

GUARD ARCHAEOLOGY



**Aldi Development, Camelon
Data Structure Report
Project 3521**

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Aldi Development, Camelon

Data Structure Report

On behalf of: Aldi

NGR: NS 866806

Project Number: 3521

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Approved by:



Date:

18/06/2012

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

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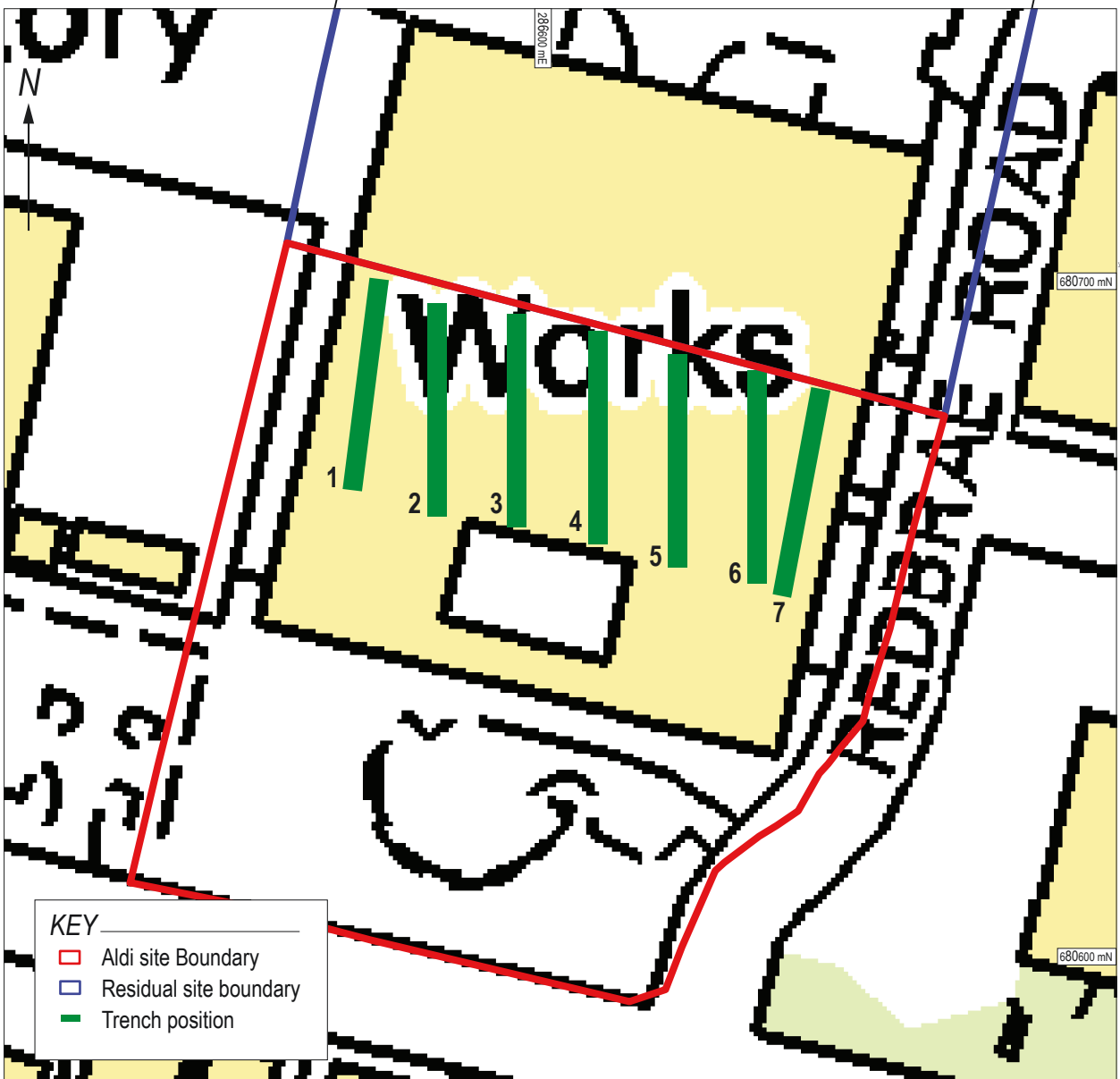
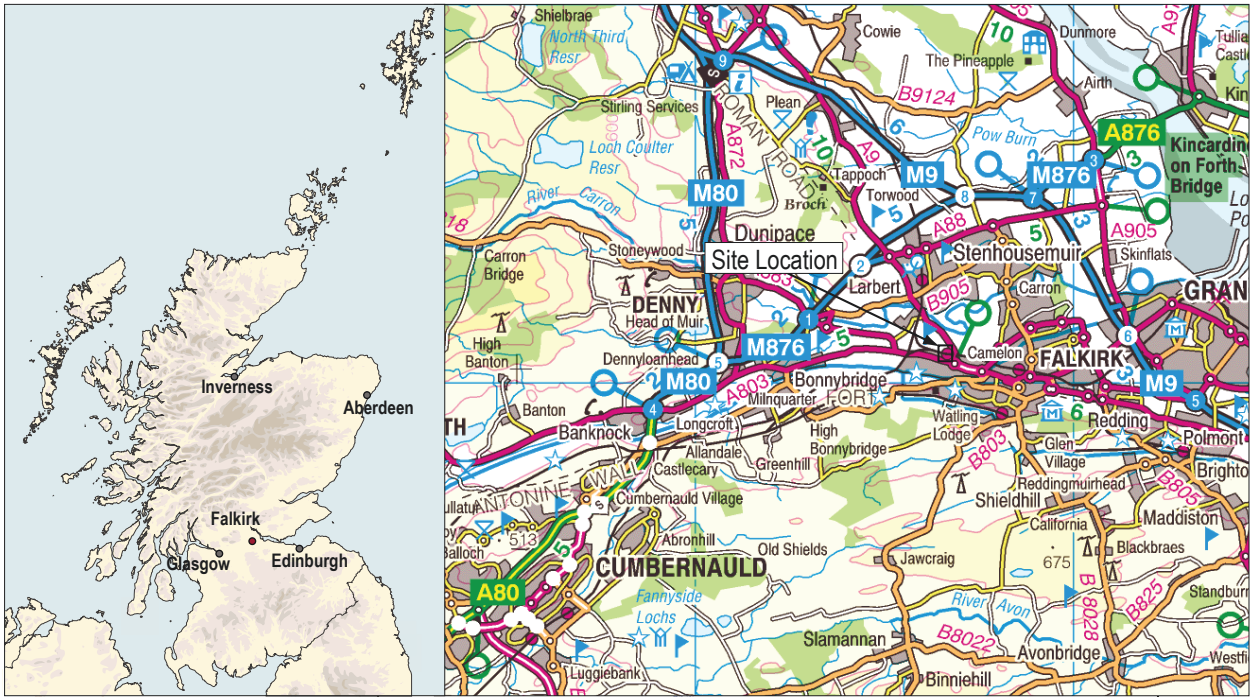
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KEY	
	Aldi site Boundary
	Residual site boundary
	Trench position

Figure 1:
Site location.



