



Minerva Archaeology Ltd

Historic Environment Services

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WRITTEN SCHEME OF INVESTIGATION



GREENLEAS
Bygrave Road,
Baldock,
Hertfordshire.
SG7 5DS

**ARCHAEOLOGICAL
EVALUATION**

Ref: MA 472
Planning ref: 23/02113/OP

VERSION 1.0

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MINERVA ARCHAEOLOGY LTD.

Historic Environment Services

Managing Director: Mark Sycamore, BA ACIfA

GREENLEAS
Bygrave Road,
Baldock, Hertfordshire

Project ref: MA 472
Planning ref: 23/02113/OP
HER enquiry ref: 88/24
Museum ref: TBC
OASIS ref: minervaa2-527649

Archaeological Written Scheme of Investigation for Evaluation

Prepared at the request of Thomas Wilcock

by

Lisa Waldock BA MA ACIfA

September 2024

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Introduction

1.1 This Written Scheme of Investigation (WSI) has been prepared at the request of *Thomas Wilcock*, to cover a programme of archaeological work to be carried out as a process of investigation and mitigation as a condition of planning consent for the development at Greenleas, Bygrave Road, Baldock, Hertfordshire, SG7 5DS.

1.2 The present site fronts the northern side of Bygrave Road, and forms a roughly square plot immediately to the east of the present dwelling Greenleas, centred at NGR TL 525028 234633. The site, which is currently occupied by Greenleas, is bounded to the north and east by agricultural fields, the to the south by Bygrave Road and a Farm, and to the west by the present dwelling and further agricultural land (Figure 1).

1.3 The present development proposes the construction of two dwellings with associated shared access and parking area.

Planning

1.4 Planning permission for the development (ref. 23/02113/OP) has been granted by North Hertfordshire District Council (NHDC) subject to historic environment conditions in line with Paragraph 189 of the *National Planning Policy Framework* (NPPF 2021). Condition 7 states that:

7. No demolition or development shall take place within the site to which this permission relates until the applicant, landowner, or their successors in title, or their agents have secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted to and approved in writing by the local planning authority. The requirements of this condition will only be considered to be discharged when the reports relating to the agreed archaeological work have been deposited with and approved in writing by the local planning authority.

Reason: *The site lies within an area where there is significant potential for archaeological remains and any finds should be retrieved and/or recorded before they are damaged or destroyed as a result of the development hereby permitted and to comply with Policy HE4 of the North Hertfordshire Local Plan 2011 to 2031.*

1.5 The decision notice indicates archaeological evaluation of the site is required.

Proposed Scheme

1.6 It is considered that the best strategy to characterise the archaeological potential of the site, and assess the survival of any archaeological deposits, will be by the excavation of trial trenches in the area affected by the new development. The strategy is intended to establish the nature of the stratigraphic sequence while minimising unnecessary destruction of the archaeological resource.

1.7 A 5% sample of the 900m² proposed development site, will be evaluated by archaeological trial trenching. The sample will total up to 45m², and consist of 2 trenches measuring 10m and 13m in length and 2m in width (Figure 1).

1.8 The present scheme will form an incremental process that may involve more stages of field investigation, together with analysis and report preparation, leading to the publication of the findings and the deposition of the project archive with an

approved repository. The present document represents the archaeological Written Scheme of Investigation (WSI) required by local planning authority and includes a research design, an outline of the investigative process that is to be followed, and a method statement for the first stage of investigation. Further method statements may be prepared for subsequent stages of work.

Monitoring

1.9 The Historic Environment Team (HET) of Hertfordshire County Council, as the lead curatorial authority for the area, will be kept informed of the progress of fieldwork to enable the timetabling of monitoring visits at appropriate intervals.

Research Design

Study Area

2.1 In order to establish the archaeological and historical context for the site, the overview set out below has been drawn under licence from the Hertfordshire *Historic Environment Record* (HER), Minerva Archaeology's own records and other sources. The study area extends to a 500m radius around the centre of the site.

Topography

2.2 Baldock is situated next to the Roman junction connecting Braughing, Verulamium and Sandy and sits along the line of the Icknield Way.

2.3 The present site is located on the northern side of Bygrave Road, on the northern edge of Baldock town. The immediate area surrounding the site lies in an area of relatively flat agricultural land that sits at approximately 65m AOD. The area of Baldock sits within a depression in the landscape, surrounded by higher, gently undulating ground containing neighbouring towns, villages and arable fields.

Geology

2.4 Locally the soils are described as freely draining lime-rich loamy soils, giving way to shallow lime-rich soils over chalk or limestone immediately to the north of the proposed development (SSEW 1983).

2.5 The underlying geology consists of Holywell Nodular Chalk Formation and New Pit Chalk Formation. Sedimentary Bedrock formed approximately 90 to 101 million years ago in the Cretaceous Period with the local environment previously dominated by warm chalk seas. In the vicinity local deposits consist of alluvial fan deposits, sand and silt (British Geological Survey, 2024).

Previous Stages of archaeological work

2.6 No previous stages of archaeological work have been conducted on the site prior to the present stage of works.

Archaeological Areas (Alert, Areas of significance etc)

2.7 The site lies within a busy archaeological landscape comprising of multiple Areas of Archaeological Significance. To the northwest of the site lies Archaeological Area 92, east of Blackhorse Farm; to the northeast lies Archaeological Area 29, southwest of Bygrave, to the east lies Archaeological Area 101, south of Halfway Farm. The site also lies immediately to the north of Area of Archaeological Significance 96 which denotes the medieval core of Baldock town and evidence of Iron Age and Roman Settlement.

Conservation Areas

2.8 None within the site or within the 500m study area.

2.9 The historic landscape character for the site is described as a built-up area of urban development, surrounded by 20th Century enclosure to the south and pre 18th Century unenclosed common arable land to the north.

Scheduled Monuments

2.10 No scheduled Monuments lie within the 500m study area.

2.11 The site lies approximately 600m to the north of one of the last undeveloped areas of the Romano-British small town and Late Iron Age settlement at Baldock (NHLE1016305). Several major archaeological excavations nearby have revealed over 2000 burials of Late Iron Age and Roman date.

2.12 There are several other monuments in the wider area, including the settlement south of Blackhorse Farm (NHLE1003548), approximately 900m to the northwest of the proposed site, a Barrow, south of Radwell (NHLE1012366), approximately 2km to the northwest and the Radwell Roman Villa (NHLE1016308), approximately 2km to the northwest.

