



Consultancy - Desk-Based Assessments - Fieldwork - Surveys



Buildings - Post-Excavation - Research and Teaching - Specialised Services

Stirling College Development Site,
Kildean, Stirling
Data Structure Report
Project 3039

GUARD



University
of Glasgow

Glasgow University Archaeological Research Division

Stirling College Development Site, Kildean, Stirling Data Structure Report

On behalf of: Forth Valley College

NGR: NS 78310 95070

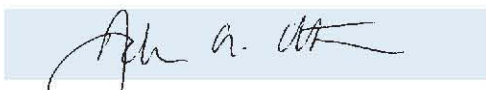
Project Number: 3039

Project Manager: Ronan Toolis

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Illustrations: Gillian McSwan

Approved by:



Date:

09/03/2010

This document has been prepared in accordance with GUARD standard operating procedures.

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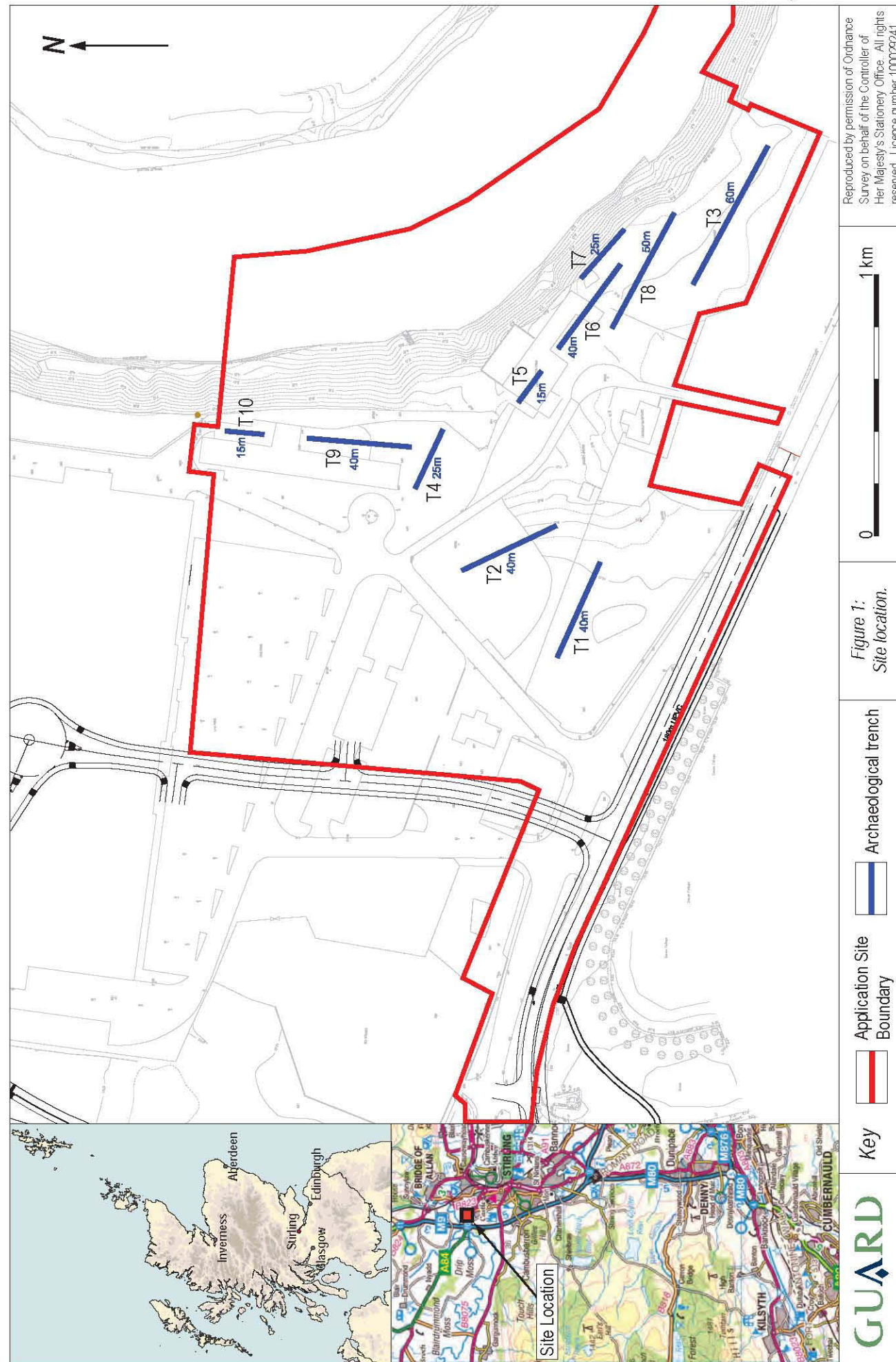
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Executive Summary

- 1.1 An archaeological evaluation was carried out by Glasgow University Archaeological Research Division (GUARD), on behalf of Forth Valley College, of a proposed development area at Kildean Auction Market, Stirling. The trial trench evaluation encountered no significant archaeological features.

Introduction

- 2.1 This report sets out the results of an archaeological evaluation undertaken by GUARD, on behalf of Forth Valley College on a site proposed for the construction of Stirling Campus site at Kildean Auction Market. During the course of the evaluation a total of 665 m² of trenching was undertaken, spread over 10 individual trenches targeted on specific areas across the site.

Site Location, Topography and Geology

- 3.1 The proposed development location lies to the north of Drip Road in Raploch, Stirling (NGR NS 78310 95070).
- 3.2 The site is bounded by a loop of the river Forth to the north-east, by the Drip Road at the south side and by the former Kildean Auction Mart building at its north and west boundary. The area subject to evaluation currently consists of fairly flat rough grassland crossed by footpaths on the east side and tarmac surfaces of the former auction mart on the west side (Figure 1).
- 3.3 The underlying drift geology consists of raised tidal flat deposit of alluvium, while the solid geology consists of conglomerate of volcanic formation and Stockiemuir sandstone (British Geological Survey 1:63,600, Sheet 39, Drift and Solid).