Executive Summary

- 1.1 An archaeological evaluation was undertaken on the 6-7th June 2012 by GUARD Archaeology Ltd, on behalf of Aldi Stores Ltd, on an area proposed for development at Redbrae Road, Camelon, Falkirk. No significant archaeological features were encountered during the evaluation.

Introduction

- 2.1 This report sets out the results of an archaeological evaluation undertaken by GUARD Archaeology Limited, on behalf of Aldi Stores Ltd on a site proposed for the construction of a supermarket at Redbrae Road, Camelon. The work was undertaken in advance of a planning application.

Site Location, Topography and Geology

- 3.1 The proposed development location lies in Camelon, Falkirk (NGR: NS 866806). The development area covers approximately 0.893 hectares and sits at 26.9 m AOD.
- 3.2 The site is bounded by Tesco supermarket to the west, Camelon railway station to the north, a leisure complex on Redbrae Road to the east and the A803 Glasgow Road to the south. It currently consists of concrete flooring from a recently demolished factory building and is positioned on ground much lower lying than the A803 road to the south (Figure 1).
- 3.3 The underlying drift geology consists of raised marine deposits of Devensian clay, silt, sand and gravel, while the solid geology consists of Scottish lower coal measures formation – sedimentary rock cycles, coal measures type (British Geological Survey, Geology of Britain Viewer, <http://mapapps.bgs.ac.uk/geologyofbritain/home/html> (accessed on 4th June 2012).

Archaeological Background

- 4.1 A brief archaeological assessment undertaken during the preparation of this document has identified the following known sites in the area surrounding the proposed development area within the surrounding area (Figure 1):
- Excavation on the site of Dorrator Ironworks (Site 1; NMRS: NS88SE 23.02; NGR: NS 866 807);
 - Camelon Roman Forts (Site 2; NMRS: NS88SE 23.00; NGR: NS 8630 8097);
 - Camelon Roman Burial Cist (Site 3; NMRS: NS88SE 19; NGR: NS 8717 8055);
 - Camelon Prehistoric Burial Cist (Site 4; NMRS: NS88SE 14; NGR: NS 8701 8067)
 - Camelon Polished Stone Axe Find (Site 5; NMRS: NS88SE 23.01; NGR: 862 810);
 - Camelon Barbed and Tanged Flint Arrowhead Find (Site 6; NMRS: NS88SE 30; NGR: NS 8637 8078);
- 4.2 Excavation in June 1998 by Geoff Bailey, at the site of the Dorrator Ironworks ahead of redevelopment, located two V-shaped ditches of the 1st century AD. They followed the line of an east/west escarpment overlooking the floodplain of the River Carron, and were of a military character. They can be attributed to the Flavian annexe to the fort at Camelon, to the north-west of the proposed development area. A slot parallel with the upper ditch may represent part of the associated rampart. The ditches had completely silted up by the time a large drainage ditch was cut across them at right-angles. This drain was filled with a large quantity of rubbish in the 2nd century. The material included pottery, shoes, wattle and daub, bone, beads and harness fittings. Having completely impeded the flow of water, the rubbish was dug through by a V-shaped ditch of much smaller dimensions. On the flatter ground to the south, a number of smaller ditches probably represented a field system of the immediate post-Roman period.

- 4.3 The Roman forts at Camelon have suffered from the construction of a railway, foundries and cultivation so that virtually no remains may be seen on the surface. They were extensively excavated in 1899-1900, the excavators, Christison and Buchanan, calling the two adjacent enclosures "North Camp" and "South Camp". The "North Camp" was an auxiliary fort, measuring internally 530' E-W by 490', of Antonine date. The "South Camp", which was only partially excavated in 1899-1900, has now been largely destroyed. The published plan of this enclosure is not reliable, as may be seen when it is compared with the original survey, now in Falkirk Museum. The RCAHMS deduce that the remains uncovered represent (i) an early work, probably an Agricolan fort, denoted by the ditches, (ii) a Flavian fort, having the general annexe to the Antonine fort, within which was a bath-house and a possible mansio. There was also an annexe north of the Antonine fort. This was excavated in 1961-2 under the auspices of the DoE, ahead of quarrying. Pre-Roman occupation was found in the form of two hut circles, thought to be associated with the settlement to the north-east. The annexe had contained timber buildings of non-military type, some of which were Antonine, but some were possibly pre- Antonine; the logical explanation appears to be a defended civil settlement associated with the fort, though very little datable evidence was found. Among the many relics from the site are a great deal of Flavian and Antonine pottery, several enamelled fibulae and a fragment of a votive lantern. The latest of the 56 identified coins found on the site is a first brass of Faustina II. A building stone of the Twentieth Legion reading XX V(aleria) V(ictrix) F(ecit) was found in the bath-house. In 1967 an altar inscribed (P)RO SE ET SUI: V S L L M was found at NS 852 812 in a wall on Bogton farm. It is now in Falkirk Museum. Price notes remains of Roman buildings and streets revealed during building operations and his excavations in the "South Camp", also numerous finds made by him during a re-excavation of the north annex.
- 4.4 Excavations in advance of development in 1975, 1976 and 1977 were confined to the northeast, southeast and assumed west gate area of the 'south' fort. A well-constructed 2nd century east-west road approximately bisecting the fort was located just south of its projected 19th century position. South of this road was an industrial area with four substantial furnaces and numerous rubbish pits, and further south, a stone-built building, c 6.5 x 3.2 m surrounded by an area of cobbling. Traces of Flavian occupation were found beneath these levels but no coherent structural plans emerged. On the west side, three periods of ditches were found, with an innermost v-shaped ditch ending 4 m north of the postulated west entrance, and being separated by a c 3 m wide berm found deposited clay remnants of a rampart. Three large post-holes of the gate structure were revealed, and also a cobbled east/west road that ran out through the gateway to where another road ran south from it. These features were Antonine and represent a reduction in the size of the annexe in its final phase, for they overlaid 2nd century timber buildings. The area just inside the west defences had simple timber buildings with no trace of industrial activity. The many finds included a spear and arrowheads, a bronze belt buckle, two silver rings, and several brooches, a bronze dish and part of a lava quernstone. A bronze zoomorphic ornament is in the National Museum of Scotland as are several sherds of two face-mask Roman jars from earlier trenching operations in the south fort in 1972.
- 4.5 Continued excavation in April 1979 in advance of development within the south fort produced further evidence of both the Flavian and Antonine defences. The inner and central ditches of the triple ditched Flavian enclosure identified in 1900-1 were located. The central ditch was overlaid by the south rampart of the 2nd century annexe, the rampart surviving to a maximum height of 1.1 m and width of over 3 m. A 5 m wide road ran parallel to end north of the rampart, and further north a post built timber building at least 5.4 m long (or wide) was located.
- 4.6 A Roman burial (Site 3) was found in April 1922 in a sand-pit a short distance to the east of the proposed development area. It consisted of a cist, 4' x 1'6" x 2', the walls of which were formed of two courses of large stones, mostly boulders, while the cover was composed of three contiguous slabs. Inside there were the fragmentary remains of an extended skeleton and part of a Roman sword. In December 1922, a Flavian coarse pot was found together with three bronze discs, two small fragments of bronze, some corroded fragments of iron and particles of wood, in the same sand-pit. The sand above the deposit had been disturbed, and although no human remains were observed, there can be no doubt that the objects accompanied a burial, probably by cremation. It is worth noting that a line joining the two burials, if prolonged