Listed Buildings

2.13 The site sits along a relatively undeveloped road away from the historic core of Baldock. As such the nearest listed buildings can be located over 650m to the southwest.

Ancient Woodland

2.14 No Ancient Woodlands lie within the 500m study area (MAGIC, 2024).

Historic Parks and Gardens

2.15 No Registered Parks and Gardens lie within the site or within the 500m study area and none are within a 3km radius of the site (MAGIC, 2024).

Registered Battlefields

2.16 No Registered Battlefields are located within or in the immediate vicinity of the study area (MAGIC, 2024).

Significant Heritage Assets and Historic Narrative

- There is significant evidence for prehistoric activity in the landscape surrounding Baldock, which has been found during various archaeological investigations and studies.
- At the edge of the study area, to the north west of the site lies a late Neolithic to Early Bronze Age round barrow with nearby Neolithic pit features (HER2431;HER31437).
- Approximately 350m to the southeast of the site appears to be a concentration of prehistoric cemetery activity including two cropmarks of ring ditches and partial barrows (HER2385; HER2386;HER4775;HER4774;HER7459;HER2385).
- The site lies approximately 150m to the north of the Icknield Way (HER4182), a Prehistoric route along the Chiltern Ridge, forming a continuous route from Wiltshire to East Anglia. The Icknield Way was also, at least partly used and updated into the Roman period.
- In the same vicinity at the Icknield Way exists traces of a major boundary between medieval strip fields (HER7750). The boundary is apparently of Late Iron Age origin, but survives as a feature into the 19th century. The boundary was originally identified as cropmarks but later verified by geophysics and evaluation in 2016.
- Predominantly, the presence of Iron Age and Roman features and finds appear to gravitate more towards the occupation activity at Baldock, to the south of the study area.

- A Late Iron Age ditch was found during an evaluation at The Maltings, Royston Road (HER9674). The finds included animal bone and a late Iron Age fineware bowl in the primary fill, with a small number of abraded Roman sherds.
- To the northeast of the site lies a possible Late Iron Age field system towards Bygrave Common (HER7840). During the evaluation the area produced occasional finds including pottery sherds of mid-1st to 2nd Century date.
- To the south of the site, at the southern extent of the study area lies the Roman Cemetery at Royston Road (HER13184) which was discovered during the excavations prior to the construction of the Clothall Common estate between 1978 and 1994. The cemetery is one of the largest on the northern side of the settlement and was roughly triangular in shape. The earliest burials were dated to c.AD70, with cremations and inhumations represented until c.AD280, after which was exclusively inhumations into the 5th Century. On the highest ground was a pyre base.
- Further Late Iron Age and Roman cemeteries were identified in close proximity at Yeomanry Drive and Stane Street (HER13181;HER13180).
- A Roman coin was discovered approximately 350m to the north of the site (HER1348). The coin is recorded as a silver coin of Domitian and was discovered c.1930.
- The site and majority of the study area lie away from the medieval core of Baldock. As such no medieval features or finds are present within the study area. It is probable that some surviving elements of medieval agricultural practices may survive in the area.
- The site lies within an area designated as smallholdings as part of the Land Fit for Heroes campaign soon after 1918 (HER31446). The area included several farms for smallholdings which were laid out between 1918 and 1922 on both sides of Bygrave Road. According to the record, the land was comprehensively graded and levelled up with new agricultural soil for the purpose.
- In particular, Greenleas is described as one of these buildings, however it has lost its farm buildings and is now just a house.
- The earliest map consulted is the OS Six-Inch Map of 1884. It shows that the present site was part of a large complex of open field forming Bygrave Common. The site appears to lay on the northern side of a small trackway leading towards Bygrave (NLS, 2024).
- The site remains unchanged until 1925 when the construction of the smallholdings is recorded, with a single construction on the northern side of Bygrave Road in the location of Greenleas (ibid.). By 1950 the smallholding plots appear to be smaller and more contained. The site appears to have farm buildings to the west of the house and to the east appears to be an empty plot (ibid.).
- The LiDAR Map of England and Wales does not show the site as containing clear features of interest (LiDAR, 2024).

Aims and Objectives

2.17 The aims of the present investigation shall be:

- to establish the location, depth, extent, date, character and condition of any remains that are liable to be threatened by the development;
- to consider the local and regional archaeological and historical context of such remains, and their significance and quality, in relation to current published regional research; and,
- to provide sufficient information to advise the planning application for the development of the site, and ensure that an appropriate strategy for the mitigation of damage or destruction of any such remains is adopted should it get consent.

2.18 Considering the HET advice and the background of the site and study area, it is possible that this investigation has the potential to contribute to an understanding of the origins and development of Baldock from the prehistoric period onwards.

2.19 In particular, the East of England Regional Research Framework, and the Bedfordshire Archaeological Research Framework, highlight several areas of further study that may be considered as specific objectives for the present investigation, including, but not restricted to:

- Neo 10: To what extent was there continuity from the Late Neolithic to the Early Bronze Age?
- E-MBA 06: How can we refine the chronology of Bronze Age cemeteries?
- LBA-MIA 19: How can we improve our understanding of LBA to MIA burial practices?
- P-Med 05: How can we increase our understanding of post-medieval cottages and smaller houses?

Company Structure

Introduction

3.1 Minerva Archaeology is an independent practice specialising in archaeology and the historic environment. The company undertakes a wide variety of commercial archaeological projects for clients involved in housing and industrial development, pipeline and road construction, agriculture and landscaping.

Project Management

3.2 The Project will be administered and co-ordinated by Mark Sycamore BA ACIfA, Minerva Archaeology's *Managing Director*. He holds an honours degree in archaeology from the University of Lampeter and has over fifteen years' experience of the management of archaeological projects, and of fieldwork in both urban and rural contexts.

3.3 Fieldwork will be managed by Chris Turner BSc MCIfA, the Minerva Archaeology's *Operations Manager*. Chris holds an honours degree in Archaeological Science from the University of Bradford, and has over twenty years of practical archaeological experience in the commercial sector. Chris is a Member of the Chartered Institute for Archaeologists.

Staffing

3.4 Minerva Archaeology employs technical and specialist staff with a broad range of complementary experience covering all aspects of research, recording and analysis of archaeological and historical structures, features, and deposits, together with the artefacts and ecofacts associated with them.

