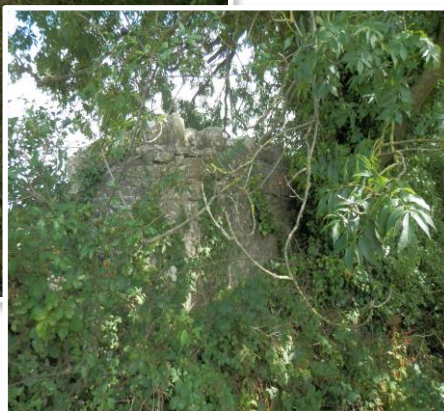


Bro Tathan Utilities Upgrade

784-B048494

Written Scheme of Investigation, Trial Trench Evaluation and Earthwork Survey



First Issue

Welsh Government

August 2023

Document prepared on behalf of Tetra Tech Limited. Registered in England number:
01959704



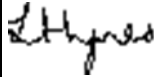


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DOCUMENT CONTROL

Document:	Written Scheme of Investigation, Trial Trench Evaluation and Earthwork Survey
Project:	Bro Tathan Utilities Upgrade
Client:	Welsh Government
Project Number:	784-B048494
File Origin:	Tt WSI Trial Trench Eval and Earthwork Survey 31Jul23xtc.docx

Revision:	0	Prepared by:	Lauren Hynes (PCIfA) Archaeological Consultant 
Date:	August 2023	Checked by:	Paul Tubb, Senior Archaeological Consultant 
Status:	Issue	Approved By:	Martin Brown (MCIfA), Associate 
Description of Revision:			

Revision:		Prepared by:	
Date:		Checked by:	
Status:		Approved By:	
Description of Revision:			

Revision:		Prepared by:	
Date:		Checked by:	
Status:		Approved By:	
Description of Revision:			

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ACRONYMS/ABBREVIATIONS

Acronyms/Abbreviations	Definition
DBA	Desk-Based Assessment
HER	Historic Environment Record
LiDAR	Laser Imaging, Detection and Ranging
OSGB NGR	Ordnance Survey National Grid reference system
aOD	Ordnance Datum

1.0 INTRODUCTION

Archaeological evaluation and an earthwork survey is required in relation to Scheduled Monument Consent for the proposed works at West Orchard Manor House (GM083, 13th July 2023). This has been requested by Cadw in advance of the provision of above and below ground utilities, associated infrastructure and reprofiling of land.

The results of the two surveys will form the basis of recommendations for archaeological mitigation or further evaluation, as required.

This Written Scheme of Investigation (WSI) for the trial trenched evaluation and earthwork survey has been prepared by Tetra Tech, on behalf of Welsh Ministers. This WSI has been prepared in accordance with the guidelines and standards set out by the Chartered Institute for Archaeologists (CIfA) (2014a, 2014b). A further Method Statement will be requested from the appointed sub-contractor in advance of works for approval by Cadw. This WSI should be read in conjunction with the Archaeological and Scoping Method Statement (2023) prepared by Tetra Tech.

This document covers the above site only and relates only to the above requirement pertaining to the site in question. It does not address the archaeological requirements for subsequent development in further areas or phases.

Site Description

The proposed site of archaeological evaluation is located in Bro Tathan, Y De (South), which contains the rotary zone, Batslays, West Orchard and Beggar's Pound, and St Athan Golf Club. Y De (South) includes approximately 21.96 hectares, and is centred on grid reference ST 00152 68137, ranging from approximately 37m above Ordnance Datum (aOD) to 49m aOD. West Orchard Manor House (GM083) in particular, comprises the remains of a medieval manor house and is located to the south-west of West Orchard Area of Y De South (GM083). The monument consists of a roughly rectangular area of turf covered in banks and mounds, with some traces of walls visible across the north of the eastern side of the monument.

The geology of the application sites comprises of Porthkerry Member, Limestone and Mudstone, Interbedded, a sedimentary bedrock formed approximately 191 to 201 million years ago in the Jurassic Period. It is noted that the local environment was previously dominated by shallow lime-mud seas (NERC, 2023). The application sites consist of freely draining slightly acid but base-rich soils (Soilscape 7) (Cranfield University, 2023)

A site location plan, and overall site location plan of Bro Tathan can be seen in Appendix A.

2.0 ARCHAEOLOGICAL BACKGROUND

The archaeological and historical background of the site was fully assessed in a desk-based assessment (DBA) undertaken by Tetra Tech (Tetra Tech, 2021), as well as several separate DBA's focusing on specific areas within Bro Tathan. The reports are summarised below.

The archaeological and historical background of the site was fully assessed in a desk-based assessment (DBA) undertaken by Tetra Tech (Tetra Tech, 2021). The DBA is summarised as follows.