westwards, would intersect the east side of the “South Camp” at Camelon (Site 2), and in view of the Roman practice of burying the dead alongside main roads, it seems possible that these burials, one of which is firmly dated on the ceramic evidence to the Flavian period, give an indication of the route originally taken by the Roman trunk road from York to the Tay in the vicinity of Camelon. Such a 1st century route may well be perpetuated in part by the present Nailier Road which borders the sand-pit in which the burials were found.

- 4.7 A prehistoric cist was found on 15 April 1922 near the same location east of the proposed development area at a depth of 2’6” below ground level. It was oriented NNE/SSW and measured internally 3’ x 19” x 18” deep, covered with an overlapping slab. Inside there was a food vessel, now in the National Museum of Scotland, and fragments of the cremated remains of an adult and of the unburnt remains of a young woman.
- 4.8 Other prehistoric finds within the area surrounding the proposed development include the cutting end of a broken polished stone axe (Site 5) found in disturbed soil outside the north wall of Camelon Roman fort (Site 2) while a barbed and tanged flint arrowhead (Site 6) was found within the area of the fort in 1973.
- 4.9 The presence of known Roman and Prehistoric sites within the immediately surrounding area of the proposed development area, indicated the potential for buried archaeological artefacts and remains to survive within the proposed development area.

Aims, Objectives and Scope

- 5.1 The aim of the archaeological evaluation was to identify:
- as yet unknown archaeological features and deposits within the proposed development area;
 - to ensure that any surviving archaeological remains, encountered during the evaluation within the development area, are recorded to an appropriate level.
- 5.2 The objectives were therefore to:
- Conduct an archaeological evaluation within the development area, in accordance with the Falkirk Council Keeper of Archaeology and Local History’s required scope of work, to establish the presence or absence of any archaeological remains, and their character, date and extent if surviving;
 - Submit a report to data structure level for approval to the Falkirk Council Keeper of Archaeology and Local History, acting on behalf of Falkirk Council, on completion of the archaeological fieldwork, which includes an outline of the scope of any further excavation works should any significant archaeology be encountered.
- 5.3 The scope of the archaeological works were to establish:
- that if the archaeological evaluation encounters no significant archaeological remains within the development area, no further archaeological fieldwork will be required within that specific area.

Fieldwork Methodology

- 6.1 In accordance with the Falkirk Council Keeper of Archaeology and Local History’s required scope of work, and outlined in a Written Scheme of Investigation (Toolis 2012; Appendix F) agreed in advance of fieldwork, the programme of archaeological works commenced with photographs of the development area immediately prior to machine excavation.
- 6.2 The machine excavation of seven trenches, each measuring 30 m by 2.4 - 2.7m and arranged

10 m apart, was conducted across the northern part of the Aldi development area, in order to evaluate the presence, nature, significance and extent of any archaeological features below the concrete apron (Figure 1). The total area of trenches was to equal 540 m².

- 6.3 All trenches were excavated by mechanical excavator, utilizing a concrete breaker, a toothed ditching bucket and a c 2 m wide flat-bladed (toothless) ditching bucket under the direct supervision of a GUARD archaeologist, down to the first archaeological horizon or to natural subsoil, whichever was encountered first. The depth of stratigraphy apparent in all trenches will be recorded.
- 6.4 Any archaeological features encountered were to be cleaned by hand by the on-site Archaeologist to determine their character and extent. Should negative-cut features be encountered, a representative sample was to be 25-50% excavated in order to determine their significance, date and function. All on-site recording, written, drawn and photographic, was to accord with the standards normally pertaining in archaeological fieldwork and to IfA standards. A full record of excavated features was to be made using a single context recording system using pro forma sheets, drawings and photographs. All archaeological features were to be photographed and recorded at an appropriate scale. Sections were to be drawn at 1:10, and plans at 1:20. All evaluation trenches were accurately surveyed using a sub-metre GPS and located within the National Grid.
- 6.5 All archaeological finds were to be dealt with by the on-site Archaeologist. Finds and animal bone were to be collected as bulk samples by context. Significant small finds were to be three dimensionally located prior to collection. All finds were to be processed to MAP2 type standards and subject to appropriate specialist assessment. If necessary, conservation of finds was to be appraised to allow for specialist study.
- 6.6 All excavated feature fills and horizons were to be sampled as appropriate, using bulk soil samples, for palaeo-environmental evidence.
- 6.7 A representative section was recorded denoting depth of topsoil, any stratigraphy present and the nature of the soil. This information was logged in the day book together with a sketch drawn to scale and a photographic record of deposits.
- 6.8 Should human remains be revealed by the excavation, the local police, the client and Falkirk Council Keeper of Archaeology and Local History were to be informed immediately. Any human remains were to be accurately recorded, but left *in situ*, pending the agreement of the police, the client and Falkirk Council on an appropriate mitigation strategy.
- 6.9 Should significant archaeological remains be encountered by the evaluation, requiring more than the limited evaluation outlined above, the remains were to be largely left *in situ* pending the agreement of the client and the Falkirk Council Keeper of Archaeology and Local History on a WSI addenda for an appropriate scope of excavation (Stage 2) and Post-excavation design including scope of finds analysis and publication (Stage 3).
- 6.10 On completion of the recording of the evaluation trenches, the backfilling of trenches was undertaken by machine. No specialist backfilling was proposed, nor was the backfilling of trenches supervised by the on-site archaeologist.

Results

- 7.1 Seven trenches were excavated, totalling 543 m², the results of which are set out in Appendices B and C and Figure 1.
- 7.2 All the trenches revealed a reinforced concrete floor measuring 0.16-0.27 m in depth with plastic sheeting underlay. This was removed with some difficulty using a concrete breaker (Plate 1) and a toothed ditching bucket. Below was found three layers of a red and reddish brown blaise with inclusions of gravel, stone and pebbles which lay over natural subsoil (Plate 2). The subsoil was characterised by a beige sand with orange sand mottling. Several trenches were excavated

slightly deeper and revealed natural sand layering suggesting that the sand was indeed natural in origin (Plate 2). Modern plastic and ceramic drains were found in all the trenches, mostly orientated in an east/west direction. In several of the trenches fairly small spreads of black/brown sand silt was encountered which contained fragments of modern brick, coal and stone and is probably related to the recent use of the site as an Ironworks (Plate 3). In Trench 2, one of these spreads contained fragments of possible asbestos sheeting. This was recorded and then immediately backfilled.