3.5 Field staff on the project will normally be expected to have the following qualifications:

- a) All Project Officers will have had at least four years' experience in the field, with at least one of those at supervisory grade. They will also be corporate members of the Chartered Institute for Archaeologists.
- (b) All Assistant Project Officers will have had at least three years' experience in the field. They will also be corporate members of the Chartered Institute for Archaeologists.
- (c) All other members of the team will have had a minimum of two years' experience in the field. Corporate or affiliate membership of the Chartered Institute for Archaeologists will be considered desirable.

Specialist Support

3.6 While members of the project team have the necessary local, academic and professional knowledge to examine a broad range of artefacts and ecofacts, and to undertake the majority of tasks required in archaeological practice, provision will be made for academic advice and technical services to be sought from appropriate recognised specialists if required. The current list of relevant specialists is given below:

Historic buildings	David Hillelson, Heritage Network
Ceramics: Prehistoric	Andy Fawcett, Bury St Edmunds
Ceramics: LPRIA/Romano-British	Helen Ashworth, Heritage Network
Ceramics: Medieval/post-medieval	Paul Blinkhorn, Northampton
Ceramics: Saxon	<i>Ditto</i>
Church Archaeology	David Hillelson, Heritage Network
Conservation	Julia Park-Newman, Conservation Services
Decorative metalwork: IA/Roman	Angela Wardle, Stevenage
Dendrochronology	Dr K. Lucas, Reading University
Environmental analysis	Andy Peachey, Wardell Armstrong
Faunal remains	<i>Ditto</i>
Flints	Keith Fitzpatrick-Matthews, N Herts Museum Service
Geophysical surveying	SUMO Services, Worcestershire
Human remains	Malin Holst, York Osteoarchaeology
Industrial residue analysis	Jane Cowgill, Lincolnshire
Numismatics	M. Curteis, BA AMA, Chelmsford Museum
Palynology	Rob Scaife, Palaeopol
Petrology	D. Williams, Southampton University
Radio carbon dating	SUERC, Glasgow

Standards

3.7 Minerva Archaeology's general operational procedures for archaeology are documented in a series of manuals which are available for consultation on site and in our offices.

3.8 Minerva Archaeology currently undergoing the process to become a registered organisation with the Chartered Institute for Archaeologists (CIfA). The company aims to maintain high standards of work and undertakes to follow the Code of Conduct of the CIfA, the Standards for Field Archaeology in the East of England published by the Association of Local Government Officers (ALGAO), and the relevant sections of the professional standards and guidelines set by the CIfA, the Historic Buildings and Monuments Commission for England (Historic England), the United Kingdom Institute of Conservation (UKIC), and such others as may be appropriate to the effective execution of the project.

3.9 Health and Safety is priority for Minerva Archaeology. The company undertakes to follow all relevant Health and Safety regulations, and all staff hold *Construction Skills Certification Scheme* (CSCS) cards covering Health and Safety. A risk assessment for the project has been prepared.

3.10 Minerva Archaeology maintains full Employers' and Public Liability insurances and full Professional Indemnity insurance. Policy details are available on request.

Project Stages

Introduction

4.1 A programme of archaeological works is proposed to satisfy the local planning authority requirements, and the identified aims and objectives of the project, as described in the *Research Design*, above. It is intended to be an incremental process, the nature and extent of each new phase being dependent on the results of the foregoing stage(s). Each stage is subject to the approval of the local authority before it can proceed and additional method statements may need to be prepared.

4.2 The planning condition requires mitigation via archaeological investigation by *evaluation* on the footprint of the new buildings. Additional stages of work may be necessary, including assessment of the material prior to publication.

4.3 Overall most projects will consist of at least one stage of evaluation, followed by mitigation if required. If significant, complex, extensive or unusual archaeological remains are encountered during either evaluation or mitigation, additional stages of work may include assessment of the material prior to publication.

Stage 1 – Evaluation

4.4 Two trial trenches will be excavated over the footprint of the new builds. This work will contribute to evaluating the archaeological potential of the site. This approach is intended to characterise the complete stratigraphic sequence while minimising unnecessary destruction of the archaeological resource.

4.5 Following the evaluation fieldwork, the findings will be reviewed in consultation with the local authority's archaeological advisors. If no remains of archaeological significance have been identified, and it is agreed that no further work on site is warranted, the trenches will be reinstated and a report on the results of the evaluation will be prepared in an appropriate form. The project records and material assemblage, will be prepared as an archive and deposited at a suitable museum/repository.

Stage 2 - Mitigation

4.6 If remains of archaeological significance are identified, a report on the findings will be prepared to help inform the local authority, and aid their decision on the best approach to mitigate the effects of the development on the identified remains.

4.7 In agreement with the local authority's archaeological advisors, an acceptable strategy, which may include further stage of works, will be developed. Further method statements may need to be prepared and approved.

4.8 There are many forms of mitigation and depending on the nature of remains encountered, some areas may require different approaches across a site. Mitigation may include:

- Alteration of the development layout and/ or construction methodology to minimise the impact on archaeological remains.
- the appropriate recording and protection of the identified remains and their preservation in situ beneath the development;

- the open area investigation of all or part of the footprint of the development to allow for the appropriate recording of all identified archaeological features and deposits that meet the research criteria of the project;
- the monitoring of groundworks to ensure that an appropriate record is made of any archaeological features and deposits that are directly impacted by the development groundworks and that meet the research criteria of the project.

4.9 On completion of the mitigation fieldwork, the findings will be reviewed in consultation with the local authority's archaeological advisors. If no new data has been recorded, as a result of the mitigation strategy that was adopted, the previously prepared report will be updated, finalised and submitted for the approval of the local planning authority as the definitive report on the results of the project, and, subsequently, published in an appropriate form. The documentary and material archives for the project will also be finalised and deposited with the agreed suitable museum/ repository.

Stage 3 - Assessment

4.10 Some mitigation strategies, particularly on large sites where extensive, unusual or complex remains are encountered, may require a phase of assessment prior to a final stage of report.