5.1 DESIGNATED HERITAGE ASSETS

A study area of 1km around the application site has previously been examined to assess the nature of the surrounding cultural heritage sites and to place the recorded sites within their context. There are no World Heritage Sites, Registered Battlefields nor, Registered Parks and Gardens; however, there are three Scheduled Monuments, two Conservation Areas and, twenty-three Listed Buildings (one Grade I, four Grade II*, with the remainder being Grade II listed) that are located within the study area. Details of the designated heritage assets can be seen in Appendix E and their locations in relation to the proposed routes for utilities are shown on Figure 2. Bracketed numbers within the text refer to the identifiers on Figure 2 in Appendix B.

The West Orchard Manor House Scheduled Monument (GM083) is the only designated asset that lies along the proposed route of the utilities and services installation. This asset includes the remains of a medieval manor house with national importance due to its potential to enhance the archaeological record with knowledge of medieval secular architecture in Wales. It is suggested that the remains may yield information that relate to historic building techniques and the chronology of the site and its surrounding area (Cadw, 2023). Further engagement with Jonathon Berry at Cadw has suggested that the presence of standing earthworks noted by the scheduling designation requires identification and surveying.

5.2 NON-DESIGNATED HERITAGE ASSETS

The Glamorgan-Gwent Archaeological Trust HER indicates the presence of 134 recorded archaeological monuments and findspots, as well as 40 archaeological events within the 1km study area. The details of non-designated assets can be seen in Appendix B, Figure 3. There are no non-designated assets lying along the proposed route of the utilities and services installation. However, there are a number of archaeological assets situated in close relation to the proposed development. This includes; a post-medieval Former Rectory (GGAT05129s), possible medieval Grave Cuts (GGAT05127s), medieval Eglwys Brewis Churchyard (GGAT3730s), medieval Coin Hoard Findspot (GGAT00482s), Eglwys Brewis Farm and Garden (GGAT05130s) and a post-medieval Cremation all located centrally to the northern boundary with Northern Access Road. Additionally, a Bronze Age Round Barrow (GGAT05478s) to the north-north east, Batslays Farmhouse (GGAT06201s) and a World War II Pillbox (GGAT02042s) to the south-west, as well as the boundary walls for Bethesda'r Fro Chapel that are located to the north-west.

5.3 PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS AND EVALUATION RESULTS

There have been a number of previous archaeological evaluations within areas of the proposed route. This consists of a site-wide geophysical survey undertaken by the MOD in 2008, as well as focused geophysical surveys in Eglwys Brewis (West) (Headland Archaeology, 2019a), Beggars Pound (2020), Bro Tathan North (Headland Archaeology, 2022) and Bro Tathan East (SUMO, 2022). Additionally, archaeological evaluation in the form of trial trenching has taken place in Batslays (Cotswold Archaeology, 2008a), Beggars Pound (Cotswold Archaeology, 2008b), in Batslays/ close to the Church of St Brise (Wessex Archaeology, 2009), St John's Well (Headland Archaeology, 2010), Eglwys Brewis (West) (Headland Archaeology, 2019b) and in Bro

Tathan East (Red River Archaeology, 2023). Additionally, a Desk-Based Assessment to consider the St Athan Northern Access Road was undertaken in 2017 (AECOM).

3.0 AIM AND OBJECTIVES

3.1 PRINCIPAL AIM

The principal aim of the WSI is to deliver appropriate archaeological mitigation of adverse effects on the Scheduled Monument at West Orchard Manor, as a result of the consented works.

3.2 ARCHAEOLOGICAL EXCAVATION

The aim of the archaeological excavations is to identify and record any features of archaeological interest within specific areas likely to be impacted by the proposed and consented works. This programme of works will result in the preparation of a report and an ordered archive.

The specific objectives of the archaeological excavations will be to:

- Identify archaeological features and deposits of interest;
- Excavate, record and sample any identified archaeological features and deposits to a level appropriate to their extent and significance;
- Undertake sufficient post-excavation analysis to confidently interpret archaeological features and phasing identified during site works;
- Undertake sufficient post-excavation analysis of artefacts and samples to interpret their significance;
- Report the results of any field investigations and subsequent post-excavation analysis and place these results within their local and regional context; and
- Compile and deposit a site archive at a suitable repository.

Further mitigation, if required, will likely take the form of archaeological monitoring during groundworks, design measures to enable preservation in situ.