Plate 1: Concrete removal using machine with breaker.



Plate 2: East facing section of trench 1 with natural sand deposits below modern overburden.



Plate 3: Post-excavation of trench 1 showing modern spreads.

- 7.3 During the course of the evaluation no features or artefacts of archaeological significance were encountered.

Discussion

- 8.1 The evaluation trenching identified no archaeological features relating to the use of the site during the Roman or prehistoric periods. Relatively shallow spreads of modern detritus related to the more recent use of the site as an Ironworks was located in several trenches. The older salt-ash ceramic drainage probably also relates to this period of use, while the more modern plastic drainage pipes probably relates to its most recent use as a factory.

Conclusions

- 9.1 The evaluation has demonstrated that no archaeologically sensitive deposits or features exist within the development area. In consequence, it is advised that no further archaeological work is likely to be required by Falkirk Council. However, final decisions on the nature and extent of any future archaeological work rest with the planning authority.

- 9.2 A summary of the results of the evaluation will be submitted to Discovery and Excavation in Scotland. A copy of the summary is included in Appendix E. The archive for the project, including a copy of the report, will be submitted to the National Monuments Record for Scotland within six months.
- 9.3 The online OASIS form at <http://ads.ahds.ac.uk/project/oasis/> (OASIS Reference: guardarc1-128093) will be completed within three months. Once the Data Structure Report has become a public document by submission or incorporation into the local Sites and Monuments Record, the Falkirk Council Keeper of Local History and Archaeology will validate the OASIS form thus placing the information into the public domain in the OASIS website.

Acknowledgements

- 10.1 GUARD Archaeology would like to thank Steven Robb of GVA Grimley and Geoff Bailey of Falkirk Council for their advice and assistance. Plant and drivers were supplied by John Pollock Plant Hire. Technical support was from Aileen Maule and John Kiely. The illustrations were produced by Gillian McSwan. The report was desk top published by Jen Cochrane. The project was managed for GUARD Archaeology by John Atkinson and Ronan Toolis.

Aldi Development, Camelon

Data Structure Report

Section 2: Appendices



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Appendices

Appendix A: Bibliography

British Geological Survey, Geology of Britain Viewer, <http://mapapps.bgs.ac.uk/geologyofbritain/home/html> (accessed on 4th June 2012).

Toolis, R 2012 Aldi Development, Camelon, Unpublished Method Statement, Guard Archaeology Limited (Report 3521)

Appendix B: Trench Details

Tr No	Length (m)	Width (m)	Depth (m)	Topsoil/Overburden	Subsoil	Details
1	30	2.4	0.50-0.91m	Concrete capping (0.16m) with three deposits of brown/orange blaize below containing gravel, pebbles and rubble debris, (depth 0.27m).	Beige sand with natural light orange layering within deposit.	Plastic drainage pipe at southern end of trench orientated east-west. Also spread of black. brown silt containing modern brick and stone fragments probably from iron works and grey/ brown silty spread with coal fragments
2	30	2.7	0.58m	Concrete capping (0.16m) with three deposits of brown/orange blaize below containing gravel, pebbles and rubble debris, (depth 0.32m).	Beige sand with natural light orange layering within deposit.	Plastic drainage pipe at southern end of trench orientated east-west. Also 1.7m spread of black. brown silt containing modern brick and stone fragments probably from iron works. Several fragments of possible asbestos also noted
3	30	2.7	0.65m	Concrete capping (0.27m) with three deposits of brown/orange blaize below containing gravel, pebbles and rubble debris, (depth 0.41m).	Beige sand with natural light orange layering within deposit.	Six drains roughly orientated east/west across the trench
4	30	2.4	0.59m	Concrete capping (0.20m) with three deposits of brown/orange blaize below containing gravel, pebbles and rubble debris, (depth 0.37m).	Beige sand with natural light orange layering within deposit.	Four drains roughly orientated east/west across the trench. Also spread of black.brown silt containing modern brick and stone fragments probably from iron works
5	30	2.7	0.64m	Concrete capping (0.26m) with two deposits of brown/orange blaize below containing gravel, pebbles and rubble debris, (depth 0.25m).	Beige sand with natural light orange layering within deposit.	Five drains roughly orientated east/west across the trench.
6	30	2.7	0.39m	Concrete capping (0.21m) with two deposits of brown/orange blaize below containing gravel, pebbles and rubble debris, (depth 0.12m).	Beige sand with natural light orange layering within deposit.	Three drains orientated east/west across the trench. Also two spreads of black.brown silt containing modern brick and stone fragments probably from iron works
7	30	2.5	0.45m	Concrete capping (0.20m) with two deposits of brown/orange blaize below containing gravel, pebbles and rubble debris, (depth 0.12m).	Beige sand with natural light orange layering within deposit.	Two drains orientated east/west across the trench. Also two spreads of black.brown silt containing modern brick and stone fragments probably from iron works

Appendix C: Drawing Record

Drawing No.	Area	Sheet No.	Subject	Scale
001	TR1	1	East facing section	1:10

Appendix D: Photographic Record

Digital

Frame	Area	Context No.	Subject	Taken from
1	-	001	Shot of northern area	E
2	-	001	Shot of central area	E
3	-	001	Pre-excitation of site	NE
4	-	-	Hydrant at Redbrae Road (south-east corner of site)	NE
5	-	-	Hydrant at Redbrae Road (south-east corner of site)	NE
6	-	001	Working shot of breaking concrete capping	E
7	-	001	Depth of concrete fragment	-
8	-	001	Broken concrete at end of day one	NE
9	-	001	Removal of concrete converging from trench	N
10	TR 1	006, 007	Pre-excitation of square modern feature (from iron workings)	E
11	TR 1	001-005	East facing section (depth of deposits)	E
12	TR 1	005	Post-excitation	E
13	TR 2	006	Modern building detritus (brick, crushed stone, possible asbestos)	W
14	TR 2	006	Close-up of possible asbestos	W
15	TR 1	006, 007	Post-excitation of modern feature (from iron-workings)	E
16	TR 1	001-005	East facing section (depth of deposits)	E
17	TR 1	-	Post-excitation of general shot	NW
18	TR 1	-	Post-excitation of general shot	NW
19	TR 2	001-005	View along trench 2	N
20	TR 2	005	View along trench 2	S
21	TR 2	001-005	East facing section	E
22	TR 1	001	View along trench 1	S
23	TR 4	005	View along trench 4	N
24	TR 4	001-005	East facing section	E
25	TR 4	005	View along trench 4	S
26	TR 6	001-005	East facing section	E
27	TR 5	001-005	West facing section	W
28	TR 6	005	View along trench	N
29	TR 6	005	View along trench	S
30	TR 5	005	View along trench	N
31	TR 5	005	View along trench	S
32	TR 7	001, 003-005	West facing section	W
33	TR 2	001	Working shot - removal of concrete	N
34	TR 2	001	Working shot - removal of concrete	N
35	TR 7	005	View along trench	N
36	TR 7	005	View along trench	S
37	TR 3	001, 003-005	West facing section	W
38	TR 3	005	View along trench	S
39	TR 3	005	View along trench	N
40	TR 7	001	General shot of backfilled trench	N

