

WRITTEN SCHEME OF INVESTIGATION

FOR AN ARCHAEOLOGICAL

TRENCHED EVALUATION

Kronospan, Holyhead Road, Whitehurst, Chirk,
Wrexham

Prepared for:

Wrexham County Borough Council

Project No: 2954

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Contents	Page
<i>Summary</i>	3
1. Introduction and planning background	3
2. Site Description.....	4
3. Historic background.....	4
4. Objectives.....	4
6. Methodology.....	5
6. Post-Fieldwork Programme.....	10
7. Staff.....	12
8. Health and Safety.....	13
9. Quality Control.....	13
10. Arbitration	14
11. References	14

Figure 1. Site location

Figure 2. Trench location

Summary

This Written Scheme of Investigation (WSI) details the proposal for an archaeological field evaluation to be undertaken in association with the proposed construction of an access road, lorry park, 132kV substation other ancillary works on land north of Kronospan, Holyhead Road, Whitehurst, Chirk, Wrexham- NGR SJ 328825 339096. It has been prepared by Archaeology Wales Ltd for AxisPED.

Clwyd Powys Archaeological Trust- Development Control have requested that a field evaluation is carried out to confirm the nature and extent of any buried archaeological remains that may be affected by groundworks associated with the proposed development. The work is informed by a previous Desk Based Assessment and Geophysical Survey. The latter detected several anomalies of uncertain origin within the development area.

All work will be undertaken in accordance with the standards and guidelines of the Chartered Institute for Archaeologists (2020).

1. Introduction and planning background

- 1.1. This WSI details the proposal for a field evaluation to be undertaken in association with the proposed construction of an access road, lorry park, 132kV substation other ancillary works at land to the north of Kronospan, Holyhead Road, Whitehurst, Chirk, Wrexham- NGR SJ 328825 339096 (Figure 1).
- 1.2. Clwyd Powys Archaeological Trust- Development Control (CPAT-DC) has requested that an archaeological field evaluation is carried out to assess the potential impact of the development on the archaeological resource.
- 1.3. This WSI has been prepared by Menna Griffiths, Archaeology Wales Ltd (henceforth - AW) at the request of AxisPED.
- 1.4. The methodology set out in this WSI has been agreed with CPAT-DC in its capacity as archaeological advisors to the local planning authority. The purpose of the proposed field evaluation is to provide the local planning authority with the information they are likely to request in respect of the proposed development, the requirements for which are set out in Planning Policy Wales Revised Edition.11, Section 6.1 (2021) and Technical Advice Note (TAN) 24: The Historic Environment (2017). The work is to

highlight and assess the impact of the proposed development on the archaeological resource.

- 1.5. All work will conform to the Standard and Guidance for Archaeological Field Evaluation (ClfA 2020) and be undertaken by suitably qualified staff to the highest professional standards. AW is a Registered Organisation with the ClfA.

2. Site Description

- 2.1. The proposed development site is located immediately north of Kronospan complex. The site is bounded to the east by the B5070 and Chirk, to the west by a disused railway and Llangollen Canal, and to the south by open fields. The proposed development site has been used to grow crops and for grazing in recent years.
- 2.2. The underlying geology is comprised of mudstone, siltstone, sandstone, coal, ironstone and ferricrete from the Penine Lower Coal Measures and the South Wales Lower Coal Measures, formed during Carboniferous Period. These are overlain by superficial deposits of Till - Diamicton, formed during the Quaternary Period (BGS 2022).

3. Historic background

- 3.1. In June 2022, Archaeology Wales Ltd carried out a Geophysical Survey of the proposed development site (Muller 2022) following the results obtained by a Desk Based Assessment (Garcia Rovira 2022) and adhering to CPAT-DC recommendations.
- 3.2. The geophysical survey identified several anomalies of likely natural origin, and a number of anomalies of uncertain origin which could be of archaeological significance. These are concentrated toward the northern end of the proposed development site.