3.3 ARCHAEOLOGICAL EARTHWORKS SURVEY

The specific aims of the earthwork survey will be to:

- Identify and record any standing earthworks onsite;
- Understand the likelihood of impact by the proposed utilities installation and any temporary works associated with the excavation;
- Ensure that the proposed utilities trench avoids identified earthworks;
- Ensure that supporting works for the utilities trench (vehicle/plant movements, stockpiles etc);

- Report the results of any field investigations and subsequent analysis and interpretation of surveyed features to Level 3;
- Compile and deposit a site archive at a suitable repository; and
- The results of the earthwork survey, as well as the trial trenching results, will be utilised to inform post-consent mitigation strategies in relation to the installation of the proposed utilities.

4.0 EXCAVATION METHODOLOGY

The works outlined in this WSI include a single phase of excavation “*along the entire footprint of the utility service trench... to its formation level*” to identify and record the character and depth of any underlying archaeological evidence and understand the potential impact of the utility installation on such archaeology. This area measures approximately 164m in length with several utilities extending westwards, measuring approximately 6.01m, 8.6m, 8.9m, 11m and 12.6m in length. The utilities trenches are suggested to be no more than 2m in width. All proposed areas of utilities services will be excavated. See Section 5 for the full methodology.

A trench plan can be seen in Appendix B.

The works will also comprise an archaeological earthwork survey described within the Scheduled Monument Listing (Cadw, 2023). This survey will determine the extent, form, date, condition, and significance of any surviving archaeological earthworks. See Section 5 for the full methodology.

All appropriate groundwork will be carried out under the supervision of a suitably experienced archaeologist and archaeological features will be investigated in line with the methodology outlined below. The archaeological contractor will be responsible for identifying the locations of evaluation trenches in accordance with this Written Scheme of Investigation and set out on using a Survey Graded GPS system. The final locations of the trenches are anticipated to be confirmed on site with factors such as the location of previously unknown services and ground conditions influencing the location of evaluation trenches.

5.0 EXCAVATION STRATEGY

Excavation and Sampling Strategy

All works will be undertaken in accordance with the methodology set out below and in compliance with the standards outlined in the Chartered Institute for Archaeologists Standard and Guidance for Archaeological Excavation (2014).

The archaeological contractor will be responsible for the fencing and signage of open trenches and spoil heaps during the project. The archaeological contractor must provide or ensure there are suitable welfare facilities available.

Services location plans have been obtained from the client, identifying buried services. Service location plans should not be taken as exhaustive and appropriate precautions should be adopted with regard to potentially unmapped services. The trenches must be scanned by an archaeologist trained in the use of a cable avoidance tool prior to excavation commencing.

Overburden and subsoils will be stripped mechanically using an appropriately sized excavator fitted with a toothless grading bucket. All machining will stop at the first significant archaeological horizon, or natural substrate where no archaeology is present. The topsoil and subsoil will be separated and stockpiled at a safe working distance from the trench sides. Where there are compacted modern, made ground deposits which cannot be removed with a flat-bladed bucket, a toothed bucket may be used, with excavation reverting to a flat-bladed bucket as soon as practicable.

The archaeological contractor will be required to shore or step excavation areas as appropriate to allow the aims of the evaluation to be achieved without compromising health and safety. The archaeological contractor may be required to use a water pump in the event of flooded trenches.

A sufficient sample of any archaeological features and deposits revealed will be hand excavated in an archaeologically controlled and stratigraphic manner, in order to establish their extent, form, date, function and relationship to other features. Excavation and sampling strategies will be proportionate to the archaeological significance of the features identified and be sufficient to mitigate harm to the archaeological record and reasonably record and characterise features.

The following sampling strategy is recommended, however, should the archaeologist on site believe that this should be varied due to the specific circumstances of the identified remains then they should contact Tetra Tech to resolve the issue in line with the contingency procedure in the Strategy Review:

- 50% of all intrusive, non-structural features (pits, isolated postholes). Up to 50% (by number) to be then fully excavated following assessment;
- 10% of each linear feature's exposed area, plus all terminals and intersections to define relationships;
- 50% of structural features (beam slots, ring ditches), 75% investigation of debris areas, collapsed structures, walls. All structurally associated postholes to be 1/2 sectioned then fully excavated;
- Built structures, such as walls, will be examined and sampled to a degree whereby their extent, form, date, function and relationship to other features and deposits can be established;
- 50% domestic/industrial working features (hearths, ovens). Such features are to be sampled for archaeomagnetic dating as standard if appropriate (this applies to any in-situ burnt features unless agreed otherwise following on site discussion); and

These percentages should be used as a guide and taken on a feature-by-feature basis.

All artefacts will be retained for processing except for unstratified 20th century material which will be noted and discarded. Suitable samples for dating should be taken if encountered during the investigation. All

retained artefacts shall be removed from site for specialist examination and analysis and, if deemed necessary, conservation. Cleaning of objects may take place on site, or upon removal as is deemed appropriate. All recording, cleaning, storage and conservation of finds will be in accordance with the Chartered Institute for Archaeologists Standards and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials (2014) and Watkinson and Neal (1997).