Appendix E: Discovery And Excavation Scotland Entry

LOCAL AUTHORITY:	Falkirk
PROJECT TITLE/SITE NAME:	Aldi Store Development, Redbrae Road, Camelon, Falkirk
PROJECT CODE:	3521
PARISH:	Falkirk
NAME OF CONTRIBUTOR(S):	Maureen C. Kilpatrick
NAME OF ORGANISATION:	GUARD Archaeology Ltd
TYPE(S) OF PROJECT:	Archaeological Evaluation
NMRS NO(S):	NS88SE 23.02
SITE/MONUMENT TYPE(S):	Former Site of Ironworks
SIGNIFICANT FINDS:	None
NGR (2 letters, 6 figures)	NS 866 806
START DATE (this season)	6th June 2012
END DATE (this season)	7th June 2012
PREVIOUS WORK (incl. DES ref.)	Bailey, G 1999 'Dorrator Foundry, Camelon', DES 1999, 45
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	Due to the proximity of known Roman and prehistoric archaeological remains, an archaeological evaluation was undertaken by GUARD Archaeology Limited, across an area proposed for development at Redbrae Road, Camelon, Falkirk. No significant archaeological features were encountered during the evaluation.
PROPOSED FUTURE WORK:	None
SPONSOR OR FUNDING BODY:	Aldi Stores Ltd
CAPTION(S) FOR ILLUSTRS:	--
ADDRESS OF MAIN CONTRIBUTOR:	52 Elderpark Workspace, 100 Elderpark Street, Glasgow G51 3TR
EMAIL ADDRESS:	bob.will@guard-archaeology.co.uk
ARCHIVE LOCATION (intended/deposited)	Archive to be deposited in NMRS

Appendix F: Written Scheme of Investigation

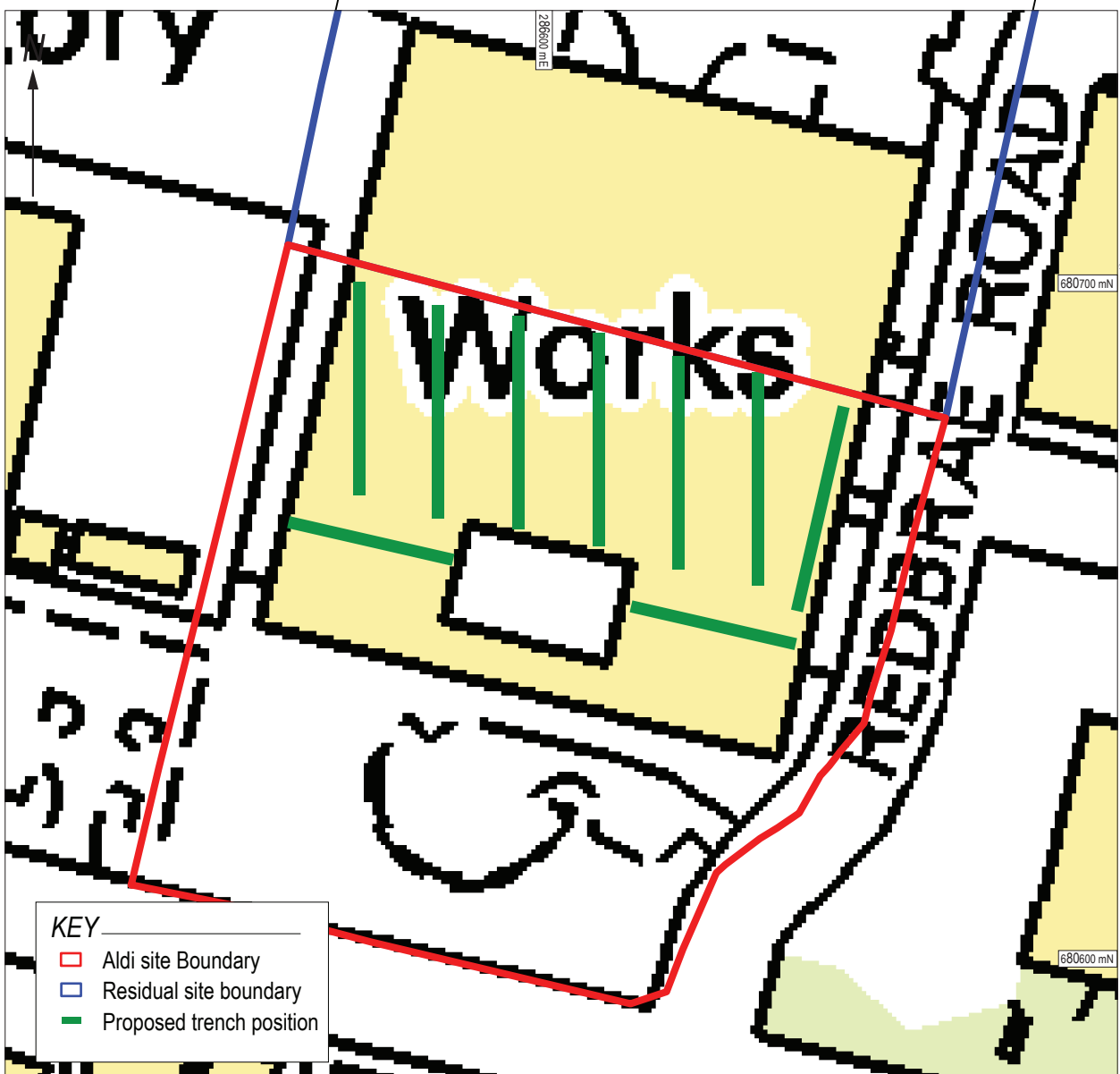
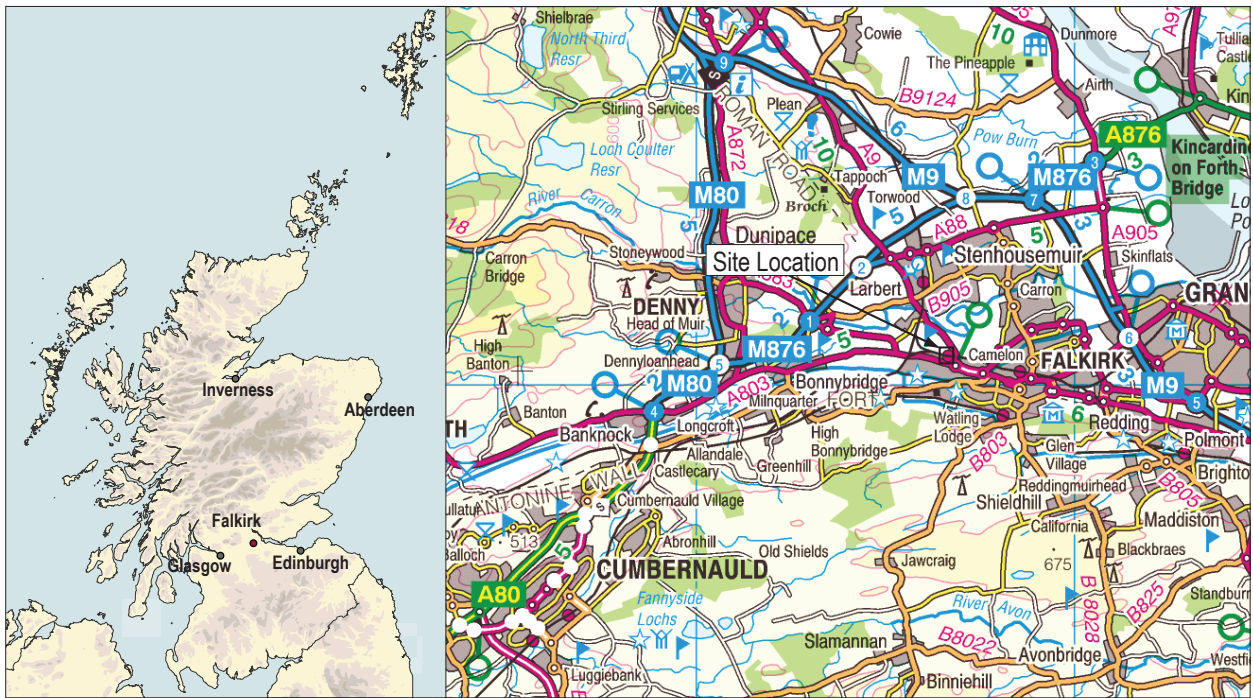
ALDI DEVELOPMENT, CAMELON