4. Objectives

- 4.1. The objective of the intrusive trial trench evaluation will be to locate and describe archaeological features that may be present within the development area as suggested. The work will elucidate the presence or absence of archaeological material, its character, distribution, extent, condition, and relative significance. The work will include an assessment of regional context within which the archaeological evidence rests and will

aim to highlight any relevant research issues within national and regional research frameworks.

- 4.2. A report will be produced that will provide information which is sufficiently detailed to allow the archaeological resource to be better understood. The information could then be used to help inform further archaeological work undertaken in association with the proposed development.

5. Timetable of works

- 5.1. The field evaluation is likely to start during September 2022. CPAT-DC will be informed of any changes to the schedule.
- 5.2. The report will be submitted to the client and CPAT-DC within a month of the completion of the fieldwork. A copy of the report will also be sent to the regional Historic Environment Record.

6. Methodology

Field Evaluation

- 5.17. The work will be undertaken to meet the standard required by The Chartered Institute for Archaeologist's *Standard and Guidance for Archaeological Field Evaluation* (2020).
- 5.18. The archaeological project manager in charge of the work will satisfy herself that all constraints to ground works have been identified, including the siting of live services and Tree Preservation Orders.
- 5.19. The agreed evaluation trenches (Figures 2) will be positioned to maximise the retrieval of archaeological information within accessible areas, and to ensure that the archaeological resource is understood. The trenches will target the anomalies detected during the geophysical survey (Muller 2022).
- 5.20. It is proposed that eight trenches measuring between 10m to 50m long x 1.8m wide, will be machine-excavated within the planned development area (Figures 2).
- 5.21. The exact positioning of the trenches will depend on the position of any extant services or other obstructions that come to light during the initial phase of ground works. The locations and dimensions of the trenches have been agreed with CPAT-DC.

- 5.22. The evaluation trenches will be excavated to the top of the archaeological horizon by a 360 excavator or similar machine fitted with a toothless grading bucket under close archaeological supervision.
- 5.23. All areas will be subsequently hand cleaned using pointing trowels and/or hoes to prove the presence, or absence, of archaeological features and to determine their significance. The excavation of the minimum number of archaeological features will be undertaken, to elucidate the character, distribution, extent and importance of the archaeological remains. As a minimum small discrete features will be fully excavated, larger discrete features will be half-sectioned (50% excavated) and long linear features will be sample excavated along their length - with investigative excavations distributed along the exposed length of any such feature and to investigate terminals, junctions and relationships with other features. Should this percentage excavation not yield sufficient information to allow the form and function of archaeological features/deposits to be determined full excavation of such features/deposits may be required.
- 5.24. Sufficient excavation will be undertaken to ensure that the natural horizons are reached and proven, where this can be practically and safely achieved. If safety reasons preclude manual excavation to natural, hand augering may be used to try to assess the total depth of stratification within each area. The depth of the excavation will conform to current safety requirements. If excavation is required below 1m the options of using shoring will be discussed with the client and CPAT-DC, but the intention would be to stop at safe depths.

Contingency

- 5.25. Should potentially significant archaeological features be encountered during the course of the evaluation then CPAT-DC and the client will be informed at the earliest possible opportunity.
- 5.26. CPAT-DC may subsequently request that further archaeological work is undertaken in order to fully evaluate areas of significant archaeological activity. Such work may require the provision of additional time and resources to complete the archaeological investigation. The scope of such work will be agreed with CPAT-DC and the client prior to any extended works being undertaken.

Recording

- 5.27. Recording will be carried out using AW recording systems (pro-forma context sheets, etc.) using a continuous number sequence for all contexts.
- 5.28. Plans and sections will be drawn to a scale of 1:50, 1:20 or 1:10 as required and related to Ordnance Survey datum and published boundaries where appropriate.
- 5.29. All features identified will be tied into the OS survey grid and fixed to local topographical boundaries.
- 5.30. Photographs will be taken in digital format with an appropriate scale, using a 10MP+ camera with photographs stored in Tiff format.