Human Remains and Treasure

If human remains are encountered, their excavation and lifting will be undertaken under licence from the Ministry of Justice and comply with the requirements of the 1857 Burial Act. A Department for Justice License will need to be obtained prior to the removal of the remains and provision shall be made for the specialist reports on the remains by a recognised osteoarchaeologist. The need for a Ministry of Justice Licence applies to both inhumation and cremated remains.

The terms of the Treasure Act 1996 will be followed as regards to any finds that might fall within its purview. Any finds must be removed and to a safe place and reported to the local coroner as required by the procedures as laid down in the Treasure Act Code of Practice 2002. Where removal cannot be on the same working day as the discovery, suitable security measures must be taken to protect the find(s) from theft. Objects defined as treasure under the Act, must be reported to the local coroner.

Environmental Sampling Strategy

Due consideration should be given to the potential for further information to be gained through specialist environmental analysis of deposits, or the application of scientific techniques to the study of artefacts. Samples for specialist environmental analysis and scientific dating (soil profiles, archaeomagnetic dating, dendrochronology etc.) should be taken if suitable material is encountered during the excavation although analysis is likely to take place as part of a final mitigation strategy.

Where deposits of potential palaeoenvironmental importance are identified, a recognised environmental specialist should visit site to advise on an appropriate sampling strategy to be implemented; an indicative sampling strategy is present in section 5.3-5.5 with a standard bulk sample size of 20 litres anticipated, depending on the size of the feature. The analyses to be considered should include soil pollen analysis, charred plant macrofossils and land molluscs from cut features and dry land palaeosols, faunal remains, especially small mammals and fish and soil micromorphology. Deposits which are identified as having the potential for the survival of biological remains should be sampled. Bulk samples must be taken from all securely stratified deposits using a strategy which combines systematic and judgement sampling, but which follows good practice guidance. Historic England's Environmental Archaeology: a Guide to the Theory and Practice of Method, from Sampling and Recovery to Post-excavation (Second Edition) should also be adhered to (Historic England, 2011).

Contingencies and Unexpected Significant or Complex Discoveries

Should unexpectedly extensive or complex archaeological remains be uncovered; work will cease in the immediate area and the scope of the project design should be reviewed to determine the most appropriate recording and sampling strategy. Should this be required, the locations and extent of additional excavation will be agreed by all parties on site.

In the event of a review of the written scheme of investigation being required, the contractor will urgently contact the client or their consultant (if applicable) with the relevant information to enable them to resolve the matter with the client, Burroughs, as their agent, and Cadw. This will require an on-site meeting between the relevant stakeholders to review the archaeological remains on site and identify a way forward.

Any variations to the written scheme of investigation will be put in writing and agreed by the relevant stakeholders including the client and the contractor.

Strategy Review

The strategy will be held under continuous review during on-site archaeological monitoring. Should the strategy be considered unsuitable by the contractor, then an alternative strategy will be proposed. This strategy will be communicated to the client in the first instance and agreed by all parties subject to the procedure in the above sections.

6.0 EARTHWORK SURVEY METHODOLOGY

Engagement with Dr Jonathan Berry of Cadw indicates that earthworks “*will need to be identified and surveyed, so that the utility trench avoids them, and so that the temporary works associated with the excavation avoids them as well*”. The works will also comprise an archaeological earthwork survey described within the Scheduled Monument Listing (Cadw, 2023). This survey will determine the extent, form, date, condition, and significance of any surviving archaeological earthworks.

Fieldwork Methodology and Archaeological Recording

The route of the proposed utilities installation will be pre-mapped, and the surveyors will follow this route while using a handheld GPS and undertaking a measured survey in order to identify any earthworks. The location of earthworks will be plotted using the handheld GPS and the features should be photographed and described in accordance with Historic England’s Level 2.

It is proposed that the earthworks will, thereafter, be surveyed in line with Historic England’s *Understanding the Archaeology of Landscapes: A Guide to Good Recording Practice* (Second Edition) (2017) at Level 2, with additional elements of Level 3 to address the questions posed by Cadw. This will include:

- The Core Monument Record;
- Written Account: Items 1-5, 8-12
- Survey Drawings: Items 13-14 and 18, as well as;
 - i. Accurate cartographic location and extent of the monument(s) at scales of 1:10,000 and 1:2,500;
 - ii. Site Hachure Plan at a scale of up to 1:2,500;
- Digital Photography of earthworks identified;
- The location of earthworks using a combination of GNSS and measured survey and;

- Interpretation of the potential impact of the proposed development and associated works on present archaeology and the provision of recommendations and conclusions to inform post-consent mitigation.