Archaeological Background

- 4.1 A review of desk-based sources undertaken in advance of the trenching revealed a total of seven known cultural heritage sites within proximity of the proposed development. Three of these sites are located within the boundary of the development site. Sites recorded within the study area included: Kildean Ford (SSMR 5409), a possible medieval ford crossing the river Forth; an alleged Roman or medieval bridge (SSMR 4454) and Kildean Mill Farm (NMRS NS79NE 82; SSMR 5617), a post-medieval farmstead demolished in 2007. Other sites of note included the former Kildean Auction Mart (NS79NE 82.1; SSMR 5616); an alleged Roman Road (SSMR 1085.1) given the presence of a low ridge, although it seems likely to be related to a post-medieval agricultural feature and the finding of a human jawbone of unknown date at the sandbank in the river Forth (SSMR 1932). A previous archaeological evaluation of a potential Roman temporary Camp (NS79NE 16) a short distance to the north of the proposed development area encountered no significant archaeological remains.

Aims and Objectives

- 5.1 The aims and objectives of the archaeological work were to:
- establish the presence or absence of physical remains associated with the possible Roman Bridge across the River Forth;
 - establish the presence or absence of physical remains associated with the Medieval Bridge across the River Forth;
 - establish the presence or absence of archaeological remains associated with the bridges above;
 - establish the presence or absence of any features relating to post-medieval farming activity on the site;

- test for the presence of any archaeology relating to human activity along this stretch of the River Forth;
- establish the condition and extent of any archaeological features or deposits;
- inform local and regional research agendas with the results of the archaeological investigation.

Methodology

- 6.1 Topsoil was stripped using a mechanical excavator, fitted with a flat-bladed ditching bucket, under close archaeological supervision. The topsoil was removed in linear trenches to the surface of the subsoil or the first significant archaeological horizon. The trenches varied between 15 m and 60 m and were 1.9 metres wide. Trenches were located to examine a sample (665 m²) of the development area and were targeted on the river bank and the site of the former post-medieval Kildean Mill Farm (Figure 1).
- 6.2 All on-site, written, drawn and photographic recording was undertaken to the Written Scheme of Investigation (Appendix D). Trenches were surveyed and located within the National Grid using a sub-centimetre GPS. Weather conditions for the evaluation were dry but cold.

Results

- 7.1 Ten trenches were excavated, totalling 665 m², the results of which are set out in Appendix A. For the majority of the area, trenches revealed grey/brown silt clay or mid brown clay loam topsoil (0.1 to 0.4 m thick) which lay over a demolition layer (0.1-1.25 m thick) overlaying natural subsoil (Figure 2). Other than the remains of a wall relating to the post-medieval Kildean Mill Farm, encountered in Trench 5, no features of archaeological significance were encountered.



Plate 1: Trench 4 south facing section, showing modern building detritus

Discussion

- 8.1 The evaluation trenching encountered no significant archaeological features.

Recommendations

- 9.1 The evaluation work demonstrated that no archaeologically sensitive deposits or features exist within the proposed development area. In consequence, it is recommended that no further archaeological work is required.
- 9.2 GUARD would stress that these recommendations are intended for guidance only. While the recommendation was developed following consultation with Lorna Main, Stirling Council Archaeology Officer, final decisions on the nature and extent of any future archaeological work rest with the planning authority.

Acknowledgements

- 10.1 GUARD would like to thank Halcrow Group Ltd, Elphinstone Holdings Ltd and Central Demolition for their assistance. Plant and drivers were supplied by Brown Plant Hire. Technical support was from Aileen Maule and John Kiely. A survey of trench locations was conducted by Fiona Jackson. The illustrations were produced by Gillian McSwan. The report was desk top published by Jen Cochrane. The project was managed for GUARD by Ronan Toolis.

**Kildean
Data Structure Report**

Section 2: Appendices



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Appendices

Appendix A: Trench Descriptions

Tr No	Length	Width	Depth	Topsoil/Overburden	Subsoil	Details
1	40m	1.9m	0.45m	Light grey/brown silt clay with root inclusions	Light orange/grey clay	No archaeological features or artefacts present
2	40m	1.9m	1.14m	Tarmac hard standing and building debris above a blue/grey re-deposited clay deposit	Light orange/grey clay	No archaeological features or artefacts present
3	60m	1.9m	0.40m	Grey/brown silt clay topsoil with modern building detritus	Light orange/grey clay	No archaeological features or artefacts present
4	25m	1.9m	1.8m	Mid brown clay loam topsoil with modern building detritus	Blue/grey clay	No archaeological features or artefacts present
5	15m	1.9m	1.5m	Concrete hard standing with demolition material below including stone fragments and bricks	Light orange/grey clay	Stone wall relating to probable farmstead building
6	40m	1.9m	0.70m	Grey/brown silt clay topsoil with modern building detritus	Light orange/grey clay	No archaeological features or artefacts present
7	25m	1.9m	1.5m	Grey/brown silt clay topsoil with modern building detritus	Light orange/grey clay	No archaeological features or artefacts present
8	50m	1.9m	0.4-1.1m	Grey/brown silt clay topsoil with modern building detritus	Light grey/blue clay	No archaeological features or artefacts present
9	40m	1.9m	0.85m	Mid brown clay loam topsoil with modern building detritus	Blue/grey clay	No archaeological features or artefacts present
10	15m	1.9m	0.55m	Mid brown clay loam topsoil with building detritus	Blue/grey clay	No archaeological features or artefacts present