4.11 If further analysis is considered to be necessary, an *Assessment Report* detailing the work to be undertaken will be prepared, including:

- a statement of the research aims of the fieldwork and an illustrated summary of results to date indicating to what extent the aims were fulfilled or extended;
- a summary of the quantities and potential for analysis of the information recovered for each category of finds, dating and environmental data;
- a list of the project aims as revised in the light of the results of fieldwork and post-excavation assessment;
- a list of the methods that will be used to achieve the research aims;
- a list of all the main tasks involved in using the stated methods to achieve the aims and produce a report and research archive in the stated format, wherever possible linking each task explicitly to the relevant method statement and indicating the personnel and time in days involved in each task (allowance will be made for general project-related tasks such as monitoring, management and project meetings, editorial and revision time);
- a provisional report synopsis, broken down into chapters, section headings and sub-headings, with approximate word lengths and numbers and titles of illustrations per chapter; the structure of the report synopsis should explicitly reflect the research aims of the project;
- a list of the personnel involved indicating their qualifications for the tasks undertaken;

- a cascade or Gantt chart indicating tasks in the sequence and relationships required to complete the project to publication;
- provisional publication options indicating potential publisher(s) and report format.

4.12 Once the *Assessment Report* has been approved by the local authority, the defined analysis can be undertaken leading to the preparation of a definitive report on the results of the project, publication in an appropriate form, and the deposition of the documentary and material archives for the project with the agreed repository.

Post-excavation and Results

Introduction

5.1 Upon completion of the fieldwork and data gathering, a report will be prepared, which draws together the results obtained so as to meet the aims and objectives of the project, as described in Section 2, above.

5.2 The report will be produced in the standard Minerva Archaeology house style. Copies of the report will be provided to the curatorial authority, and additional copies will be lodged with the planning authority and deposited with the relevant museum/repository.

5.3 It is anticipated that the results of the present project would be combined with subsequent stages of work, if appropriate, and published in the local archaeological journal, or in an appropriate specialist academic journal, depending on the nature and complexity of the information recovered. The results of the present stage of work will be uploaded to the Archaeology Data Service's OASIS database together with any unpublished archive reports.

Artefact Collection/ Retention

5.4 In all projects, the decision to discard material will be taken on a case by case basis, in consultation with the appropriate materials specialists, and the HET, and in line with the ClfA's Toolkit for Selecting Archaeological Archives, published collecting policy of the receiving museum or repository.

5.5 It is the intention that all significant archaeological material will be collected on site. The Regional Research Agenda, Specialist guidance and site specific research aims will always drive the collection retention policy. However, the table below indicates the criteria for decisions about artefactual collection/ retention based on significance.

5.6 Matching any criteria of a higher level of significance will increase the likelihood of retention.

Significance	Criteria	Retained?
High	Stratified; datable; diagnostic; informs projects aims and objectives; unusual	Yes
Medium	Stratified; dateable; undiagnostic; informs projects aims and objectives; cannot be identified in the field	Yes
Low	Unstratified; undateable; undiagnostic; does not inform projects aims and objectives; identifiable	Unlikely
Insignificant	Unstratified; modern; undiagnostic; likely imported material; does not inform projects aims and objectives; common	No

5.7 Any material identified as potentially not for collection will be put aside on site, until the need to retain/ discard discussion with the curator can take place before the end of the fieldwork. Any uncollected material will be adequately recorded.

5.8 Where large deposits of artefacts are encountered, a representative sample may be collected in agreement with the HET.

5.9 In the case of multiple stages, the retention and disposal of the individual components of the material archive will normally be assessed in detail, in line with the Toolkit for Selecting Archaeological Archives, prior to each stage.

Copyright

5.10 Minerva Archaeology shall retain full copyright of any commissioned reports, tender documents or other project documents, under the Copyright, Designs and Patents Act 1988, with all rights reserved; excepting that it hereby provides an non-exclusive licence to the client for the use of such documents by the client in all matters directly relating to the project as described in the Project Brief and the Written Scheme of Investigation.

5.11 Minerva Archaeology will assign copyright on completion of the project to the museum or repository undertaking the ultimate curation of the archive, but will retain the right to be identified as the author of all project documentation and reports as defined in the Copyright, Designs and Patents Act 1988 (Chapter IV, s.79).

Archive Deposition

5.12 On completion of all stages of the present project, it is intended that the full archive, including the documentary records owned by Minerva Archaeology, and the material records owned by the client and held in the care of Minerva Archaeology, will be deposited with North Hertfordshire Museum Service, Hitchin.

5.13 The archive will be prepared for deposition in accordance with the current Hertfordshire Archaeological Archive Standards (2018), published by the Hertfordshire Association of Museums.

Archive and Report Preparation

5.14 A summary of the results of the present stage of investigation can be made available within one week of the completion of the fieldwork, if requested, and will include an assessment of the archaeological importance of the remains.

5.15 The report will conform to industry standards and guidance, and typically include the following:

- Table of contents and summary
- Introduction with planning background and outline of scheme
- Historical and archaeological background to the site
- Site topography and geology
- Aims and objectives of the investigation
- Methodology employed in the field and during post excavation
- Location of archive deposition
- Objective descriptions of trenches, areas, and features investigated and recorded over the duration of the project
- Artefacts and ecofacts concordance and assessment

- Discussion of the results in accordance with the projects aims and objectives and, relative to regional/ national research frameworks
- Conclusions and confidence rating
- List of sources consulted
- List of illustrations
- Scaled plans and sections of the site and features
- Plates of trenches, areas, features and significant finds encountered

5.16 Supplementary documents may also be included, as appropriate (Appendices);

- Trench information table
- Table of recorded contexts
- Specialist Reports
- OASIS summary

5.17 The archive and complete report will normally be available within six weeks of the completion of the entire fieldwork programme.

DIGITAL MANAGEMENT PLAN

5.15 Minerva Archaeology is committed to following best practice and guidance to safely store and safeguard all digital data collected or created as part of the current project.

5.16 Mark Sycamore, as the designated officer, has overall responsibility for the company digital data.

5.17 Standard methods of data collection will be applied throughout the project. Methods of collection will meet the requirements of the HET.

5.18 Currently, Minerva Archaeology field data records are primarily recorded on a range of card pro-forma and where appropriate in permatrace drawings. Information in digital format is also used including digital photographs, drawings and survey data if appropriate. However data created during a project may be supplemented by third party information, primary records may also be digitised. Digital data will be produced during the course of producing reports and disseminating results.

5.19 In the course of the project, due to the nature of the work, certain data will be collected. This may include data provided by the land owner and or developer, any other contractors related to the project and the Local Planning authorities. This data may contain information relevant to the project such as architectural plans, topographical surveys, etc or professional or personal contact details.

