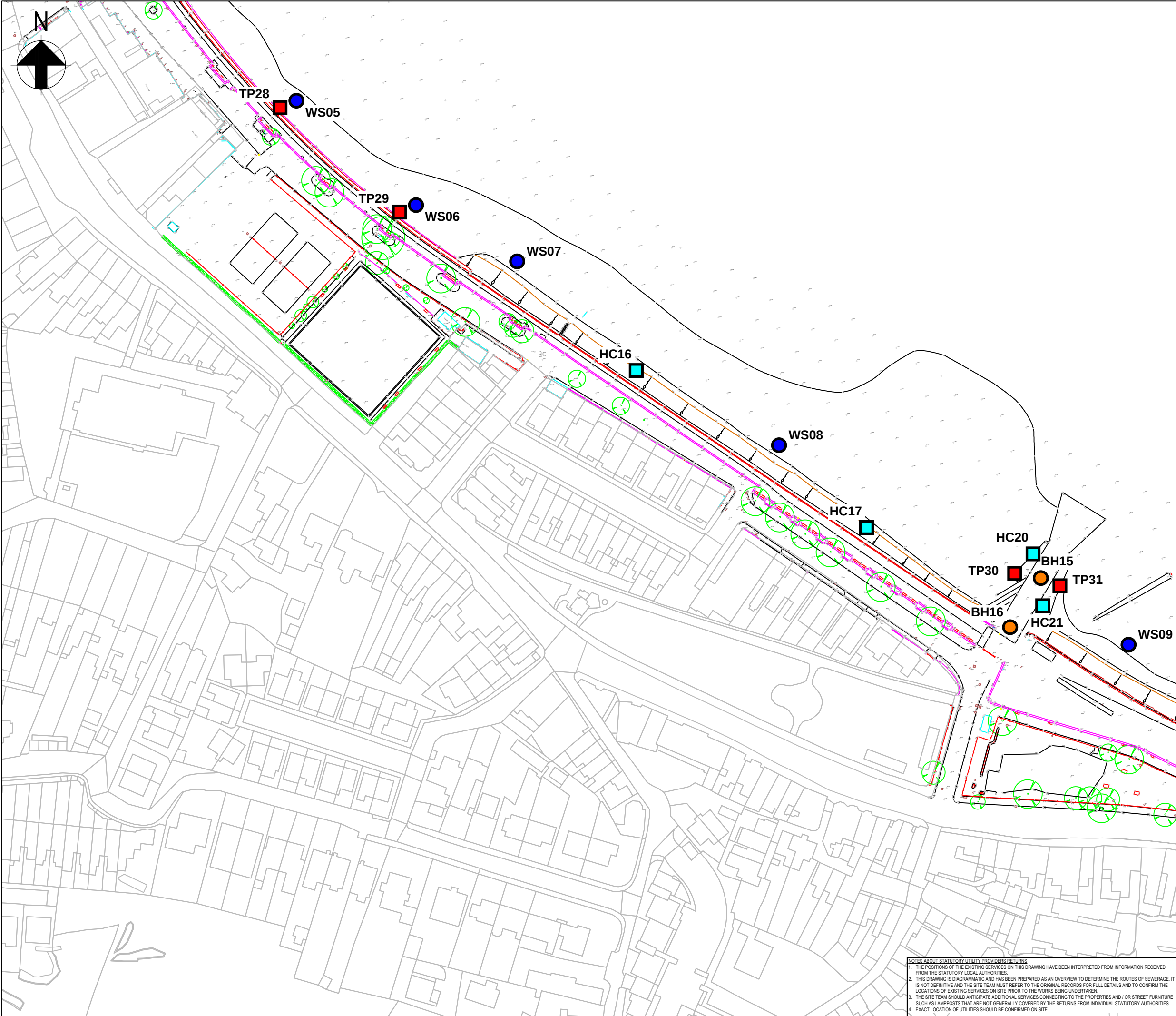
Windowless sampling hole

05102050Metres

Scale 1:1250

P1	06.06.19	TR	FOR INFORMATION	JL	AP	06.06.19
Rev.	Date.	Drawn	Description.	Chkd.	Appd.	Date.
City and County of Swansea Dinas a Sir Abertawe						
Project Name: MUMBLES PROMENADE						
Drawing Title: EXPLORATORY HOLE LOCATION PLAN SHEET 01 OF 04						
Suitability: FOR INFORMATION						Suitability Code: S2
Originator: TR		Designer: JL		Date: MAR 19		
Internal Project Number: 252724		Scale: 1:1250		Rev: P1		
Drawing Number: 00005						

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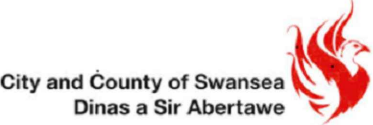
LEGEND:

A3



Scale 1:1250

P1	06.06.19	TR	FOR INFORMATION	JL	AP	06.06.19
Rev.	Date.	Drawn	Description.	Chkd.	Appd.	Date.