Appendix B: Site Records

List of Photographs

Film No. 001

Frame	Area	Context No.	Subject	Taken from
1	TR 1		Pre-excavation	W
2			ID shot	
3	TR 1		North facing section	N
4	TR 1		Post-excavation	E
5	TR 2		Pre-excavation	W
6	TR 2		North facing section	N
7	TR 2		Post-excavation	SE
8	TR 2		Post-excavation	NW
9	TR 3		Pre-excavation	W
10			General shot of Wallace's Monument	SW
11			General shot of Wallace's Monument	S
12			General shot of Wallace's Monument	SE
13	TR 3		South facing section	S
14	TR 3		Post-excavation	W
15	TR 3		Post-excavation	E
16	TR 4		Working shot	S
17			General shot of northern area with spoil	S
18			General shot of northern area with spoil and trenches	S
19	TR 4		South facing section	S
20	TR 5		Working progress in trench 5	W
21	TR 5		Working shot	SE
22	TR 5		North facing section	N
23	TR 6		Pre-excavation	W
24	TR 5		Post-excavation	W
25	TR 5		Possible wall of farmstead	N
26	TR 5		Possible wall of farmstead	N
27	TR 5		Back filled trench	E
28	TR 6		North facing section	N
29	TR 6		South facing section	S
30	TR 6		Post-excavation of west end	W
31	TR 6		Post-excavation of east end	E
32	TR 7		Pre-excavation	W
33	TR 7		Pre-excavation	W
34	TR 7		Post-excavation	W
35	TR 7		South facing section	S
36	TR 8		Pre-excavation	W
37	TR 6/7		Back filled trenches	E
38	TR 8		South facing section	S
39	TR 8		Post-excavation of east end	E
40	TR 8		Post-excavation of west end	W

Frame	Area	Context No.	Subject	Taken from
41	TR 9		Pre-excavation	SE
42	TR 9		East facing section	E
43	TR 9		Post-excavation	SE
44	TR 9		Post-excavation	NW
45	TR 10		Pre-excavation	NW
46	TR 10		West facing section	W
47	TR 10		Post-excavation	NW

Appendix C: DES

LOCAL AUTHORITY:	Stirling
PROJECT TITLE/SITE NAME:	Kildean, Stirling
PROJECT CODE:	3039
PARISH:	Stirling
NAME OF CONTRIBUTOR(S):	Iraia Arabaolaza
NAME OF ORGANISATION:	GUARD
TYPE(S) OF PROJECT:	Evaluation
NMRS NO(S):	NS79NE 82; NS79NE 82.1; NS79NE 16
SITE/MONUMENT TYPE(S):	---
SIGNIFICANT FINDS:	---
NGR (2 letters, 6 figures)	NS 78310 95070
START DATE (this season)	8 th February 2010
END DATE (this season)	10 th February 2010
PREVIOUS WORK (incl. DES ref.)	Roy 2005, 140 (DES 2005);
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	Due to the proximity of a medieval ford and potential bridge across the River Forth, and a post-medieval farmhouse site, an archaeological evaluation was undertaken by GUARD in February 2010, in advance of the proposed development within the former Kildean Auction Market site on the Drip Road in Raploch, Stirling. The trial trench evaluation, amounting to 665 m ² in total, encountered no significant archaeological features.
PROPOSED FUTURE WORK:	None
SPONSOR OR FUNDING BODY:	Forth Valley College
CAPTION(S) FOR ILLUSTRS:	---
ADDRESS OF MAIN CONTRIBUTOR:	Gregory Building, Lilybank Gardens, University of Glasgow, Glasgow, G12 8QQ
EMAIL ADDRESS:	i.arabaolaza@archaeology.gla.ac.uk
ARCHIVE LOCATION (intended/deposited)	Archive to be deposited in NMRS.

Appendix D: Project Design/WSI

Forth Valley Colleges

Stirling Campus, Drip Road, Stirling
 Archaeological Evaluation: Written Scheme of
 Investigation
 January 2010

Halcrow Group Limited

Forth Valley Colleges

Stirling Campus, Drip Road, Stirling

Archaeological Evaluation: Written Scheme of Investigation

Contents Amendment Record

This report has been issued and amended as follows:

Issue	Revision	Description	Date	Signed
		Draft WSI for sub-consultant tendering purposes only	23 rd November 2009	J.Goad
		Stirling Council Issue for approval	4 th December 2009	J.Goad
		Amendment following revised trench plan	12 th January 2010	J.Goad

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1 Archaeological Programme of Works

1.1 Background

Halcrow Group Ltd. (hereafter referred to as 'Halcrow') has been commissioned by Forth Valley College (hereafter referred to as 'the client') to provide engineering and environmental consultancy on the proposed Stirling Campus site in Stirling (hereafter referred to as 'the site').

The site has been granted outline planning permission (planning application ref. 09/00507/PPP) and Halcrow have been engaged by the client to manage the discharge of a condition of planning consent (see Section 1.3 below). The planning condition requires the implementation of a programme of archaeological investigation on the site, along with any follow-up mitigation if deemed appropriate.

1.2 Site Location

The site is located on the former Kildean Auction Mart site on the Drip Road in Raploch, Stirling, FK9 4UB (Figure 1).

1.3 Planning Background, Scheme Description and Consultations

The Stirling Campus site has been subject to outline planning application (ref. 09/00507) and no objections were raised by the Stirling Archaeology Officer (SCAO) to the application. However, a condition of planning consent has been imposed on the consent, as follows:

'No development, including the grubbing up of foundations, shall take place within the application site until the developer has secured the implementation of a programme of archaeological works, in accordance with a written scheme of investigation which has been submitted in writing by the applicant and approved by the Planning Authority. Thereafter the developer shall ensure that the programme of archaeological works is fully implemented and that all recording and recovery of archaeological resources within the development site is undertaken to the satisfaction of the Planning Authority.'