File Formats

Category	Format	Stored	Backup
Digital Mapping	CAD (DXF, TCW)	NAS drive	External drive
Digital Mapping	GEOTIFF	NAS drive	External drive
Digital Drawings	GIS (QGIS)	NAS drive	External drive
Digital Drawings	Scans (TIFF, PNG, JPEG)	NAS drive	External drive
Project Tracking	Excel (XLS)	NAS drive	External drive
WSI	Word (doc, docx)	NAS drive	External drive

Finds Concordance	Excel (XLS)		External drive
Report	Word (doc, docx)	NAS drive	External drive
Pro-forma	Word (doc, docx)	NAS drive	External drive
Digital Pro-forma	Excel (XLS)	NAS drive	External drive
email	webmail	Cloud	Cloud
Digital Photographs	(RAW, TIFF)	NAS drive	External drive
Digital Survey data (GPS)	CAD (DXF)	NAS drive	External drive
Third party documentation and reports	Word (doc, docx) and pdf	NAS drive	External drive

Project File Structure

5.20 All digital project data is stored on a central network drive. This network drive is incrementally backed up at the end of each day onto a separate drive.

5.21 Each project has a unique project number consisting of the letters MA (for Minerva Archaeology) followed by a number.

5.22 A folder structure is standardised across every project, each subdivided for the separate storage of files for General information, Tender, WSI, Post excavation, Important emails, Drawings, Archiving, Digital Photographs

5.23 Digital photographs are uploaded into folders named by date. During the preparation of the report, shots that are to be used are copied into a specific report folder.

5.24 Filenames of documents and files have version numbers or may contain a 'Final' designation. For example, *MA_123_Report_text_V2* or *MA_123_Report_text_Final*.

Metadata

5.25 A metadata summary will be included in the report. A working copy will be on Minerva Archaeology's network server.

5.26 Metadata tables for each data type will be populated during the life cycle of the project and will use standard format for each data type as recommended by ADS, who are the intended repository for the digital data archive.

5.27 Data documentation will meet the requirements of the project brief, museum deposition guidelines and digital repository guidelines and the methodology laid out in the *Written Scheme of Investigation* (WSI).

5.28 An archive catalogue documenting both physical and digital archive records will be maintained

Security

5.29 All devices that have access to digital project data have suitable antivirus installed and are kept up to date (either f-secure or win 10 windows defender). Systems are also maintained with available, regular security updates. Access to sensitive files is restricted as they are stored in drives invisible to most of the network and password protected. Access to the network is protected by firewall, and remote access is allowed through limited secure machines, with secure web application installed (Splashtop).

Live Storage

5.30 With the exception of emails, which are cloud stored, all company and project based data is stored on a Raid 5 network drive (NAS). An incremental backup of all files on the network drive is made at the end of every 24 hour period. Further copies of project sensitive data are also held at remote locations.

5.31 Sufficient data storage space is available on Minerva Archaeology's server. The server is accessible by staff on and offsite via a secure log-in.

Long-term Storage

5.32 It is anticipated that digital project files will be stored on the network drive for at least a year after the completion of the project. Files may be archived onto secure storage within five years of the project completion.

Archiving Data

5.33 Deposition of digital data will be in accordance with current guidelines (ClfA/ ADS/ AAF/ Historic England), and the requirements of the appropriate museum or repository. The site's digital data will be deposited with the *Archaeological Data Service*.

5.34 Deselection of project data from the project archive will be reviewed over the duration of the project. Deselection of data will be in accordance to ClfA's Selection Toolkit for Archaeological Archives

5.35 In the normal course of a project, some files will not be included in the archive, such as:

- Commercially sensitive emails
- Records for administration purposes, such as timesheets and mileage forms
- Draft versions of reports and digital drawings
- Intermediate scans used for preparation of drawings, or already imbedded into other documents included in the archive.
- Redundant digital photographs (copies or working shots)
- Third party data that have a time-limited licence, such as HER data
- Third party documents not produced or commissioned by Minerva Archaeology Ltd.

GDPR

5.36 Minerva Archaeology recognises its responsibilities towards the way it collects, stores and uses personal or sensitive information. It will comply with current guidance under General Data Protection Regulations (GDPR), and Minerva Archaeology's Data Policy. All data covered by the regulations will be stored securely, with access restricted. The Information Commissioner's Office (ICO) will be notified if a breach occurs, defined as a security incident that has affected the confidentiality, integrity or availability of personal data held by the company.

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Method Statements

Archaeological Evaluation Method Statement

Fieldwork Methodology

6.1 The location of the trenches will be surveyed in relation to Ordnance Survey national grid by triangulation from known points. The final location of the trenches will be adjusted according to circumstances encountered on site.

6.2 Within each trial trench, overburden will be removed down to the first significant archaeological horizon using a mechanical excavator fitted with a toothless ditching bucket. Spoil will be scanned visually and using a metal detector in order to assess the presence and survival of artefactual material in the overburden.

6.3 All exposed archaeological features and deposits will be cleaned by hand and sampled as appropriate according to their accessibility, so as to ascertain their nature, depth, date and quality of preservation, while ensuring that unnecessary destruction of discrete features is minimised. As a general rule, 50% of discrete features will be sampled and 20% of stratified archaeological deposits, but these proportions may vary in discussion with HET according to circumstances encountered on site.

6.4 Pre-excavation plans of each open trench (where potential features and deposits have been identified) will be drawn at a scale of 1:50 on polyester draughting film together with a longitudinal section or profile of the trench. Post-excavation plans of all exposed archaeological features will be drawn, at a scale of 1:20 on polyester draughting film. Sections of excavated features will be drawn at a scale of 1:10. Intermediate contexts will be drawn in the space provided on pro-forma record forms, or on polyester draughting film as appropriate.

6.5 A detailed context record will be maintained on individual pro-forma record cards, designed to meet current professional standards. Each layer, fill, cut etc., will be individually numbered and described in terms of soil detail, stratigraphic position, dimensions, artefact content, samples and interpretation.

6.6 A photographic record of each trial trench, and each archaeological feature or deposit, will be maintained in digital format using high quality DSLR equipment. Lenses and film types will be chosen to suit the prevailing conditions. Photographs of archaeological features will include an appropriate scale (including vertical scales used in combination with horizontal scales for deep sections), north arrow and a photo board (which will contain a site code and context number). A complete register of all photographs will be included in the archive.

6.7 All finds relating to the archaeological record of the site will be collected with reference to context and location. Finds processing will take place alongside the site work and will entail cleaning, marking, appropriate storage, quantification and initial classification. Primary conservation of artefacts will take place on site, and be supplemented by appropriate storage prior to selection for specialist attention. All registered finds will be recorded three-dimensionally in situ, either by offset measurement or by extrapolation from polar coordinates. A metal detector will be available where appropriate.