The locations of all identified earthworks will be surveyed in order to record their location within the Ordnance Survey National Grid. Heights shall be recorded in reference to Ordnance Datum.

The archaeological features and earthworks will be photographed using an SLR camera to visually record the remains, as well as their condition. A photographic register should be taken and read in conjunction with all reports.

7.0 POST-EXCAVATION, REPORTING AND ARCHIVING

Post-excavation

Upon completion of fieldwork, all retained artefacts will be assessed and recorded using pro forma recording sheets, by suitably qualified and experienced staff. Initial artefact dating will be integrated with the site matrix (finds of 19th and 20th century date should be noted, quantified, and summarily described, but can then be discarded if appropriate). The potential for further analysis of artefacts will be assessed.

All retained environmental samples will be processed by suitably experienced and qualified staff and recorded using pro forma recording sheets, to identify at this stage the presence or absence of environmental remains and the potential for further analysis.

Reporting

Archaeological Excavation

A preliminary report on the excavation shall be required within one week of the completion of the fieldwork. This will comprise a written summary of any key findings of the exercise and initial interpretation of the any remains encountered and their potential significance. This report will be supported by drawings and photographs as necessary.

A full report on the excavation shall be required within four weeks of the completion of the fieldwork, unless there are significantly complex remains. The report shall be prepared in accordance with ClfA guidelines. As a minimum the report shall contain the following information:

- A title page, with the name of the project, the name of the contractor and author(s) of the report, the title of the report and date of the report and grid reference;
- A non-technical summary of the findings;
- A description of and a background to the nature of the works, including dates of fieldwork;
- A brief description of the site location (including grid references) and any previously known archaeology in the survey area;
- Description of the methodology employed and explanation of any agreed variations to the brief and justification for any analyses not undertaken;

- The results of the excavations identified by location including post-excavation analysis of the stratigraphic and other written, drawn and photographic records;
- A catalogue and brief post-excavation analysis of each category of artefact recovered during excavation and the results of biological samples, including the potential for further analysis;
- Discussion of the excavation results including site phasing and interpretation and discussion of the results within the local and regional context;
- A summary of the contents of the project archive and its location;
- References and bibliography of all sources used; and
- An appendix containing a list and summary descriptions of all contexts recorded.

The report will be supported by an overall plan of any archaeological remains, indicating the location of archaeological features and individual plans of features or groups as excavated, with supporting section drawings where appropriate.

The report will be supported by general site photographs to place the area and any archaeological features encountered within context. The report will also include colour photographs of any identified archaeological features and artefacts.

The report will outline the archaeological significance of any deposits identified. The report will provide an interpretation of the results in relation to other sites in the region and make reference to other known archaeological sites in the close vicinity of the site. Once any further phases of archaeological excavation or monitoring have been completed, all post-excavation data will be drawn together and a more complete, single synthesis report will be produced for works across the entire site.

Archaeological Earthwork Recording

The report will be prepared to a standard appropriate for Level 2 survey and in accordance with Section 10 “Survey Products” of Historic England’s guide (Historic England, 2017: 36-39), up to and including Item 5 on the List of Survey Products (Op. cit:39). The report should also present sufficient detail and information to meet the requirements set out by Cadw in Section 6 (above).

Common Requirements

A copy of each draft archaeological report should be submitted to Tetra Tech and Cadw for approval within eight weeks of the archaeological fieldwork being completed.

Copies of both final reports should be produced and submitted to:

- Tetra Tech (digital copies, report and data);
- Glamorgan-Gwent Historic Environment Record (HER) in PDF;
- Royal Commission on the Ancient and Historical Monuments of Wales’s National Monuments Record for Wales and;

- Digital GIS shapefiles format files of the survey results should also be made available to the Glamorgan-Gwent HER.

Archive deposition

The archaeological contractor should liaise with National Museum, Wales to establish the detailed requirements of the museum and discuss archive transfer in advance of fieldwork commencing. It is recommended that the specific requirements of the museum are confirmed with the curator prior to deposition.

The archive will be prepared in accordance with the guidelines published in Brown (2007), *Archaeological Archives a Guide to Best Practice in Creation, Compilation, Transfer and Curation*, and ClfA (2014) *Standard and Guidance for the Creation, Compilation, Transfer*, as well as *The National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales* (2017) and should adhere to the requirements of the National Museum. Any digital data arising from the project should also be undertaken in a manner consistent with professional standards and guidance (Richards and Robinson, 2000). The *Guidance for the Submission of Data to the Welsh Historic Environment Records* (HERs) (2022) should also be adhered to. A digital copy of the archive should be sent to the Royal Commission on the Ancient and Historical Monuments of Wales and should adhere to their guidelines RCAHMW Guidelines for Digital Archives (2015).