Project Name.	MUMBLES PROMENADE
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Drawing Title.	EXPLORATORY HOLE LOCATION PLAN SHEET 02 OF 04
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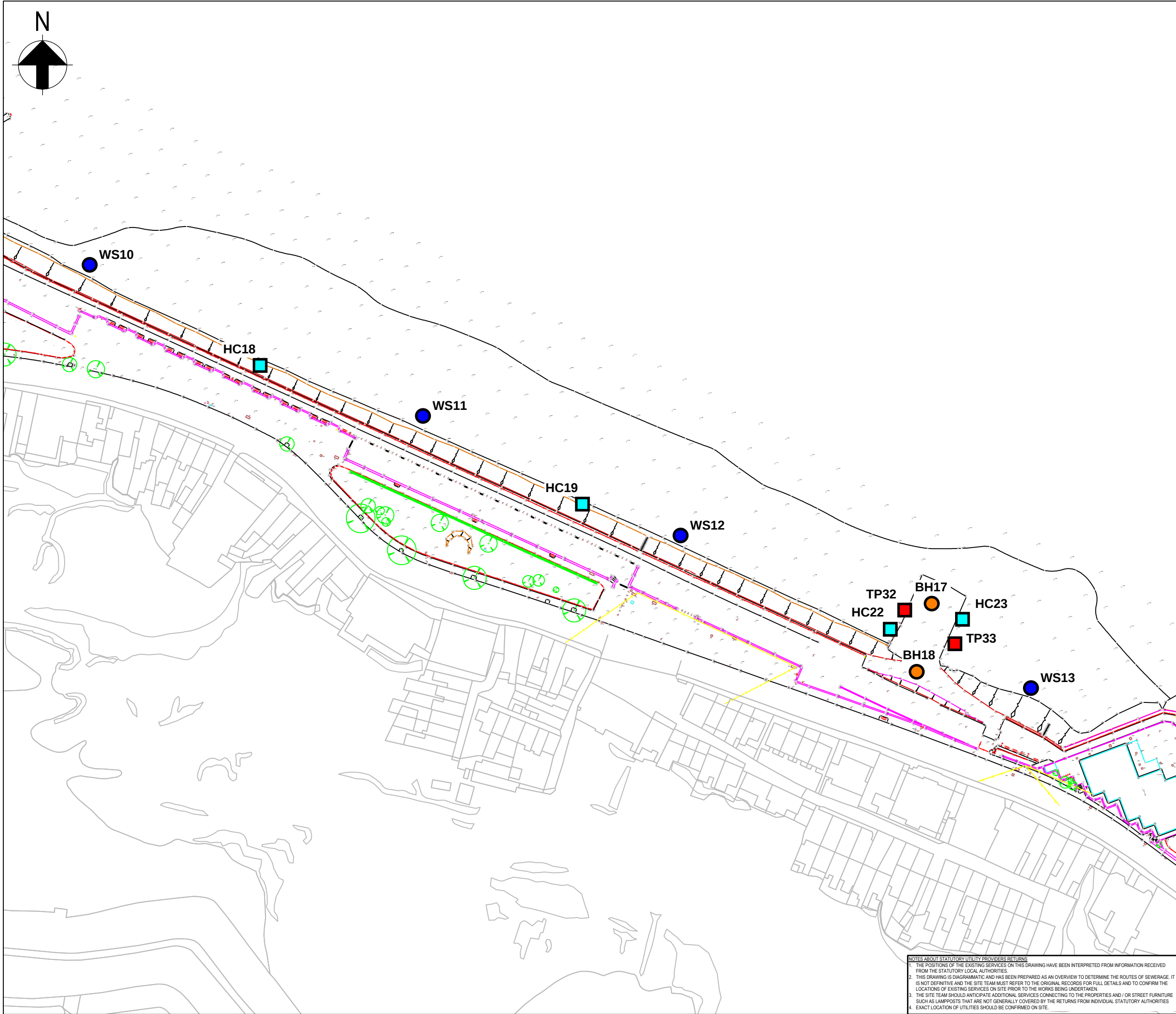
Suitability.	FOR INFORMATION	Suitability Code.	S2
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Originator.	TR	Designer.	JL	Date.	MAR 19
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Internal Project Number.	252724	Scale.	1:1250	Rev.	P1
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Drawing Number.	00006
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NOTES ABOUT STATUTORY UTILITY PROVIDERS RETURNS
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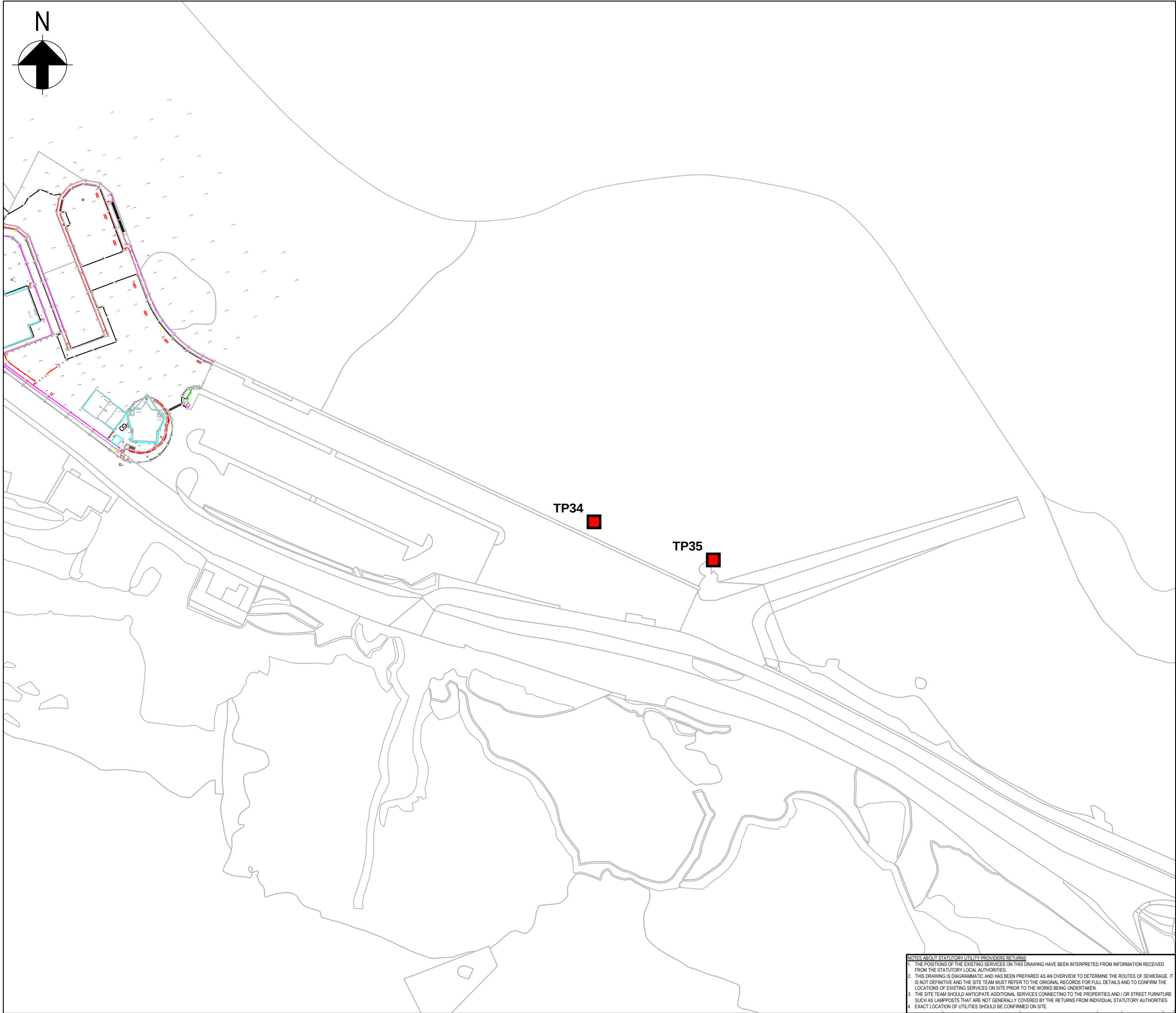
LEGEND:

A3

0 5 10 20 50 Metres
Scale 1:1250

P1	06.06.19	TR	FOR INFORMATION	JL	AP	06.06.19
Rev.	Date.	Drawn	Description.	Chkd.	Appd.	Date.
City and County of Swansea Dinas a Sir Abertawe 						
Project Name.						
MUMBLES PROMENADE						
Drawing Title.						
EXPLORATORY HOLE LOCATION PLAN SHEET 03 OF 04						
Suitability.					Suitability Code.	
FOR INFORMATION					S2	
Originator.		Designer.		Date.		
TR		JL		MAR 19		
Internal Project Number.		Scale.		Rev.		
252724		1:1250		P1		
Drawing Number.						
00007						

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LEGEND:

A3

05102050 Metres

Scale 1:1250

P1	06.06.19	TR	FOR INFORMATION	X	X	06.06.19
Rev.	Date.	Drawn	Description.	Chkd.	Appd.	Date.

City and County of Swansea
Dinas a Sir Abertawe

Project Name.

MUMBLES PROMENADE

Drawing Title.

EXPLORATORY HOLE LOCATION PLAN
SHEET 04 of 04

Suitability.			Suitability Code.
FOR INFORMATION			S2

Originator.	Designer.	Date.
TR	JL	13.03.19

Internal Project Number.	Scale.	Rev.
252724	1:1250	P1

Drawing Number.

00008

NOTES ABOUT STATUTORY UTILITY PROVIDERS RETURNS

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**Glamorgan-Gwent
Archaeological Trust Ltd
(Projects Department)**



QUALITY CONTROL

Report Title: Mumbles Coastal Protection Project, Swansea: archaeological written scheme of investigation

Report Date: August 2019

Report Number: 2019/042

Report prepared by: Johnny Crawford

Position: Assistant Project Manager

Date: 21/08/2019

Illustrations prepared by: N/A

Position: N/A

Date: N/A

Report checked and authorised by: Martin Tuck

Position: Senior Project Manager

Date: 27/08/2019

As part of our desire to provide a quality service we would welcome any comments you may wish to make on the content or presentation of this report.