The outline application is for a new College facility for Stirling, which will comprise an array of new buildings within a landscaped setting. A 'garden frontage' will lie in between the College buildings and the River Forth. The College will be served by a road access from Drip Road which will also serve the wider area (subject to the 2007 Halcrow Environmental Statement).

Consultation with the SCAO has re-affirmed the archaeological significance of the site (see Section 1.4 below) as identified in the ES (Halcrow 2007) which has been reflected in the planning condition. A project outline or Terms of Reference (ToR) has been provided by the SCAO (Appendix B – Terms of Reference) which states the need for a programme of intrusive archaeological evaluation to inform mitigation. The scope of the archaeological evaluation has been decided on site in a meeting between the SCAO, Halcrow and the nominated archaeological sub-contractor, Glasgow University Archaeological Research Department (GUARD) on 2nd December 2009. The trench array has been targeted on

specific areas of the site (Figure 1) and with regard to the known live drainage and foul water services that exist (Figure 2) and which have to remain as part of the forthcoming college development.

This Written Scheme of Investigation (WSI) is a methods statement based on the ToR for approval by the SCAO. This version follows on from a draft produced for tendering purposes only.

1.4 Archaeological Background

An Environmental Statement was undertaken for the wider Auction Mart application site in 2007, which included the area of the current application. This demonstrated the presence of several archaeological monuments (numbered in brackets with the Stirling Council Sites and Monuments Record references throughout this report) within the application boundary, namely:

- The site of a medieval ford (**5409**) crossing the River Forth;
- The potential site of a Roman and medieval bridge spanning the River Forth (**4454.01**) and
- Kildean Mill Farm (**5617**), a post-medieval farm house which was demolished in 2007.

Three other archaeological monuments or find spots lie in close proximity to the application boundary:

- The location of a human jawbone (**1932**) on the banks of the River Forth;
- The Auction Mart building (**5616**), and;
- The line of a possible Roman Road (**1085.1**) given the presence of a linear earthwork, though this is thought more likely to be a post-medieval agricultural feature.

The potential for buried archaeology associated with the ford and bridge sites was identified as high in the ES. This could include structures relating to the bridges themselves along the river bank and structures (roads, paths) on the bridge approaches.

1.5 Scope of Work

1.5.1 Aims and Objectives

The aims of the archaeological trial trenching programme will be to:

- (i) Establish the presence or absence of physical remains associated with the possible Roman Bridge (**4454.01**) across the River Forth;
- (ii) Establish the presence or absence of physical remains associated with the Medieval Bridge (**4454**) across the River Forth;
- (iii) Establish the presence or absence of archaeological remains

associated with the bridges above;

- (iv) To establish the presence or absence of any features relating to post-medieval farming activity on the site;
- (v) To test for the presence of any archaeology relating to human activity along this stretch of the River Forth;
- (vi) To establish the condition and extent of any archaeological features or deposits;
- (vii) To inform local and regional research agendas with the results of the archaeological investigation.

1.6 Specific Archaeological Works Methodology

1.6.1 Trenching

The final locations and quantity of archaeological trenching have been determined during a site meeting with the SCAO, Halcrow and GUARD. The trench array has been presented on the accompanying drawing (Figures 1 and 2 in Appendix A).

The trench array comprises the following trenches:

- 1 x 60m;
- 1 x 50m;
- 4 x 40m;
- 2 x 25m and;
- 2 x 15m.

When excavated with a 1.80m wide ditching bucket, the area of investigation totals 630m². Some of the trenches will be excavated through areas of hard-standing.

The site comprises existing areas of hard-standing relating to historic farm buildings (which have recently been demolished) and a nursery building, which is due for clearance by the end of January 2010. The tendering archaeological contractors should make provision for plant equipment (breakers) to break through any such hard-standing areas.

The trenching will exclude any obvious areas of basements relating to the aforementioned buildings, with some trenching being concentrated near the river's edge in order to trace any potential archaeological structures or deposits relating to the features mentioned above (Section 1.4).

1.6.2 Strategy

Trenches will be excavated by a 360 degree tracked or wheeled excavator utilising a flat 'toothless' ditching bucket. All machining will be supervised by an appropriately experienced and qualified archaeologist. The overburden, including modern hard-standing, will be removed until the top of natural strata, or the top of significant archaeology is reached;

whichever is first.

Should trench depths exceed a safe depth (to be determined by the archaeological contractor in accordance with a site specific risk assessment and on site health and safety procedures), a contingency provision for shoring and or stepping the trenches to facilitate a deeper excavation will be provided.

All trenches will be cleaned and planned according to standard guidelines (see section 3.2 below). Should trenches be void of archaeological features selected profiles will be drawn and photographed (at the end of each trench) to demonstrate the stratigraphic sequence across the site.

Archaeological features will be cleaned and planned and excavated according to the following strategy:

Table 4.1: Archaeological Evaluation sample strategy

Feature type	Sample/ excavation	Notes
Pits/ Postholes	50%	Not including modern features. Features to be half sectioned.
Linears (ditches/ gullies)	25% (of length)	Not including modern features
Linear intersections	50%	To obtain key relationship information
Burials	0%	To be recorded in plan only

1.6.3 Site access and security

The former Auction Mart site is mostly fenced off from the general public, with heras fencing along the Drip Road frontage. Site security is currently provided by a security firm. However, the portion of the site to the south west of the nursery is accessible to the public via a path. A sufficient amount of heras fencing will be required by the archaeological contractor to fence the trenches being excavated in this particular area of the site.

Site access will be arranged at a meeting on 28th or 29th January 2010 between Halcrow, GUARD, Central Demolition and Elphinstone.

1.6.4 Services

The electrical services throughout the site have been made redundant at time of writing and will not pose a threat to archaeological machine or hand excavation.

The existing drainage, foul water and water supply on the site is active and will remain so, as this infrastructure will be incorporated into the new college development. The position of the services and the placement of trenches within them have been shown on a supporting figure (Figure 2).