ARCHAEOLOGICAL WRITTEN SCHEME OF INVESTIGATION

PROJECT 3521

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KEY

- Aldi site Boundary
- Residual site boundary
- Proposed trench position

Figure 1:
Site location.



Executive Summary

- 1.1 This Written Scheme of Investigation forms the archaeological method statement for the evaluation of the proposed Aldi Development Area on Glasgow Road in Camelon in Falkirk and will require to be approved by the Falkirk Council Keeper of Archaeology and Local History, acting on behalf of Falkirk Council, prior to the commencement of archaeological fieldwork.

Introduction

- 2.1 This Written Scheme of Investigation (WSI) sets out the methodology for the archaeological evaluation of the Aldi Development Area at Camelon. An archaeological evaluation of the development area will be undertaken to establish the presence, extent and nature of any significant archaeological remains. Should significant remains be identified and it is not possible to preserve them *in situ* a further requirement for archaeological works to ensure their preservation through record is likely to be required.
- 2.2 This WSI outlines the programme of archaeological works that may be needed to mitigate the effects of the proposed development. It details the methodology to be employed in implementing the Stage 1 archaeological works. The mitigation methodology to be employed during Stage 2 excavation and Stage 3 post excavation analysis and publication, will be specified in *addenda* to this document. These *addenda*, if required, will be submitted for the approval of the Falkirk Council Keeper of Archaeology and Local History, acting on behalf of Falkirk Council prior to the commencement of any archaeological work. All phases of work will be funded by the developer as required by the Planning Authority.

Site Location

- 3.1 The proposed development area is located in Camelon, Falkirk (centred NGR: NS 866 806) at the north-west corner of the junction between Glasgow Road (to the south) and Redbrae Road to the east. The Proposed Development Area consists of a gap site, the previous buildings having been demolished. The available land within the development area measures 0.893 ha.

Archaeological Background

- 4.1 A brief archaeological assessment undertaken during the preparation of this document has identified the following known sites in the area surrounding the proposed development area within the surrounding area (Figure 1):
 - Excavation on the site of Dorrator Ironworks (Site 1; NMRS: NS88SE 23.02; NGR: NS 866 807);
 - Camelon Roman Forts (Site 2; NMRS: NS88SE 23.00; NGR: NS 8630 8097);
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 - Camelon Polished Stone Axe Find (Site 5; NMRS: NS88SE 23.01; NGR: 862 810);
 - Camelon Barbed and Tanged Flint Arrowhead Find (Site 6; NMRS: NS88SE 30; NGR: NS 8637 8078);
- 4.2 Excavation in June 1998 by Geoff Bailey, at the site of the Dorrator Ironworks (Site 1) ahead of redevelopment, located two V-shaped ditches of the 1st century AD. They followed the line of an east/west escarpment overlooking the floodplain of the River Carron, and were of a military character. They can be attributed to the Flavian annexe to the fort at Camelon, to the north-west of the proposed development area. A slot parallel with the upper ditch may represent part of the associated rampart. The ditches had completely silted up by the time a large drainage ditch was cut across them at right-angles. This drain was filled with a large quantity of rubbish in the 2nd century. The material included pottery, shoes, wattle and daub, bone, beads and harness fittings. Having completely impeded the flow of water, the rubbish was dug through by a V-shaped ditch of much

smaller dimensions. On the flatter ground to the south, a number of smaller ditches probably represented a field system of the immediate post-Roman period.