The archaeological contractor should also liaise with the HER Officer, to make arrangements for digital information arising from the project to be submitted to the Glamorgan-Gwent Archaeological Trust HER for HER enhancement purposes and the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW). This should include the submission of all digital data generated, which may include but may not be limited to: CAD files, GIS files, evaluation results and photographs. All digitised survey information should be geo-referenced to the Ordnance Survey and should also be provided to the client.

Data Management Plan

The selected contractor will prepare and present a data management plan for the project. It will include a commitment to create an OASIS record and to upload relevant reports to the Archaeological Data Service.

Publication

If the archaeological fieldwork produces particularly significant results that would merit publication, allowance should be made for the provision and publication of a summary of the results in a local or national journal, as appropriate and subject to the agreement of the client.

8.0 CONTRACTOR AND STAFFING

A specialist archaeological contractor will be tendered via the Sell2Wales platform. The appointed contractor will be approved by Cadw to undertake the evaluation and reporting. The appointed contractor will be a Registered Organisation with ClfA. The project will be under the overall control of an appropriately qualified and experienced Project Manager.

9.0 HEALTH AND SAFETY

Health and Safety concerns will always take priority over archaeological matters. All archaeologists undertaking fieldwork must comply with all Health and Safety Legislation. All archaeologists or archaeological organisations undertaking the fieldwork should ensure that they, or any proposed sub-contractors, are appropriately qualified and adequately insured to undertake such projects.

10.0 MONITORING

The works are anticipated to take place in September 2023. Further details of the proposed programme and estimated time-frame will be discussed within the Method Statement.

A programme for monitoring the fieldwork will be agreed in advance of the commencement of fieldwork. Cadw and the Glamorgan-Gwent Historic Environment Record Officer will receive as much notice as possible of the intention to start fieldwork confirmed in writing.

The representatives of GGAT, Cadw and Tetra Tech will be afforded access to the site at any reasonable time. The representative will be provided with a site tour and an overview of the site by the senior archaeologist present and should be afforded the opportunity to view all open areas, any finds made that are still on site, and any records not in immediate use.

11.0 COPYRIGHT

Under the Copyright, Designs and Patents Act 1988, all material and supporting data generated by this contract shall be passed to the client unless and except where such material or data is existing material or data acquired from a third party. In the latter case, the contractor will supply details of data sources, a description of what the data shows, the terms under which the material or data was acquired, and wherever possible, a contact name and address.

Copyright in the documentation prepared by the archaeological contractor and any specialist sub-contractors should be the subject of additional licences in favour of the repository accepting the archive and Glamorgan-Gwent Archaeological Trust to use such documentation for their statutory and educational functions, and to provide copies to third parties as an incidental to such functions.

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 archaeological contractor 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.

12.0 RESOLUTION OF ISSUES

In the event of issues arising regarding the implementation of this specification or the scope of the excavation, these will be resolved in the first instance by contacting Tetra Tech who will facilitate a resolution through contact with the key stakeholders. Should the issue not be resolved remotely, a meeting will be held between key stakeholders to facilitate discussion of the issues and identification of a suitable strategy to be agreed by all parties.

In the event of any dispute arising out of this Agreement (including those considered as such by only one of the parties) either party may forthwith give to the other notice in writing of such a dispute or difference and the same shall be and is hereby referred for 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 this Agreement (Chartered Institute for Archaeologists, 2019).