6.8 Provision will be made for sampling and analysis of environmental data by appropriate specialists. All sampling will be carried out in accordance with the guidelines set out Environmental Archaeology (English Heritage 2011) and with reference to Environmental Archaeology and Archaeological Evaluations (Dobney et al. 1995). If a context is suitable, contains datable material and demonstrates a potential for environmental information, a standard 40 litre sample will be taken.

6.9 Should human remains be encountered, their location will be marked and they will be left in situ. Any decision on further investigation or removal of human remains will be the subject of a separate agreement between Minerva Archaeology, their clients, and the appropriate authorities including the HET.

6.10 Should remains falling within the terms of the Treasure Act (1996), or collections of artefacts or ecofacts which are considered to be of particular significance be uncovered during the fieldwork, the HET, the Coroner's office, and the Portable Antiquities Scheme officer will be contacted (as appropriate) and their advice sought.

6.11 The physical security of all archaeological deposits, features and artefacts, both on and off the site, will be a central concern and all reasonable measures will be taken to ensure their protection before, during and after excavation.

6.12 Subject to any requirement for a further work, and with the agreement of the HET and of the client, the trenches will be backfilled on completion of the evaluation but no further reinstatement will take place.

NOTE: No geotechnical or contamination report has been provided for the present site. The archaeological fieldwork will go ahead, but all on-site staff will wear appropriate PPE, including gloves, with other PPE, such as masks, being available if required. Nevertheless, should a readily identifiable contaminant, such as asbestos, be encountered during the archaeological investigations, the excavation team will withdraw from the affected area until it has been appropriately cleared. Responsibility for this will remain with the client.

RESOURCES AND PROGRAMMING

Fieldwork

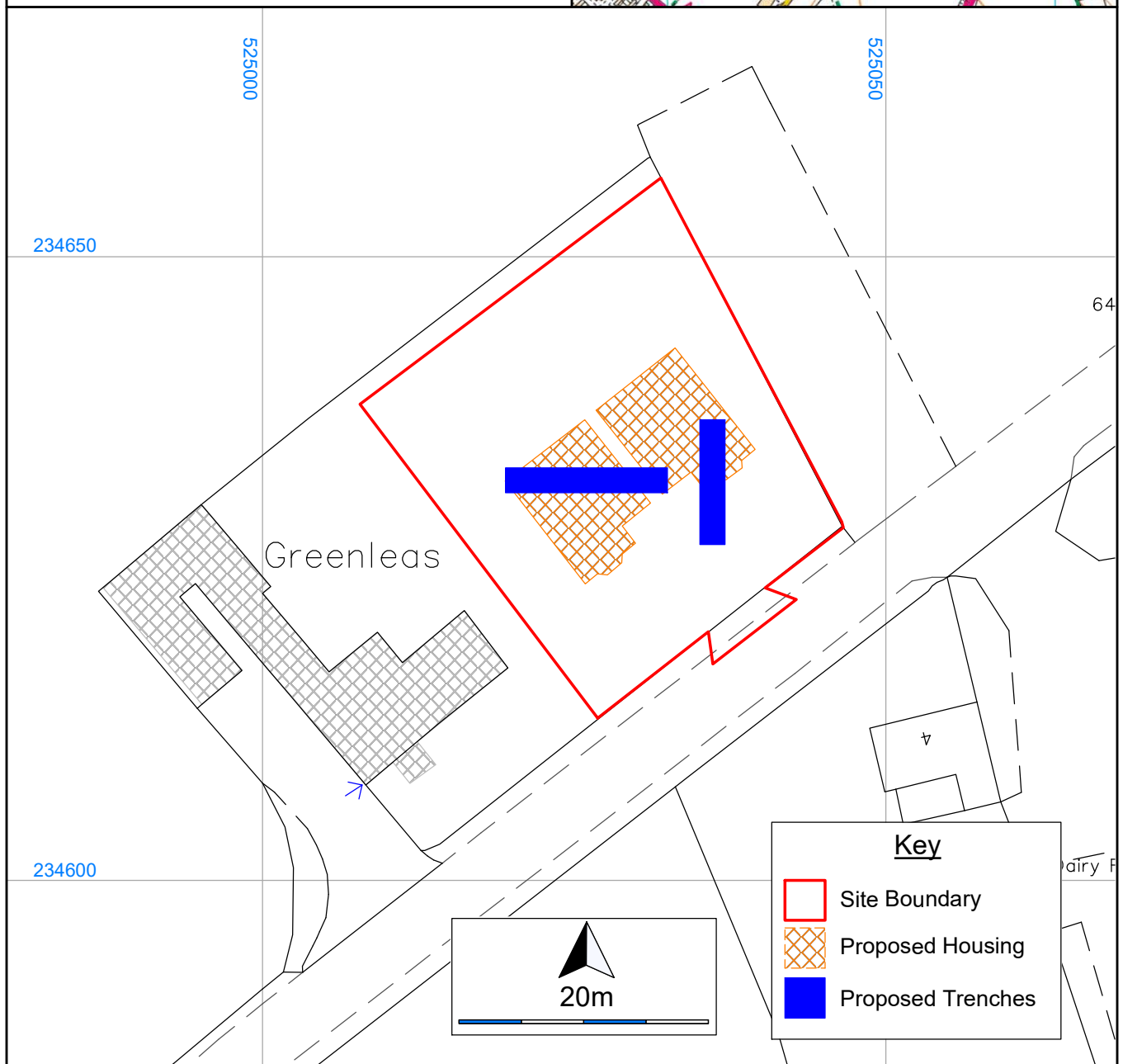
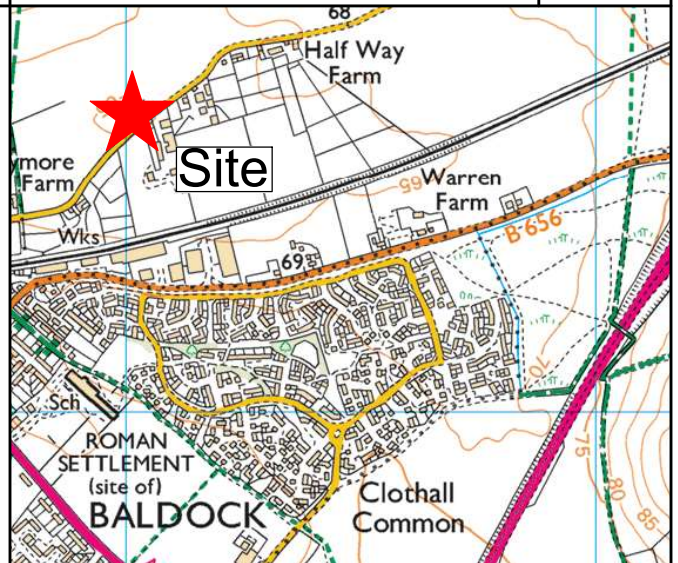
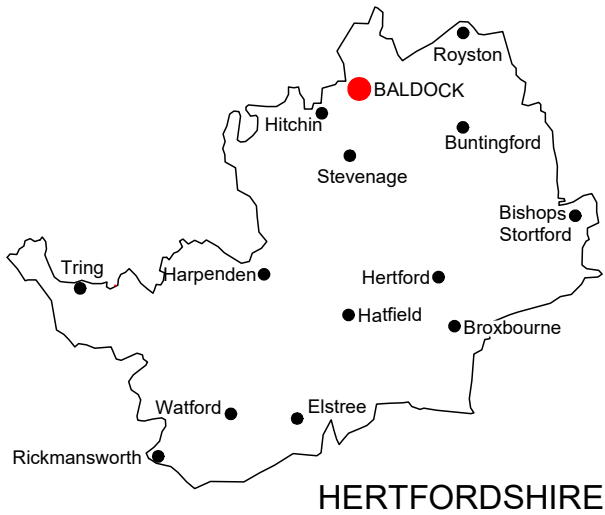
Duration: 1 to 3 days
Staff: 1 x project officer
1 x assistant project officer