- 4.4 The Roman forts at Camelon (Site 2) have suffered from the construction of a railway, foundries and cultivation so that virtually no remains may be seen on the surface. They were extensively excavated in 1899-1900, the excavators, Christison and Buchanan, calling the two adjacent enclosures "North Camp" and "South Camp". The "North Camp" was an auxiliary fort, measuring internally 530' E-W by 490', of Antonine date. The "South Camp", which was only partially excavated in 1899-1900, has now been largely destroyed. The published plan of this enclosure is not reliable, as may be seen when it is compared with the original survey, now in Falkirk Museum. The RCAHMS deduce that the remains uncovered represent (i) an early work, probably an Agricola fort, denoted by the ditches, (ii) a Flavian fort, having the general annexe to the Antonine fort, within which was a bath-house and a possible mansio. There was also an annexe north of the Antonine fort. This was excavated in 1961-2 under the auspices of the DoE, ahead of quarrying. Pre-Roman occupation was found in the form of two hut circles, thought to be associated with the settlement to the north-east. The annexe had contained timber buildings of non-military type, some of which were Antonine, but some were possibly pre- Antonine; the logical explanation appears to be a defended civil settlement associated with the fort, though very little datable evidence was found. Among the many relics from the site are a great deal of Flavian and Antonine pottery, several enamelled fibulae and a fragment of a votive lantern. The latest of the 56 identified coins found on the site is a first brass of Faustina II. A building stone of the Twentieth Legion reading XX V(aleria) V(ictrix) F(ecit) was found in the bath-house. In 1967 an altar inscribed (P)RO SE ET SUIIS: V S L L M was found at NS 852 812 in a wall on Bogton farm. It is now in Falkirk Museum. Price notes remains of Roman buildings and streets revealed during building operations and his excavations in the "South Camp", also numerous finds made by him during a re-excavation of the north annex.
- 4.5 Excavations in advance of development in 1975, 1976 and 1977 were confined to the northeast, southeast and assumed west gate area of the 'south' fort. A well-constructed 2nd century east-west road approximately bisecting the fort was located just south of its projected 19th century position. South of this road was an industrial area with four substantial furnaces and numerous rubbish pits, and further south, a stone-built building, c 6.5 x 3.2 m surrounded by an area of cobbling. Traces of Flavian occupation were found beneath these levels but no coherent structural plans emerged. On the west side, three periods of ditches were found, with an innermost v-shaped ditch ending 4 m north of the postulated west entrance, and being separated by a c 3 m wide berm found deposited clay remnants of a rampart. Three large post-holes of the gate structure were revealed, and also a cobbled east/west road that ran out through the gateway to where another road ran south from it. These features were Antonine and represent a reduction in the size of the annexe in its final phase, for they overlaid 2nd century timber buildings. The area just inside the west defences had simple timber buildings with no trace of industrial activity. The many finds included a spear and arrowheads, a bronze belt buckle, two silver rings, and several brooches, a bronze dish and part of a lava quernstone. A bronze zoomorphic ornament is in the National Museum of Scotland as are several sherds of two face-mask Roman jars from earlier trenching operations in the south fort in 1972.
- 4.6 Continued excavation in April 1979 in advance of development within the south fort produced further evidence of both the Flavian and Antonine defences. The inner and central ditches of the triple ditched Flavian enclosure identified in 1900-1 were located. The central ditch was overlaid by the south rampart of the 2nd century annexe, the rampart surviving to a maximum height of 1.1 m and width of over 3 m. A 5 m wide road ran parallel to end north of the rampart, and further north a post built timber building at least 5.4 m long (or wide) was located.
- 4.7 A Roman burial (Site 3) was found in April 1922 in a sand-pit a short distance to the east of the proposed development area. It consisted of a cist, 4' x 1'6" x 2', the walls of which were formed of two courses of large stones, mostly boulders, while the cover was composed of three contiguous slabs. Inside there were the fragmentary remains of an extended skeleton and part of a Roman sword. In December 1922, a Flavian coarse pot was found together with three bronze discs, two small fragments of bronze, some corroded fragments of iron and particles of wood, in the same sand-pit. The sand above the deposit had been disturbed, and although no human remains were observed, there can be no doubt that the objects accompanied a burial, probably by cremation. It is worth noting that a line joining the two burials, if prolonged westwards, would intersect the east side

of the "South Camp" at Camelon (Site 2), and in view of the Roman practice of burying the dead alongside main roads, it seems possible that these burials, one of which is firmly dated on the ceramic evidence to the Flavian period, give an indication of the route originally taken by the Roman trunk road from York to the Tay in the vicinity of Camelon. Such a 1st century route may well be perpetuated in part by the present Nailer Road which borders the sand-pit in which the burials were found.

- 4.8 A prehistoric cist (Site 4) was found on 15 April 1922 near the same location east of the proposed development area at a depth of 2'6" below ground level. It was oriented NNE/SSW and measured internally 3' x 19" x 18" deep, covered with an overlapping slab. Inside there was a food vessel, now in the National Museum of Scotland, and fragments of the cremated remains of an adult and of the unburnt remains of a young woman.
- 4.9 Other prehistoric finds within the area surrounding the proposed development include the cutting end of a broken polished stone axe (Site 5) found in disturbed soil outside the north wall of Camelon Roman fort (Site 2) while a barbed and tanged flint arrowhead (Site 6) was found within the area of the fort in 1973.
- 4.10 The presence of known Roman and Prehistoric sites within the immediately surrounding area of the proposed development area, indicates the potential for buried archaeological artefacts and remains to survive within the proposed development area.

Aims, Objectives and Scope

- 5.1 The aim of the archaeological evaluation is to identify:
 - as yet unknown archaeological features and deposits within the proposed development area;
 - to ensure that any surviving archaeological remains, encountered during the evaluation within the development area, are recorded to an appropriate level.
- 5.2 The objectives are therefore to:
 - Conduct an archaeological evaluation within the development area, in accordance with the Falkirk Council Keeper of Archaeology and Local History's required scope of work, to establish the presence or absence of any archaeological remains, and their character, date and extent if surviving;
 - Submit a report to data structure level for approval to the Falkirk Council Keeper of Archaeology and Local History, acting on behalf of Falkirk Council, on completion of the archaeological fieldwork, which includes an outline of the scope of any further excavation works should any significant archaeology be encountered.
- 5.3 The scope of the archaeological works will establish:
 - that if the archaeological evaluation encounters no significant archaeological remains within the development area, no further archaeological fieldwork will be required within that specific area.

Fieldwork Methodology

- 6.1 In accordance with the Falkirk Council Keeper of Archaeology and Local History's required scope of work, the programme of archaeological works will commence with photographs of the development area immediately prior to machine excavation.
- 6.2 The machine excavation of nine trenches, each measuring 30 m by 2 m and arranged 10 m apart, will follow, across the northern part of the Aldi development area, in order to evaluate the presence, nature, significance and extent of any archaeological features below the concrete apron (Figure 1). The total area of trenches will equal 540 m².
- 6.3 All trenches will be excavated by mechanical excavator, utilizing a concrete breaker and c 2 m wide flat-bladed (toothless) ditching bucket under the direct supervision of a GUARD archaeologist, down

to the first archaeological horizon or to natural subsoil, whichever is encountered first. The depth of stratigraphy apparent in all trenches will be recorded.