Finds

- 5.31. The professional standards set in the Chartered Institute for Archaeologists' Standard and guidance for the collection, documentation, conservation, and research of archaeological materials (2020) will form the basis of finds collection, processing, and recording.
- 5.32. Finds will be carefully excavated by hand. The excavation of fragile or particularly significant finds will be undertaken in consultation with an appropriate archaeological conservator. Finds will be bagged by archaeological context, the location of special finds and flint working deposits will be recorded three dimensionally.
- 5.33. All manner of finds regardless of category and date will initially be retained. These will be suitably bagged, boxed and marked. Following cataloguing and initial analysis finds of little archaeological significance may be discarded .
- 5.34. Finds recovered that are regarded as Treasure under The Treasure Act 1996 will be reported to HM Coroner for the local area.
- 5.35. Any finds which are considered to be in need of immediate conservation will be referred to a UKIC qualified conservator (normally Phil Parkes at Cardiff University).

Environmental Sampling Strategy

- 5.36. Deposits with a significant potential for the preservation of paleoenvironmental material will be sampled, by means of the most appropriate method (bulk, column etc). Where sampling will provide a significant contribution to the understanding of the site AW will draw up a site-specific sampling strategy alongside a specialist environmental

archaeologist. All environmental sampling and recording and will follow English Heritage's *Guidelines for Environmental Archaeology* (2nd Edition 2011).

Human remains

- 5.37. In the event that human remains are encountered, their nature and extent will be established, the client, CAPT-DC and the coroner informed. Measures will be put in place to ensure that any such remains are fenced off, covered, and protected from deterioration and damage, and that human remains, and burial goods will be treated in a respectful manner.
- 5.38. Where preservation in situ is not possible the human remains will be fully recorded and removed under conditions that comply with all current legislation and include acquisition of licenses and provision for reburial following all analytical work.
- 5.39. Human remains will be excavated in accordance with the Chartered Institute for Archaeologist's Updated Guidelines to the *Standards for Recording Human Remains* (2017). A Ministry of Justice Licence will be obtained before remains can be lifted, this applies to both inhumation and cremated remains.

Specialist advisers

- 5.40. In the event of certain finds, features or sites being discovered, AW will seek specialist opinion and advice. A list of specialists is given in the table below although this list is not exhaustive.

Artefact type	Specialist
Lithics	Dr Julie Birchenall (Freelance)
Animal bone	Dr Richard Madgwick (Cardiff University) Dr Hannah Russ (Freelance)
CBM, heat affected clay, Daub etc.	Dr Siân Thomas (Archaeology Wales) Dr Phil Mills (Freelance) Sandra Garside Neville (Freelance)
Clay pipe	Charley James Martin (Archaeology Wales)
Glass	Rowena Hart (Archaeology Wales)
Cremated and non-cremated human bone	Malin Holst (University of York) Dr Richard Madgwick (Cardiff University)
Metalwork	Dr Rhiannon Philp (Archaeology Wales) Dr Kevin Leahy (PAS/University of Leicester)

Artefact type	Specialist
	Quita Mould (Freelance)
Metal work and metallurgical residues	Dr Tim Young (GeoArch)
Neo/BA pottery	Dr Alex Gibson (Bradford University) Dr David Mullin (Freelance)
IA/Roman pottery	Dr Jane Timby (Freelance)
Roman Pottery	Dr Siân Thomas (Archaeology Wales) Dr Peter Webster (Freelance)
Medieval and Post Medieval Pottery	Paul Blinkhorn (Freelance)
Charcoal (wood ID)	Dana Challinor (Freelance)
Waterlogged wood	Professor Nigel Nayling (University of England - Lampeter) Damian Goodburn (MOLA) Mike Bamforth (Freelance)
Marine Molluscs	Dr Rhiannon Philp (Archaeology Wales)
Pollen	Dr Rhiannon Philp (Archaeology Wales)
Charred and waterlogged plant remains	Wendy Carruthers (Freelance) Kath Hunter Dowse (Freelance)

5.41. Specialist finds and paleoenvironmental reports will be written by AW specialists, or sub-contracted to external specialists when required.

Monitoring

5.42. CPAT-DC will be contacted approximately two weeks prior to the commencement of archaeological site works, and subsequently once the work is underway.

5.43. Any changes to the WSI that AW may wish to make after approval will be communicated to CPAT-DC for approval on behalf of the client.