Public Engagement

6.13 It is unlikely that there will be any scope for public engagement during the current project. However, if significant remains are discovered in the course of the project, with approval of HET, Minerva Archaeology may attempt to promote and disseminate information to local interested parties, and if appropriate, and safe, arrange public visits to site.

Timetable

6.14 The evaluation fieldwork has not been provisionally timetabled.



Site location and layout

Ordnance Survey (c) Crown Copyright. All rights reserved. Licence number 100022432

Scale 1:500

Figure 1

Appendix 1

Fieldwork Risk Assessment			
Site Name:	Greenleas, Bygrave Road, Baldock	Ref:	MA 472
Project Type:	Archaeological Evaluation	Date:	12/08/ 2024
Signed:	CT	Approved:	MS
Overall Risk BEFORE Mitigation (Low, Low-Moderate, Moderate, High-Moderate, High)			
Moderate			
Overall Risk AFTER Mitigation (Negligible, Low, Low-Moderate, Moderate, High-Moderate, High)			
Low - Moderate			

Remember mitigation measures **MUST** be put in place for hazards with a PR score of 4 or above

Abnormal Risks (Site Specific)

Hazard		At Risk	Potential injury	Appropriate Action (Mitigation)	Calculated Risk			
Process	Type				LO	PS	PR	MR
None								

All hazards need to be monitored during a project and reassessed if methodologies change significantly.

Key: *Likelihood of hazard occurrence (LO)* 1=Rare; 2=occasional; 3= very likely

Potential Severity of injury (PS) 1=negligible; 2=minor injury; 3=serious injury/ fatal

Perceived Risk (PR) Calculated using (LO x PS)

Mitigated Risk (MR) 1=V.Low; 2=Low; 3=Normal; 4=Proceed with Caution; 5=Unacceptable

IF MITIGATED RISKS (MR) IS 5 OR HIGHER THAN THE RISK IS UNACCEPTABLE WITHOUT FURTHER ACTION TAKEN

Hazard		At Risk	Potential injury	Appropriate Action (Mitigation)	Calculated Risk			
Process	Type				LO	PS	PR	MR
Arriving and Departing								
Loading/ unloading vehicle	Carrying too much equipment; dropping equipment	All users	Back injury; foot injury; minor cuts	Follow the manual handling procedures; training in safe lifting; caution while loading tools	2	2	4	3
Transport to and from site	Traffic accident; vehicle fire	All users	Serious injury or death	Vehicles kept in good order; all drivers have company vehicle test; properly maintained fire extinguisher in vehicle	1	3	3	2
Parking vehicles	Run down or traffic accident	All drivers	Serious injury or death	Park in designated areas on site or find a safe place to park; do not park on pavements or obstruct highways.	1	3	3	2
Site Conditions								
On site	Adverse hot weather conditions, hot/cold/ rain/ snow	All on site	Dehydration; heat-stroke; sunburn of varying degrees of severity. Increased likelihood of falling ill; exposure	Use high factor sun creams/ sunblock; drink at least 1.5-2 litres of water; take regular breaks in shade. Wear suitable warm/ waterproof clothing; take shelter from extreme weather	2	2	4	3
On site	Extreme noise	All in vicinity	Serious damage to hearing	Wear approved ear defenders; limit the time of exposure to sound.	2	3	6	4
On site	Contamination; hazardous waste	All in vicinity	Irritant of varying degrees of severity; Serious disease or death	Wear suitable protective suits; gloves and appropriate breathing apparatus; Avoid contact, direct or close proximity with harmful substances.	2	3	6	4
On site	Lone working	Worker	Injury without help or support.	Inform colleagues of whereabouts. Maintain communications with office. Carry mobile phone on your person – switched on, charged & in credit.	3	2	6	4
Ground conditions	Tripping, or falls on uneven ground	All on site	Serious injury; muscle strains	Wear PPE; clearance if possible; Caution when walking across site, particularly when carrying equipment. Look where you are going.	2	3	6	4
Vegetation, Plants, bushes and trees	Trips and falls, unsafe or low tree branches	All in vicinity	Serious injury; minor cuts; muscle sprains; tetanus; stomach illness; allergic reaction varying degrees of severity; poisoned	Wear PPE; If possible clear area of vegetation. Avoid direct contact with vegetation likely to cause allergic reaction; do not eat any unknown berries or fruit.	1	3	3	2