- 6.4 Any archaeological features encountered will be cleaned by hand by the on-site Archaeologist to determine their character and extent. Should negative-cut features be encountered, a representative sample will be 25-50% excavated in order to determine their significance, date and function. All on-site recording, written, drawn and photographic, will be to the standards normally pertaining in archaeological fieldwork and to IfA standards. A full record of excavated features will be made using a single context recording system using pro forma sheets, drawings and photographs. All archaeological features will be photographed and recorded at an appropriate scale. Sections will be drawn at 1:10, and plans at 1:20. All evaluation trenches will be accurately surveyed using a sub-metre GPS and located within the National Grid.
- 6.5 All archaeological finds will be dealt with by the on-site Archaeologist. Finds and animal bone will be collected as bulk samples by context. Significant small finds will be three dimensionally located prior to collection. All finds will be processed to MAP2 type standards and subject to appropriate specialist assessment. If necessary, conservation of finds will be appraised to allow for specialist study.
- 6.6 All excavated feature fills and horizons will be sampled as appropriate, using bulk soil samples, for palaeo-environmental evidence.
- 6.7 A representative section will be recorded denoting depth of topsoil, any stratigraphy present and the nature of the soil. This information will be logged in the day book together with a sketch drawn to scale and a photographic record of deposits.
- 6.8 Should human remains be revealed by the excavation, the local police, the client and Falkirk Council Keeper of Archaeology and Local History will be informed immediately. Any human remains will be accurately recorded, but left *in situ*, pending the agreement of the police, the client and Falkirk Council on an appropriate mitigation strategy.
- 6.9 Should significant archaeological remains be encountered by the evaluation, requiring more than the limited evaluation outlined above, the remains will be largely left *in situ* pending the agreement of the client and the Falkirk Council Keeper of Archaeology and Local History on a WSI addenda for an appropriate scope of excavation (Stage 2) and Post-excavation design including scope of finds analysis and publication (Stage 3).
- 6.10 On completion of the recording of the evaluation trenches, the backfilling of trenches will be undertaken by machine. No specialist backfilling is proposed, nor will the backfilling of trenches be supervised by the on-site archaeologist.

Report Preparation and Contents

- 7.1 A report detailing the results of the archaeological fieldwork will be submitted to the client within two weeks of completion of fieldwork and, subject to client approval, then submitted to Falkirk Council Keeper of Archaeology and Local History, acting on behalf of Falkirk Council. The report will take the form of a Data Structure Report and will contain an analysis of the results of the evaluation. The report will include a full descriptive text that will characterise the date and extent of any archaeological deposits. It will also include plans at an appropriate scale showing the area subjected to ground-breaking works, evaluation trenches, archaeological features and archiving lists of all finds, samples, field drawings and photographs.
- 7.2 If appropriate, the report will also include an addendum to this WSI for further archaeological fieldwork, should significant archaeology have been encountered.
 - The report will include the following:
 - executive summary;
 - a site location plan to at least 1:10,000 scale with at least an 8 figure central grid reference;
 - OASIS reference number; unique site code;
 - Planning application number;

- contractor's details including date work carried out;
 - nature and extent of the proposed development, including developer/client details;
 - description of the site history, location and geology;
 - a site plan to a suitable scale and tied into the national grid so that features can be correctly orientated;
 - discussion of the results of field work;
 - context & feature descriptions;
 - features, number and class of artefacts, spot dating & scientific dating of significant finds presented in tabular format;
 - plans and section drawings of the features drawn at a suitable scale;
 - initial assessment of relevant finds/samples if appropriate;
 - recommendations regarding the need for, and scope of, any further archaeological work such as excavation (Stage 2) and Post-excavation finds analysis, conservation & publication (Stage 3);
 - bibliography.
- 7.3 An appropriate number of hard copies and digital pdf copies of the report will be prepared for the client and sent to the Falkirk Council Keeper of Archaeology and Local History for agreement.
- 7.4 The report will be presented in an ordered state and bound within a protective cover/sleeve. The report will be page numbered and supplemented with section numbering for ease of reference.

Copyright

- 8.1 Unless otherwise agreed copyright for any report resulting from the archaeological work undertaken as part of the project will be deemed the intellectual property of GUARD Archaeology Ltd.

Publication

- 9.1 A summary of the project results will be submitted to *Discovery and Excavation in Scotland*. In the event of minor archaeological remains being encountered during the archaeological fieldwork, it is proposed that a comprehensive report submitted to *Discovery and Excavation in Scotland*, will form the final publication of the site. A copy of this will be included in the Data Structure Report.

Archive

- 10.1 The archive for the project, including a copy of the report, will be submitted to the National Monuments Records for Scotland within three months of completion of all relevant work.
- 10.2 The online OASIS form at <http://ads.ahds.ac.uk/project/oasis/> will be completed within 3 months of completion of the work. Once the Data Structure Report has become a public document by submission to or incorporation into the SMR, The Falkirk Council Keeper of Archaeology and Local History will validate the OASIS form thus placing the information into the public domain on the OASIS website.

Finds Disposal

- 11.1 The arrangement for the final disposal of any finds made in connection with the archaeological work, will be deposited in keeping with Scottish legal requirements as set out in the Treasure Trove Code of Practice published by the Scottish Government in December 2008. The laws relating to Treasure Trove and *Bona Vacantia* in Scotland apply to all finds where the original owner cannot be identified. This includes all material recovered during archaeological fieldwork. Accordingly, all assemblages recovered from archaeological fieldwork are claimed automatically by the Crown and must be

reported to the Scottish Archaeological Finds Allocation Panel through its secretariat, the Treasure Trove Unit. In the event of the discovery of small finds, a filled-out copy of the form "Declaration of an Archaeological Assemblage from Fieldwork" and two copies of the pertinent Data Structure Report will be submitted to the Panel at the conclusion of the fieldwork. The Panel will then be responsible for recommending to the Queen's and Lord Treasurer's Remembrancer which museum should be allocated the finds. All artefacts will be temporarily stored by GUARD until a decision has been made by the panel.

Personnel and Liaison

- 12.1 The GUARD team will include the following qualified and experienced GUARD archaeologists:
- Project Manager: Dr John Atkinson
 - Project Director (on-site Archaeologist): Iraia Arabaolaza
 - Finds and Environmental Support and Conservation: Ms Aileen Maule
 - Illustrator: Ms Gillian McSwan
- 12.2 The GUARD Project Manager, Dr John Atkinson, will be the point of contact for the archaeological works. A full CV for individuals concerned can be made available on request.

Monitoring

- 13.1 The proposed start date for the archaeological fieldwork will be arranged in due course. The Falkirk Council Keeper of Archaeology and Local History will be given at least one week's notice prior to the commencement of fieldwork. The Falkirk Council Keeper of Archaeology and Local History and the client will be informed of the site mobile phone number prior to the start date so that monitoring visits can be arranged. It is estimated that the evaluation of proposed development area will take 1 day to complete, with a contingency for a further day should significant archaeology be encountered.

Health & Safety and Insurance

- 14.1 GUARD Archaeology Ltd adheres to the guidelines and standards prescribed for archaeological fieldwork set down in the Institute for Archaeologists approved Health and Safety in Field Archaeology document, prepared under the aegis of the Standing Conference of Archaeological Unit Managers (SCAUM). It is standard GUARD policy, prior to any fieldwork project commencing, to conduct a risk assessment and to prepare a project safety plan, the prescriptions of which will be strictly followed for the duration of all archaeological fieldwork. Copies of the resultant project safety plan and of GUARD's Fieldwork Safety Policy Statement may be viewed upon request.
- 14.2 GUARD Archaeology Ltd also possesses all necessary insurance cover, proofs of which may be supplied upon request.

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