5.44. CPAT-DC will be given access to the site so that they may monitor the progress of the mitigation work. No area will be back-filled until CPAT-DC has had the opportunity to inspect it unless permission has been given in advance. CPAT-DC will be kept regularly informed about developments, both during the site works and subsequently during post-excavation.

6. Post-Fieldwork Programme

Site Archive

6.1. An ordered and integrated site archive will be prepared in accordance with: *Management of Research Projects in the Historic Environment* (MoRPHE) (2015) upon completion of the project.

6.2. The site archive – including all artefacts, soil samples, paper, and digital records – will be subjected to selection in order to establish those elements that will be retained for long term curation. The selection strategy will be agreed with all stakeholders and will be detailed in the Selection Strategy and Data Management Plan (ClfA 2020). It will be developed taking into consideration the aims and objectives of the project and will be informed through a detailed consideration of the *Research Agenda of the Archaeology of Wales* and other relevant research frameworks. The manner in which the records will be prepared for long time storage will be guided by the requirements established by the repositories. A detailed justification for the disposal of both records and materials will be written and included within the Data Management Plan.

6.3. The site archive (including artefacts and samples) will be prepared in accordance with the National Monuments Record (Wales) agreed structure and deposited with an appropriate receiving organisation, in compliance with ClfA Guidelines (*Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives*, 2014). It will also conform to the guidelines set out 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). The legal landowner's consent will be gained for deposition of finds. The project will adhere to the Welsh Archaeological Trust's joint *Guidance for the Submission of Data to the Welsh Historic Environment Records* (2018).

Analysis

6.4. Following a rapid review of the potential of the site archive, a programme of analysis and reporting will be undertaken.

6.5. This will result in the following inclusions in the report:

- A bilingual non-technical summary

- The aims and methods adopted in the course of the archaeological works, and the background and circumstances of the report (including development proposals and planning background)
- Location plan showing the area/s covered by the trenched evaluation, including the locations of all artefacts, structures and features found
- Plans and section drawings (if features are encountered) with ground level, ordnance datum and vertical and horizontal scales.
- A written description and interpretation of all deposits identified, including their character, function, potential dating, and relationship to adjacent features. Specialist descriptions and illustrations of all artefacts and soil samples will be included as appropriate. An indication of the potential of archaeological deposits which have not been disturbed by the development, and proposals for further necessary analysis
- The report will contain a discussion of the local, regional, and national context of the remains by means of reviewing published reports, unpublished reports, historical maps, documents from local archives and the regional HER as appropriate.
- A detailed archive list at the rear listing all contexts recorded, all samples, finds and find types, drawings and photographs taken. This will include a statement of the intent to deposit, and location of deposition, of the archive.

Report to Client

6.6. Copies of all reports associated with the mitigation, together with inclusion of supporting evidence in appendices as appropriate, including photographs and illustrations, will be submitted to the client upon completion, and to the council for formal submission.

Additional Reports

6.7. After an appropriate period has elapsed, copies of all reports will be deposited with the relevant county Historic Environment Record (CPAT), the National Monuments Record and, if appropriate, Cadw. The report and all relevant information will be submitted to the Historic Environment Record following the guidelines and procedures laid out in the *Guidance for the Submission of Data to the Welsh Historic Environment Records* (WAT 2018).

Summary Reports for Publication

6.8. Short archaeological reports will be submitted for publication in relevant journals; as a minimum, a report will be submitted to the annual publication of the regional CBA group or equivalent journal.

Notification of Important Remains

6.9. Where it is considered that remains have been revealed that may satisfy the criteria for statutory protection, AW will submit preliminary notification of the remains to Cadw.

Archive Deposition

6.10. The final archive (site and research) will, whenever appropriate, be deposited with a suitable receiving institution. If artefacts are recovered, and dependent on the size of the final archive, the preferred receiving institution would be a suitable local institution. If no artefacts are recovered then the archive will be deposited with the National Monuments Record, RCAHMW, Aberystwyth. Arrangements will be made with the receiving institution before work starts.