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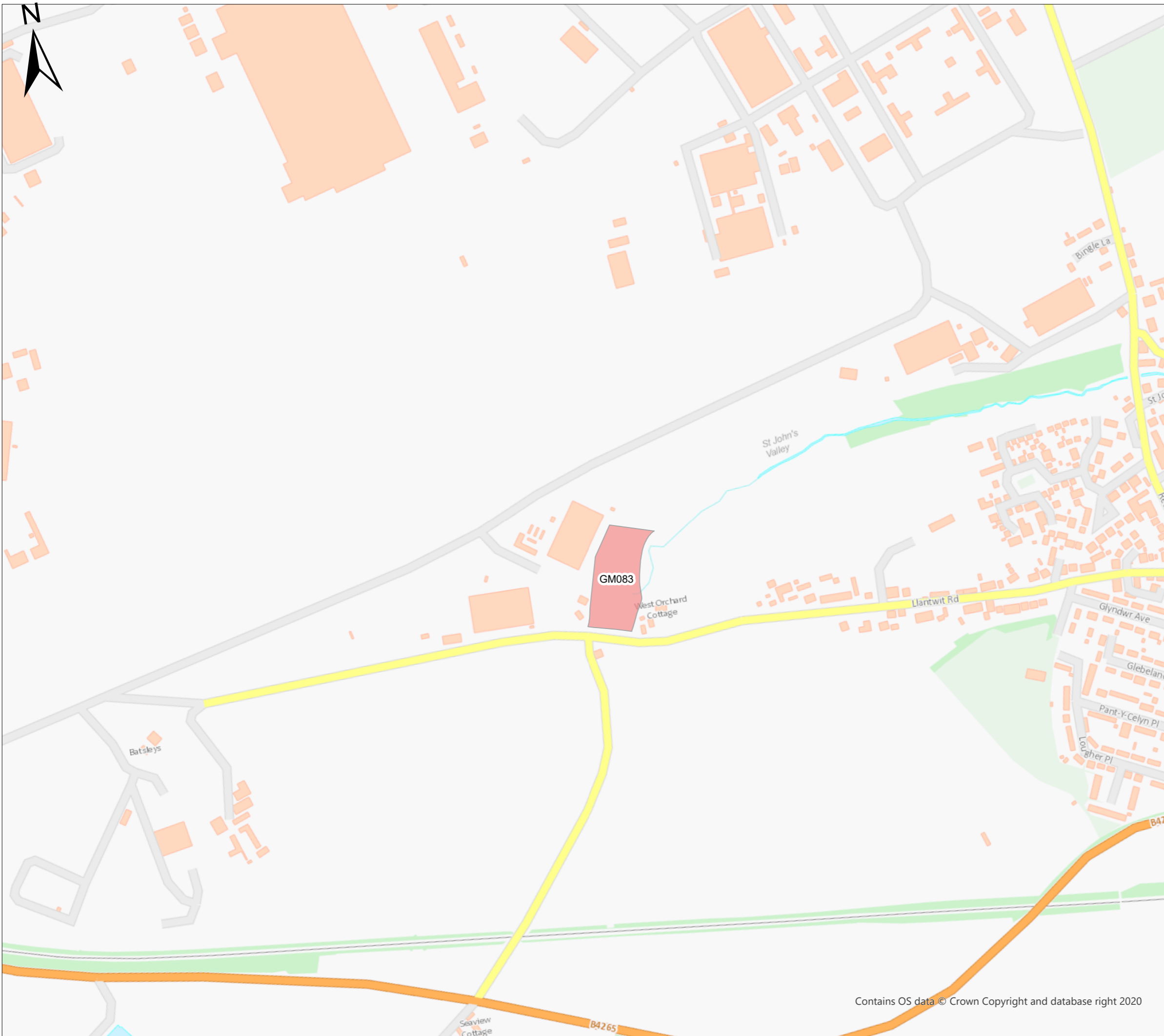
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APPENDICES

APPENDIX A – SITE LOCATION PLAN



Scheduled_Monuments

0 40 80 160 240 320 400
Metres

LH Created:	MB Checked:	August 2023 Date:	V1 Version:
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TETRA TECH