Hazard		At Risk	Potential injury	Appropriate Action (Mitigation)	Calculated Risk			
Process	Type				LO	PS	PR	MR
Animals	Bitten, chased or stood on by large animals (e.g. cows/ horses) Contact with animal excrement or urine.	All in vicinity	Serious injury; cuts; disease	Wear PPE; If possible, request the removal of farm animals from site prior to start of work; adequate washing facilities on site. Know the symptoms of animal borne diseases.	1	3	3	2
Biting/stinging insects	Bites, stings, infection.	All in vicinity	Irritation; minor injury; disease	Wear PPE; apply suitable repellent where necessary; avoid known nests; if necessary, have nests removed.	2	2	4	2
Fieldwork								
Vicinity of heavy machinery	Run down or struck by mechanical arm.	All in vicinity	Serious injury or death	Wear high visibility PPE; keep out of operating radius of machines; work with a banksman; keep within driver's field of vision.	2	3	6	4
Overhead Services	Striking overhead cables; machine arcing to power cables	All in vicinity	Serious injury or death	Never machine close to overhead services; when moving beneath overhead services the machine arm must be as low as possible and supervised; Wear PPE; Check developers plans; use a cat scan; consult with on site foremen/ surveyor; assume all services are live	2	3	6	4
Buried services	Striking electric cables; breaking foul water drainage	All in vicinity	Serious injury or death; stomach illness	Wear PPE; Check developer's plans; use a cat scan; consult with on site foremen/ surveyor; assume all services are live; avoid contact with foul water.	2	3	6	4
Buried services	Gas pipelines	All in vicinity	Serious injury or death	Check service maps, do not mechanically excavate near pipes, call 0800 111 999 in an emergency and evacuate site.	2	3	6	4
Open excavations	Falls into excavations	All in vicinity	Serious injury or death	Adequate fencing; safety notices; hazard tape around trenches and other excavations. Look where you are going.	2	3	6	4
Deep excavations	Collapse of excavations	All in vicinity	Serious injury or death	Excavations should be fenced off; adequate gap between stockpiled spoil and excavation edge; professional shoring and/ or stepping or battering the sides; wear PPE; Secured ladders for access; do not enter unsafe excavations.	2	3	6	4

Hazard		At Risk	Potential injury	Appropriate Action (Mitigation)	Calculated Risk			
Process	Type				LO	PS	PR	MR
Buried features	Sudden voids, ground collapsing	All in vicinity	Serious injury or death	Care should be taken when walking or standing on known buried features, particularly cellars and suspected wells. Access to any identified void should be restricted using fencing, appropriate safety equipment should be used	1	3	3	2
Human remains	Contact with decayed human matter	All in vicinity	Infection and disease of varying severity	Human remains to be handled in accordance with ClfA guidelines and the terms of the Home Office licence; gloves, masks & protective overalls should be worn as necessary.	1	3	3	2
Portable electrical devices	Lights and generators	Operative	Serious injury or death.	Ensure all electrical devices, cables and fittings are in good condition. Do not use any damaged equipment. Do not use generators in confined space. Where appropriate use 110volt equipment.	1	3	3	2
Excavation tools	Hitting self or others nearby	All in vicinity	Serious injury; minor cuts	Wear PPE; training in the safe use of tools; don't work too closely together.	2	3	6	3
Wheelbarrows	Tipping over; collapsing excavation sides	All in vicinity	Serious injury; back injury; muscle strains	Barrows should be properly maintained; don't overload barrows; don't use barrows in wet slippery conditions; ensure barrow runs are adequately far away from excavation sections and are not too steep	1	3	3	2
Survey equipment	Eye strain; looking into the sun	User	Serious injury to eyesight	Adequate training; never look at the sun through any optical device.	1	2	2	1
Site pegs/ markers	Tripping over; falling or walking into them	All in vicinity	Serious injury	Use protective footwear; All pegs/ markers should be sprayed and have protective caps.	2	3	6	3
Working on ladders/ raised platforms	Fall; dropping equipment	All in vicinity	Serious injury or death	Wear PPE; Working at height should be avoided. Excavations should be stepped to allow access. all ladders should be properly maintained and properly secured at the top and base; access to the area beneath ladder/ platform should be restricted; only access scaffolding that has been erected by an approved certified contractor; mechanical platforms should be operated by trained professionals only	2	3	6	4

Hazard		At Risk	Potential injury	Appropriate Action (Mitigation)	Calculated Risk			
Process	Type				LO	PS	PR	MR
Vicinity of overhead work	Struck on the head by falling objects	All in vicinity	Serious injury or death	Avoid working beneath others working overhead; wear PPE; Make sure that everyone working overhead is aware of your presence below; work with a banksman	2	3	6	4
Structures	Struck by falling debris; buried under collapsing walls/ buildings	All in vicinity	Serious injury or death	Wear PPE; do not undermine walls; do not enter unsafe structures	1	3	3	2
Structures	Dust; air pollution; confined spaces	All inside structure	Breathing difficulties; loss of consciousness	Adequate fresh air supply; wear appropriate face masks; take regular breaks; only those with professional training should enter a confined space	1	2	2	1
Structures	Debris, broken glass, bird/animal droppings	All inside structure	Trips or falls; minor cuts; disease	Wear PPE; area should be cleared; wear gloves and avoid contact with animal droppings; adequate washing facilities	2	2	4	3
Unexploded ordnance	Unearthing of unexploded ordnance	All in vicinity	Serious Injury or death.	Evacuate site (at least 100m) and contact police.	1	3	3	2
Site facilities								
Toilets	Contact with human waste	All users	Sickness; disease	Provide adequate hygienic facilities for the size of work force. Site toilets to be clean, regularly emptied & maintained, and washing facilities provided	1	2	2	1
Site office	Trips, falls; fire; electrical shock	All users	Serious Injury or death	Furniture, heaters, cookers, lights and fixtures are to be in good condition and properly maintained. Fire fighting appliances need to be in good working order; Passageways need to be kept open. Look where you are going when moving around office. Fire escapes to be well marked.	2	3	6	3
Site Visitors								
Visitors	Trips, falls; run down or struck by heavy vehicles	All visitors	Serious Injury or death	Restrict access to site using adequate fencing; wear PPE; Visitors must be accompanied at all times; On larger sites visitors should be undergo an on-site health & safety induction	2	3	6	3

Hazard		At Risk	Potential injury	Appropriate Action (Mitigation)	Calculated Risk			
Process	Type				LO	PS	PR	MR
Vicinity of hostile clients/ landowners	Assault, Harassment	Individuals	Serious physical or verbal assault	Do not put yourself in danger. Make written appointments; if overtly hostile take colleague or police officer. If there is a clear danger leave site.	1	2	2	1