6.11. Although there may be a period during which client confidentiality will need to be maintained, copies of all reports and the final archive will be deposited no later than 12 months after completion of the work.

6.12. Copies of all reports, the digital archive and an archive index will be deposited with the National Monuments Record, RCAHMW, Aberystwyth.

6.13. Wherever the archive is deposited, this information will be relayed to the HER. A summary of the contents of the archive will be supplied to CPAT-DC.

Finds Deposition

6.14. The finds, including artefacts and ecofacts, excepting those which may be subject to the Treasure Act, will be deposited with the same institution, subject to the agreement of the legal landowners.

7. Staff

7.1. The project will be managed by Irene Garcia Rovira MCIfA (AW Project Manager) and the assessment undertaken by suitably trained and experienced AW staff. Any alteration to staffing before or during the work will be brought to the attention of CPAT-DC and the client.

8. Health and Safety

- 8.1. Prior to the commencement of the site visit AW will carry out and produce a formal Health and Safety Risk Assessment in accordance with the Management of Health and safety Regulations 1999. A copy of the risk assessment will be kept on site and be available for inspection on request. A copy will be sent to the client (or their agent as necessary) for their information. All members of AW staff will adhere to the content of this document.

Other Guidelines

- 8.2. AW will adhere to best practice with regard to Health and Safety in Archaeology as set out in the FAME (Federation of Archaeological Managers and Employers) health and safety manual Health and Safety in Field Archaeology (2002).

Insurance

- 8.3. AW is fully insured for this type of work and holds Insurance with Aviva Insurance Ltd and Hiscox Insurance Company Limited through Towergate Insurance. Full details of these and other relevant policies can be supplied on request.

9. Quality Control

Professional standards

- 9.1 AW works to the standards and guidance provided by the *Chartered Institute for Archaeologists*. AW fully recognise and endorse the *Chartered Institute for Archaeologists' Code of Conduct*, *Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology* and the *Standard and Guidance for archaeological watching briefs* currently in force. All employees of AW, whether corporate members of the Chartered Institute for Archaeologists or not, are expected to adhere to these Codes and Standards during their employment.

Project tracking

- 9.2 The designated AW manager will monitor all projects in order to ensure that agreed targets are met without reduction in quality of service.

10. Arbitration

10.1 Disputes or differences arising in relation to this work shall be referred for a decision in accordance with the Rules of the Chartered Institute of Arbitrators' *Arbitration Scheme for the Institute for Archaeologists* applying at the date of the agreement.

11. References

Garcia Rovira, I. 2022. Kronospan, Holyhead Road, Chirk Access road, lorry park, 132kV substation and other ancillary works. Desk Based Assessment. Report 2080.

Jones C, 2018. *Guidance for the submission of Data to the Welsh Historic Environment Records (HERs)*. Welsh Archaeological Trusts

Muller, J. 2022. Land at Kronospan, Holyhead Road, Whitehurst, Chirk, Wrexham. Geophysical Survey. Report 2102.

National Panel for Archaeological Archives in Wales, 2019. Archaeological archives: selection, retention and disposal guidelines for Wales.

Welsh Archaeological Trust's, 2018. *Guidance for the Submission of Data to the Welsh Historic Environment Records*

Planning Policy Wales – Edition 11

https://gov.wales/sites/default/files/publications/2021-02/planning-policy-wales-edition-11_0.pdf

Technical Advice Note – The Historic Environment -2017

<https://gov.wales/technical-advice-note-tan-24-historic-environment>

ClfA Standards and Guidance for Archaeological Field Evaluation, 2020

https://www.archaeologists.net/sites/default/files/ClfAS%26GFieldevaluation_3.pdf