A recently installed water main is not present on the service plan drawings but is visible on the ground. The approximate location has been added to Figure 2 Appendix A. The

trenches have been placed to avoid this.

GUARD will be required to pay special attention to the location of these services and ensure that the trenches are accurately located to avoid contact with them.

Despite the trench locations, GUARD will carry out a survey of services with a CAT and GENNY service detection kit prior to trench excavation.

1.6.5 Plant and soil storage

GUARD will arrange for plant to be on site in the week commencing 1st February 2010. Topsoil, if present, will be stored separately from other excavated material adjacent to the trench edges with a suitable buffer to enable safe working within the trenches.

1.6.6 Backfilling and reinstatement

The archaeological contractor will be required to backfill trenches upon approval by Halcrow and the SCAO. Agreement has been made with the SCAO that any trenches which have negative evidence for significant archaeology can be backfilled once a record has been made. Reinstatement will comprise the replacement of excavated material, with any reserved topsoil replaced last followed by tracking across the backfilled trench by machine. Photographs will be taken before and after trench excavation/backfilling.

1.6.7 Welfare

GUARD will provide all welfare, office and tool storage facilities.

1.7 Recording Systems and Methodology

The following generic requirements shall apply for all fieldwork events and are general standards in accordance with current best practice and the IfA's standards and guidance for archaeological evaluation (IfA 2008).

1.7.1 Site Staff

In all cases, works will be undertaken by appropriately qualified professional archaeologists employed by the nominated archaeological contractor. The project leader will submit their CV to Halcrow for forwarding to the SCAO prior to commencement of the fieldwork.

1.7.2 Site Code

A unique site code shall be applied to the works carried out by the nominated archaeological contractor. This will be obtained from the SCAO prior to fieldwork commencing.

1.7.3 Monitoring

Unhindered access to the excavated trial trenches will be afforded the SCAO. It has been agreed that if the trenches are archaeologically sterile, they can be backfilled once an appropriate record of them has been made. The SCAO will visit the site and inspect a selection of the opened trenches.

1.7.4 Recording Standards

The archaeological works shall be recorded to standards of current best practice. If archaeological deposits are encountered they will be planned and recorded in accordance

with the nominated archaeological contractor's recording manual. The recording manual will have to have been approved by Stirling Council prior to works commencing.

This is to include, as a minimum, the recording of individual contexts on appropriate pro-formas; trench plans at no less than a 1:50 scale; planning and section drawings of appropriate single contexts and features (at 1:20 and 1:10 scales, as deemed commensurate with the subject); photographs and other appropriate drawn and written records.

Representative measured sections of the side of the trench sections shall be prepared for each area as appropriate showing the sequences and depths of the general deposits.

1.7.5 Surveying

All archaeological remains shall be located on appropriate scale site plans, with TBMs and OSBMs indicated. All trenches and plans will be located with appropriate digital surveying equipment and located to OS base mapping. This will be submitted in a format acceptable for reproduction in technical drawings (.dwg, .dxf). All levels shall be reduced to ordnance datum.

1.7.6 Photography

The photographic record shall consist of monochrome prints/negatives colour transparencies. A 35mm standard format SLR camera is acceptable for all site photography; high resolution digital photography (5 megapixels and above) may be acceptable.

The photographic record shall include photographs of archaeological features, appropriate groups of features and structures.

Each photograph shall clearly show details of the above, and may require the use of artificial lighting to achieve suitable definition. Each photograph shall include an appropriate scale, a north arrow and a header board detailing (as a minimum) the site code and context/feature number. At least two colour slides (or high resolution digital images) showing general views of fieldwork in progress and where appropriate key find/ features.

The long term storage of digital and conventional photographic media should be considered and appropriate liaison should be made with the appropriate repository.

1.7.7 Finds Recovery

All finds will be bagged by context, with the exception of 'small finds' which should be given a unique number and their location recorded two dimensionally. All artefacts will be recovered and retained for processing and analysis in accordance with the archaeological contractors guidelines on the treatment of finds immediately after excavation.

A strategy should be provided for the short and long term storage of artefacts which may require immediate conservation to prevent decay.

Assessment of artefacts should be made by appropriately qualified specialists, which should be named by the archaeological contractor in their proposal.

GUARD will comply fully with the provisions of Treasure Trove in Scotland and the

supporting Code of Practice referred to (Scottish Government 2008). Any finds made that are identified under this Code of Practice automatically belong to the Crown. The appropriate procedures will be implemented with reference to the Code of Practice to ensure eventual handover to the Treasure Trove Unit.

1.7.8 Human Remains

Should human remains be uncovered during excavation, the Procurator Fiscal should be informed via the local Police.

Any human remains discovered during the archaeological fieldwork shall be recorded and left in place, and the Lorna Main of Stirling Council and James Goad of Halcrow will be informed as soon as practicable.

Excavation of human remains during the evaluation could constitute a 'Violation of Sepulchre'.

1.7.9 Environmental Archaeology

GUARD shall make provision for the sampling of a wide range of contexts for potential assessment and analysis for plant and animal micro/macro fossils and soils/sediments.

The preparation for, and methods of, taking samples together with their size, presentation and processing shall be in accord with current best practice. Specific site sampling strategies will be agreed with Halcrow and the SCAO, but should follow the guidance given in the ToR (Appendix B). Samples will be bagged by context wherever possible so that environmental information can be rapidly integrated with archaeological data. Where appropriate, bulk samples should be taken from all linear features and pits and a representative sample taken from other features and surfaces. The contractor will provide an environmental strategy as part of their tender which includes provision for geo-archaeological and palaeo-environmental sampling and assessment.

GUARD will also include provision for the storage and protection of waterlogged material and its treatment.

An assessment of all environmental material should be made by appropriately qualified specialist(s) and included in the initial post excavation assessment.