Sheet Size: **A3** Scale of Original: **1:5,695**

Client: **Welsh Ministers**

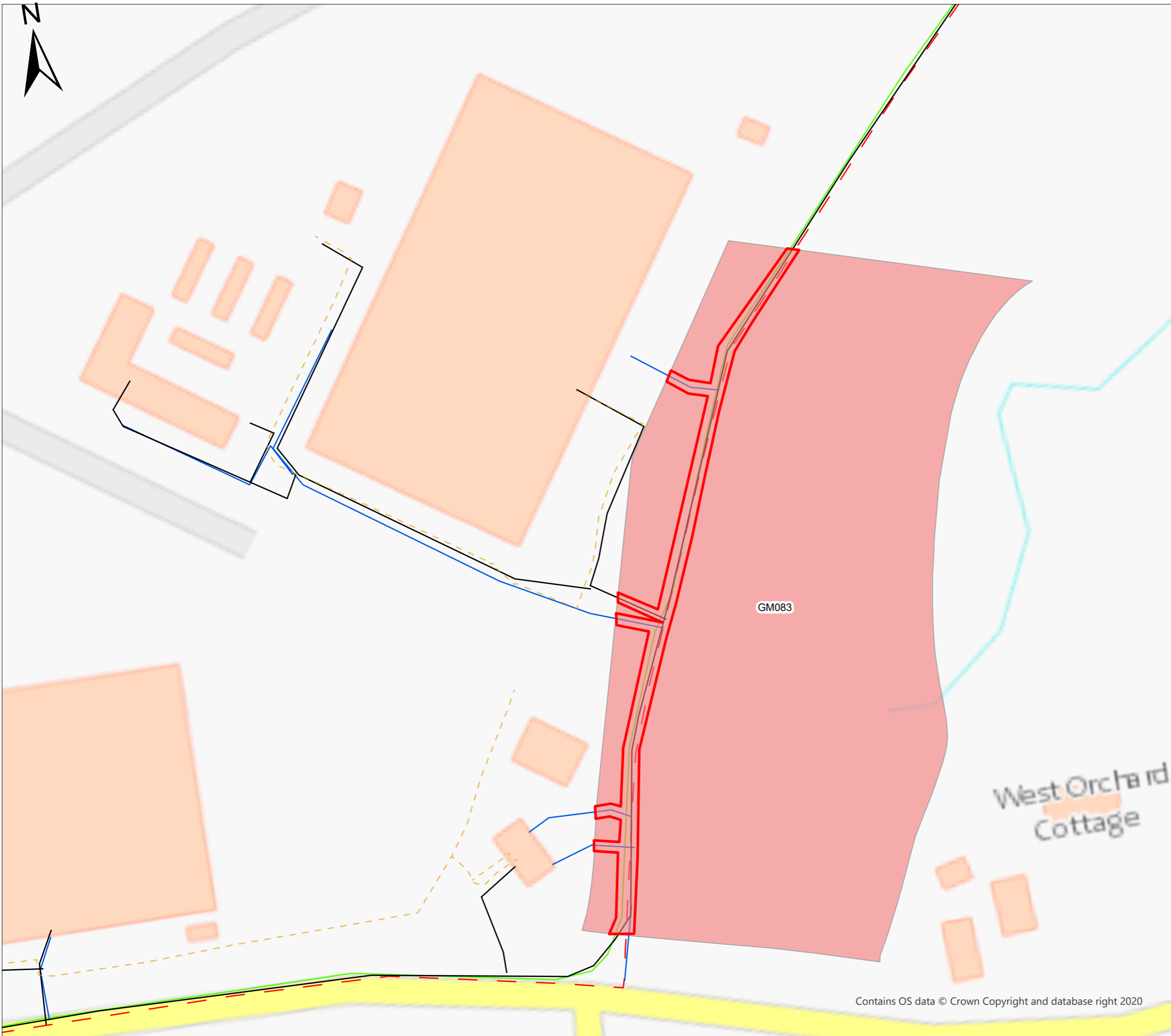
Project: **Bro Tathan Utilities Upgrade**

Title: **Site Location Plan**

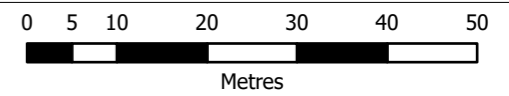
Office: 4154	Project No: 784-B048494	Figure No: 1
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APPENDIX B – TRENCH LOCATION PLAN AND SERVICE PLANS



- Trench
- Scheduled Monuments
- Proposed Low Voltage Cable Network
- Proposed Spare Ducting Network
- Proposed Potable Water Network
- Proposed High Voltage
- Proposed Comms
- Proposed Foul Water
- Proposed Gas Network
- Proposed Substation



LH Created:	MB Checked:	August 2023 Date:	v1 Version:
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Client: **Welsh Ministers**

Project: **Bro Tathan Utilities Upgrade**

Title: **Trench Plan**

Office: 4154	Project No: 784-B048494	Figure No: 2
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APPENDIX C – REPORT CONDITIONS

Written Scheme of Investigation, Bro Tathan Utilities Project

This report is produced solely for the benefit of Welsh Government (the Client) and no liability is accepted for any reliance placed on it by any other party unless specifically agreed by us in writing.

This report is prepared for the proposed uses stated in the report and should not be relied upon for other purposes unless specifically agreed by us in writing. In time technological advances, improved practices, fresh information or amended legislation may necessitate a re-assessment. Opinions and information provided in this report are on the basis of Tetra Tech using reasonable skill and care in the preparation of the report.

This report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times.

This report is limited to those aspects reported on, within the scope and limits agreed with the client under our appointment. It is necessarily restricted and no liability is accepted for any other aspect. It is based on the information sources indicated in the report. Some of the opinions are based on unconfirmed data and information and are presented accordingly within the scope for this report.

Reliance has been placed on the documents and information supplied to Tetra Tech by others, no independent verification of these has been made by Tetra Tech and no warranty is given on them. No liability is accepted or warranty given in relation to the performance, reliability, standing etc of any products, services, organisations or companies referred to in this report.

Whilst reasonable skill and care have been used, no investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal, budget and weather related conditions.

Although care is taken to select monitoring and survey periods that are typical of the environmental conditions being measured, within the overall reporting programme constraints, measured conditions may not be fully representative of the actual conditions. Any predictive or modelling work, undertaken as part of the commission will be subject to limitations including the representativeness of data used by the model and the assumptions inherent within the approach used. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions.

The potential influence of our assessment and report on other aspects of any development or future planning requires evaluation by other involved parties.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. Tetra Tech accept no liability for issues with performance arising from such factors.

August 2023 - Tetra Tech Limited