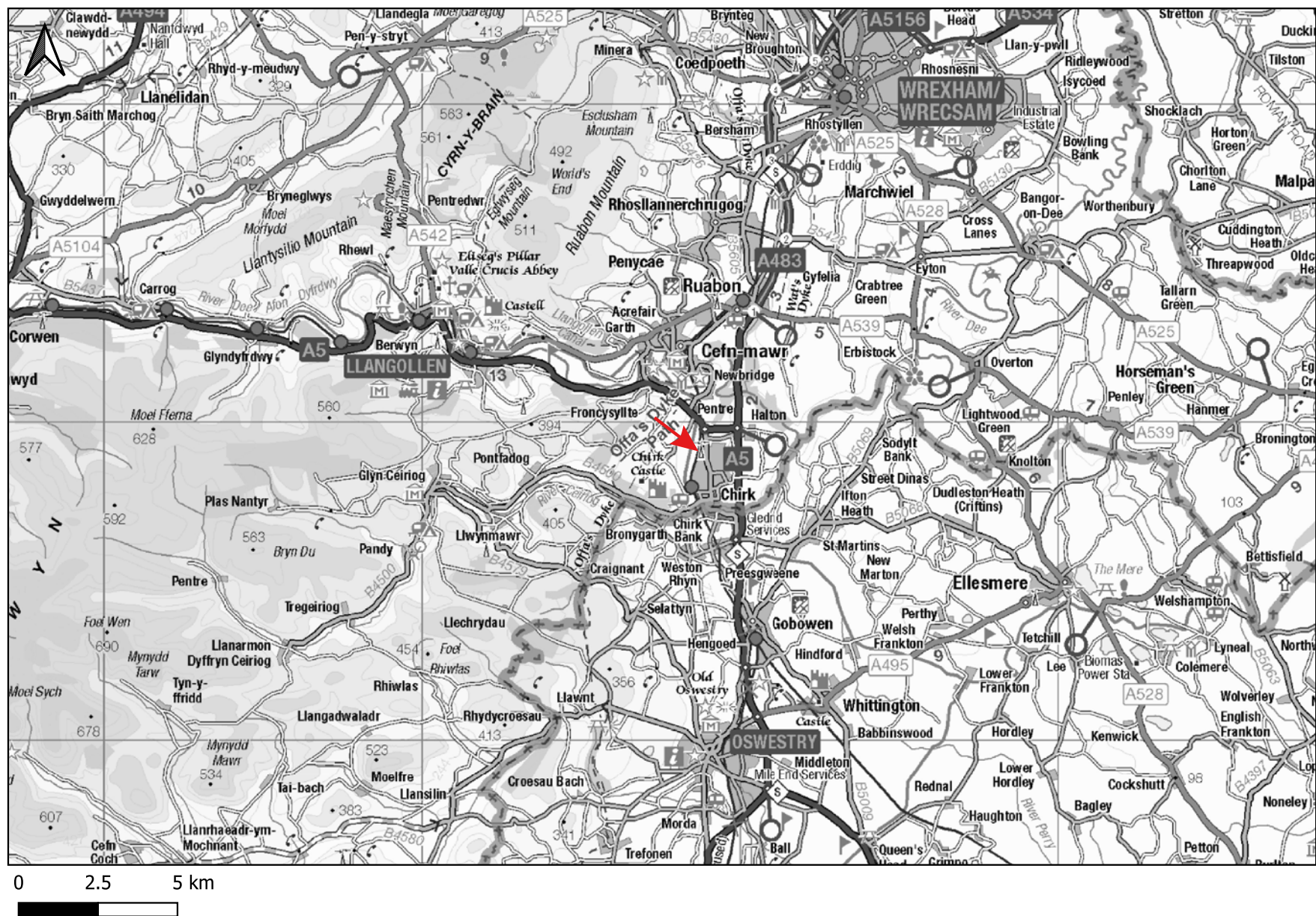


Figure 1. Site Location (red arrow).