1.8 Contract

GUARD will be contracted on a standard Halcrow sub-consultants contract, and will be required to return a signed copy to Halcrow prior to the January 2010 site meeting.

1.8.1 Health and Safety

As Elphinstone will be retaining ownership of the portion of the site subject to archaeological evaluation, all work undertaken will be under their CDM regulation.

GUARD will conduct all works in accordance with the Health and Safety at Work Act 1974 and all subsequent Health and Safety legislation, and the archaeological contractor's policies.

They will undertake a risk assessment for the proposed works prior to commencement of fieldwork.

1.8.2 Insurance

GUARD's Public Liability Insurance will be held to a limit of £10,000,000 and Professional Indemnity Insurance to a limit of £2,000,000. No claims will have been made or be pending against these policies in the last three years.

1.8.3 Communication

All communication is to be through Halcrow Group Ltd.

1.9 Deliverables [Archaeological Contractor]

1.9.1 Proposal

GUARD will supply a proposal which should include appropriate named specialist provision and a financial breakdown of proposed costs to carry out the project in accordance with this document.

1.9.2 Itemised Costing

The proposal should include an itemised costing to carry out the following elements:

- Fieldwork costs including all plant and travel costs for the draft trial trenching as identified in this document;
- Itemised contingency fee for pumping, shoring and/or stepping out trenches;
- Heras fencing for that portion of the site accessible by the public;
- Post excavation report costs. This should give a total for a single data structure report covering the site with;
- Itemised contingency costs for post-excavation specialist inputs e.g. artefact, environmental, metallurgical or osteology;
- Itemised contingency costs for radiocarbon dating;
- Details of staff rates (inclusive of all overheads);
- A day rate for team mobilisation;
- Cost for welfare facilities.

A revised proposal with set of costs including heras fencing provision has been supplied to Halcrow, based on the itemisation above.

1.9.3 Risk Assessment

A risk assessment is required from GUARD for carrying out this work. This should include, but not be limited to, the archaeological contractor's assumptions on carrying out archaeological investigations in the proximity of over head power cables, recording in potentially deep trenches, working alone (if applicable), provision of personal protection equipment (hard hats, eye protection, boots, gloves, high visibility clothing etc) and access. In particular, the avoidance of buried services will feature in the risk assessment.

1.9.4 Data Structure Report

A draft electronic report will be submitted to Halcrow Group Ltd within **three weeks** of completion of site work. Following approval by Halcrow, the client and the SCAO, the archaeological contractor will produce one digital (pdf, including illustrations) and five bound copies which are to be submitted to Halcrow Group Ltd for distribution to the relevant parties (Stirling Council and the client).

The style and format of the report are to be determined by the archaeological contractor. However the report should comply with current Institute for Archaeologists standards and guidance (IfA 2008) and include:

- a summary of the project's background;
- the site location;
- methodology;
- assessment of confidence in the methodology applied;
- description of results;
- interpretation of the results;
- site location plans on OS base mapping, showing the location of trenches or areas observed;
- plans of trenches or areas observed where archaeological features were recognised;
- trench and feature sections showing OD heights and where applicable below ground surface heights (bgs);
- discussion of the evidence within its wider context;
- summary tables for context information for all records with interpretation; and
- a summary of the contents of the project archive and its location.

1.9.5 Archive

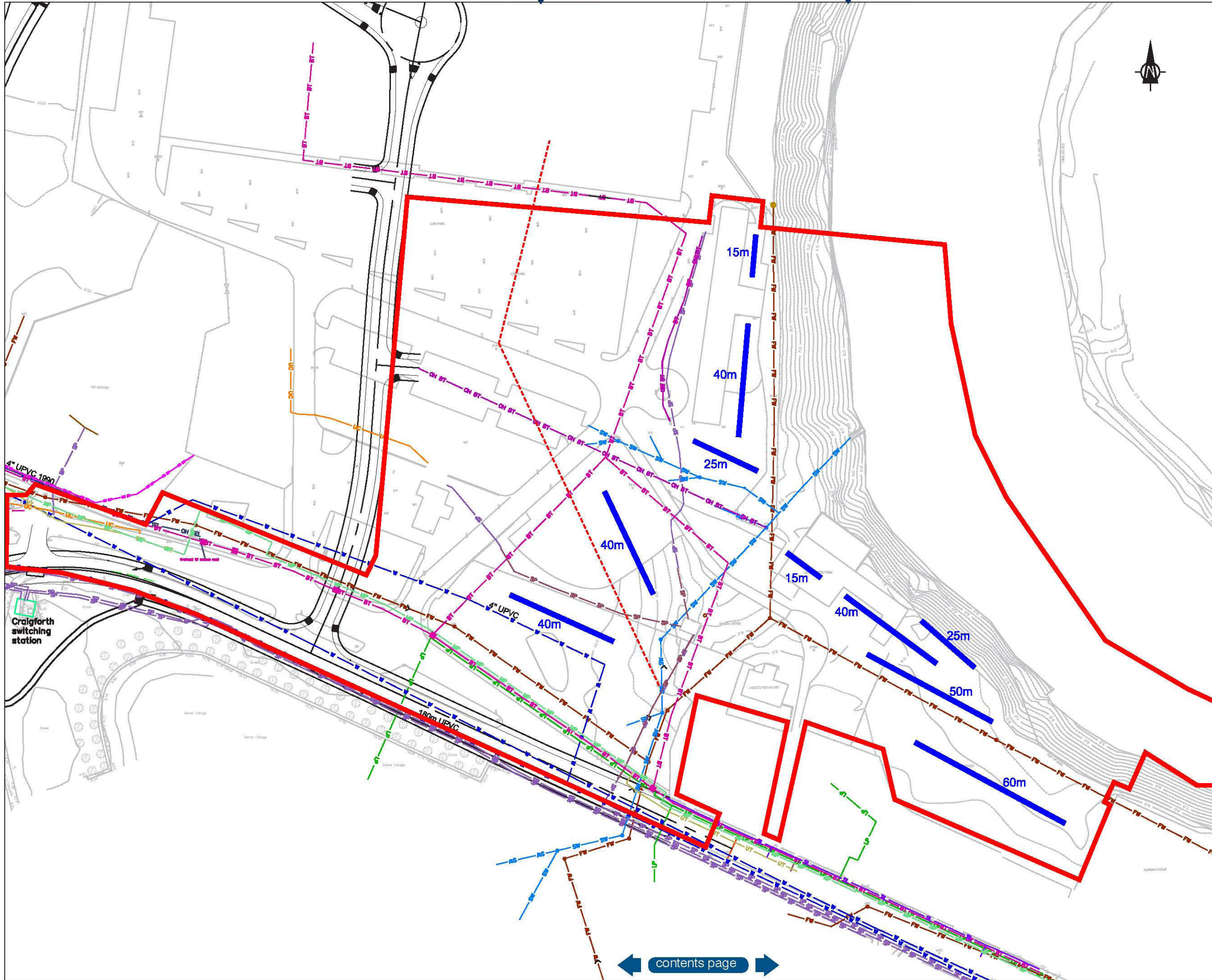
The written, drawn and photographic archive will be placed with the Royal Commission of Ancient and Historic Monuments of Scotland (RCAHMS) in Edinburgh.

The archaeological Contractor will also complete the OASIS form at <http://ads.ahds.ac.uk/project/oasis/>

Appendix A – Drawings

Figure 1: Archaeological trenching array

Figure 2: Archaeological trenching array and services information



Key:

- Application Site Boundary
- Archaeological trench



C	MMS	JG	BC	12/09	Trench layout amended
B	MMS	JG	BC	12/09	Trench layout amended
A	MMS	JG	BC	12/09	Services and trench layout amended
Rev	By	Chkd	Apprd	Date	Description

Client
The Kildean Partnership

Halcrow Group Limited
Rad Hill House, 227 London Road, Worcester, WR5 2JG
Tel 01905 301301 Fax 01905 301302
www.halcrow.com



Project
Kildean, Stirling

Drawing
Archaeological Trenching Array and Services Information

Drawn by: MMS Date: 12/09
Checked by: JAG Date: 12/09
Approved by: SG Date: 12/09

Drawing No. **Figure 2** Revision **C**

Drawing Scale: 1:1250 @ A3

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Appendix B – Terms of Reference

STIRLING COUNCIL
ENVIRONMENTAL SERVICES
09/00507/PPP
Land at Kildean Market, North of Drip Road, Stirling
Terms of Reference for an Archaeological Field Evaluation

1 INTRODUCTION

1.1 An application for planning permission in principal (09/00507/PPP), has been made to Stirling Council for the development of new college campus facilities (Use Class 10), associated access, parking and ancillary works at the former Kildean Auction Market, Drip Road, Raploch, Stirling. It is proposed that any consent which may be granted for the development will be conditional on the implementation of an agreed scheme of archaeological works.

1.2 A Written Scheme of Investigation (WSI) outlining the details of the proposed archaeological fieldwork based on these Terms of Reference is to be submitted to the planning authority for its prior approval in advance of any development works commencing on the site.

1.3 The results of the archaeological field evaluation will be submitted along with any detailed planning application for the development/redevelopment of this site. The results of the evaluation should be reflected in the design for the development and/or in a proposal for further archaeological investigation/mitigation.

2 LOCATION AND DESCRIPTION

2.1 The application site, which extends to 5 hectares, is located on flat carseland on the northwestern boundary of Stirling, close to the M9 motorway. It is bounded on the south side by Drip Road and on the east by the River Forth. The northeast section of the site is currently occupied by a derelict single storey building. The main Kildean Auction Mart building is located outwith the northern boundary of the site. Little detail has been provided with the application in terms of landscaping, services, drainage, footpaths etc.

3 HISTORICAL BACKGROUND

3.1 There is no record of any previous archaeological work on this site although an archaeological evaluation of a putative Roman temporary camp a short distance to the northwest was undertaken in 2005. This confirmed that the crop mark was part of a modern field drainage system.

3.2 The former Kildean Farm buildings, which were sited on the eastern edge of the development site, were removed without record despite having been flagged up at various stages in the development of a Masterplan for the wider Auction Mart site as being of historical interest and requiring a standing building record to be made of them prior to demolition.

3.3 The Environmental Statement (ES), which accompanied the as yet undetermined Masterplan application for the development of Kildean (07/000680), identified the site of the historic ford and a possible Roman bridging point on the River Forth on the edge of the development site as requiring mitigation measures to be put in place. Both sites and their approaches are included within the site boundary of the current application.

3.4 It is unclear from the current outline application what the possible impacts on these potential archaeological sites might be from the current development application, including proposals for landscaping, riverside access, site clearance and construction, possible river crossings, flood prevention arrangements and drainage requirements.

3.5 The ES recommended the potential need for preliminary archaeological evaluation along the riverside edge of the site (paragraphs 12.2 c and 12.5). This issue is not covered in any of the documentation which has been submitted with the current planning application.

4 OBJECTIVES OF THE ARCHAEOLOGICAL FIELD EVALUATION

4.1 In general terms the aim of the archaeological field evaluation is to establish the presence/absence, extent, condition, character, quality and date of any archaeological deposits within the development site.

5 METHOD OF WORKING

5.1 The developer will require to ensure full access to the site for the purposes of the archaeological

field evaluation and will supply details to the archaeological contractor of any services located within the site.

5.2 The field evaluation should be based on an appropriate sampling strategy. The layout of the trenches is for the archaeological contractor to decide on site in discussion with Stirling Council's Archaeology Officer but should provide good coverage across the archaeologically sensitive areas of the site, namely the riverside areas and potential approaches to a ford and or bridging point on the River Forth.