0 50 100 m



Figure 2. Location of trenches

Appendix 1 – Data Management Plan

Project Name and ID
2954 - Kronospan, Holyhead Road, Whitehurst, Chirk, Wrexham KHR/22/EV
Project description
Field evaluation to be undertaken in association with the proposed construction of an access road, lorry park, 132kV substation other ancillary works on land north of Kronospan, Holyhead Road, Whitehurst, Chirk, Wrexham- NGR SJ 328825 339096.
Funder of client
AxisPED on behalf of Kronospan
Project Manager
Irene Garcia Rovira - AW project manager irene@arch-wales.co.uk
Principal investigator and contact
Same as above
Date DPM created and subsequent amendments
Created on 25.8.22
Related Data Management policies
Project Brief, ClfA Standards and guidance, trusted digital repository guidelines (ADS and RCAHMW) or other best practice guidance (see brief for details)

Data type
.pdf: final report, WSI, all the paper archive generated onsite. .jpeg: Digital photographs .xlsx: spreadsheets including registers, context inventory, finds quantification, environmental sample quantification. All site drawings that are selected during the DMP will be stored as AI and PDF files The survey data will be stored both as raw data (text file/csv) and as shapefiles (shp). This will include a polygon showing the limits of the development area. The database generated with GIS will be stored so it is accessible by future users
How will data be generated?
Project Brief will determine the nature of data collection. The project brief has been produced taking into consideration guidance offered by ClfA, and by relevant repositories.

While the data selection strategy may change during the course of the watching brief attending to the demands of the findings, an initial methodology is outlined in the brief which includes advice offered by specialists (e.g. environmental specialist). A list of specialists that can be contacted to seek for advice is included in the brief.

Data generated during the site work will be regularly updated to the server and stored within well-defined folder. The folder hierarchy and organisation devised will be understood by all members of staff involved in the project. The data stored will be checked by the project manager regularly as a means of quality assurance. The survey data will also be plotted regularly to assure that it is correct and that the instruments on site are working properly.

Further documentation accompanying the resulting archive

Data collected will include standard formats which maximise opportunities for use and reuse in the future.

The archive will be associated to metadata summary which outlines details of all data types, quantities and all archive components

Data documentation will meet the requirement of the Project Brief, Museum Deposition Guidelines, Digital Repository Guidelines and the methodology described in the Project Design methodology. These details are checked and taken into consideration prior the start of the project.

Data protection

We have a GDPR compliant Privacy Policy. Sensitive data is never retained in the project folder.

Copyright permission is sought from all specialists and other providers outside the organisation. Data sharing is also subjected to license agreements.

Storage

The project manager is responsible to the regular inspection of the data produced and stored in the server. The data produced is uploaded regularly as a way of backing up the information. Time and resources are given to the site staff to be able to back up the data. Alternatively, laptops are issued to use during the time onsite.

Data retention

The DMP will be updated in light with the findings. This process will also inform any possible future project designs and further work associated with the project. The data selection plan will take into consideration the research agenda for Wales and any other local frameworks.

<p>At the deposition stage, the DMP will be finalised in agreement with all project stakeholders.</p> <p>The project results will be included in the Historic Environment Record.</p>
Long term preservation plan
<p>The digital archive will be deposited with the Archaeology Data Service, which is a certified repository with Core Trust Seal.</p>
Data repository and costs
<p>The digital archive will be deposited with the National Monuments Record, RCAHMW, Aberystwyth. Estimated cost for deposition with ADS has also been included in the project budget.</p>
Data sharing and accessibility
<p>A summary of the project will be provided for the museum and digital archive repositories once the work begins. Regular updates will be carried out to fit the emerging needs of the project. The documents expected for this project include a WSI and Evaluation Report, although this is dependent on the results of the fieldwork, which may warrant a Post Excavation Assessment, Updated Project Design and possibly Final Report.</p> <p>The final report is expected to be completed within 3 months of the completion of fieldwork. Should the work reveal significant archaeology and therefore, specialists are required during the post-ex process, then the report might take up to twelve months to be submitted</p> <p>A final version of the project report will be supplied to the Historic Environment Record along with any further data they request.</p>
DMP responsibility
<p>The Project Manager will be responsible for implementing the DMP</p> <p>Data capture, metadata production and data quality are the responsibility of the Project Team, assured by the Project Manager.</p> <p>Storage and backup of data in the field is the responsibility of the field team.</p> <p>Once data is incorporated into the organisations project server, storage and backup is managed by the project manager</p> <p>Data archiving is undertaken by the Archives Officer, who is responsible for the transfer of the Archaeological Project Archive to the agreed repository.</p>