5.3 Topsoil will be stripped from the trenches under archaeological supervision by an earth-moving machine equipped with smooth-bladed ditching bucket. The stripped areas will be cleaned by hand down to the natural ground surface unless archaeological deposits are encountered. All features of archaeological interest revealed within the stripped areas are to be recorded and all artefacts recovered. There will be limited excavation of a sample of any features which are identified. This excavation should assess the dating and environmental potential of the deposits.

5.4 An allowance should be made for the appropriate post excavation analysis of any artefacts recovered and of any samples taken during the evaluation. Although it is not anticipated that the evaluation will produce a major post excavation commitment a contingency sum for unexpected discoveries should be included in the cost estimates.

5.5 The archaeological evaluation will provide recommendations on the need for any mitigation strategy or further archaeological work which may include a requirement for full archaeological investigation and/or a watching brief. In the event of the archaeological field evaluation concluding that there are archaeological features within the area of the proposed extension which merit protection/further investigation, then no development shall take place on the site until the developer has secured the implementation of a mitigation scheme for the preservation/investigation of all features of archaeological interest on the site. Details of the proposed scheme shall be submitted by the developer and approved in writing by the Planning Authority.

6 MONITORING

6.1 Stirling Council's Archaeology Officer will monitor the progress of the archaeological work. The selected archaeological contractor must therefore provide at least fourteen days notice before any archaeological fieldwork is due to commence on the site. Monitoring visit/s may be made by the Archaeology Officer during the project work to monitor the progress of the archaeological work and ensure compliance with the Terms of Reference and the approved Written Scheme of Investigation (WSI). The appropriate contact is Lorna Main, telephone 01786 442752, to whom all inquiries regarding these Terms of Reference should be addressed. Significant discoveries shall be reported immediately to Stirling Council's Archaeology Officer.

7 SITE PERSONNEL

7.1 The archaeological field evaluation should be undertaken by archaeological contractors appointed by the developer and acceptable to the planning authority. The archaeological contractors must agree to adhere to the Institute of Field Archaeologists Code of Approved Arrangements in Field Archaeology. The supervising archaeologist(s) executing the archaeological works must have professional experience commensurate with the tasks in hand. The name(s) and CV(s) of the archaeologist(s) must be forwarded to Stirling Council's Archaeology Officer for approval prior to commencement of the archaeological works.

8 REPORTING

8.1 Within two months of the completion of all archaeological fieldwork, the results are to be presented in a written report, which will take the form of a Data Structure Report (DSR), as defined by Historic Scotland. Three copies will be supplied to Stirling Council. The report will be also provided in a digital format suitable to the Council (likely to be a PDF). The details of style and format of the report will be determined by the successful archaeological contractor, but it is expected that the report will be ASPIRE compliant and include:

8.1.1 plans at an appropriate scale showing the location of those areas which were subject to archaeological evaluation and any features located;

8.1.2 a full descriptive text detailing any features identified and an interpretation of their date and purpose;

8.1.3 appropriate lists and diagrams summarising the contexts and any artefacts recovered and the records made of them.

8.1.4 section drawings of any sampled features.

8.2 The DSR will also include recommendations for any mitigation or further fieldwork or post-excavation analysis and reporting considered necessary to complete the work to the satisfaction of the Local Planning Authority. If it is agreed by the planning authority that there is no need for further mitigation work then the Data Structure Report will be suitable as the final archive.

8.3 A suitable OASIS entry for the project will also be made.

9 PUBLICATION

9.1 A brief summary of the results of the archaeological work must be prepared and submitted for publication in Archaeology Scotland's annual journal 'Discovery and Excavation in Scotland' at the appropriate time. The fee for this should be included in the cost estimates for the work. A draft of this text should be forwarded to Stirling Council's Archaeology Officer for comment prior to submission.

10 ARCHIVE DEPOSITION

10.1 Within six months of the conclusion of all the relevant archaeological work, including any post excavation analysis and reporting, a copy of all reports should be deposited in the National Monuments Record for Scotland, along with the project archive. The project archive should contain all relevant details in connection with the planning and execution of the project, including these Terms of Reference.

11 FINDS DISPOSAL

The arrangements for the disposal of any finds (artefacts) made in connection with the archaeological work are to be in keeping with Scottish legal requirements, as set out in "Information for archaeology units and other fieldworkers" on the Treasure Trove Scotland web site at <http://www.treasuretrovescotland.co.uk/html/units.asp>

11.2 Arrangements for the disposal and long term storage of finds will therefore be a matter for the Queen's and Lord's Treasurer and Remembrancer.

12 OTHER CONSIDERATIONS

12.1 Unless otherwise agreed between the client and the archaeological contractor, the copyright of any written, graphic, or photographic material rests with the originator.

12.2 All aspects of publicity and confidentiality must be agreed between the client and the archaeological contractor at the outset of the project.

12.3 All work on site shall be carried out in compliance with current Health and Safety at Work legislation. In particular, the archaeological contractor must ascertain from the client whether the archaeological work forms part of a programme of work to which the Construction (Design and Management) Regulations 1994 are applicable, and if so, the archaeological contractor must prepare and disseminate the relevant safety plan documentation and information.

12.4 The archaeological contractor must have appropriate employer's and public liability insurance cover.

12.5 Any human remains encountered must be left in situ, and notification immediately made to the local police and to Stirling Council's Archaeology Officer.

Lorna Main
Archaeology Officer
28th October 2009

Appendix C – Bibliography

Institute for Archaeologists 2008 Standard and guidance for archaeological evaluation, IfA
revised October 2008

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University of Glasgow Charity No SC004401

The logo for GUARD, featuring the word "GUARD" in a green, serif font. The letter "A" is replaced by a blue diamond shape.
Glasgow University Archaeological Research Division

www.guard.arts.gla.ac.uk