

# GUARD ARCHAEOLOGY



**Redbrae Road, Camelon  
Data Structure Report  
Project 3953**

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## **Redbrae Road, Camelon**

### **Data Structure Report**

**On behalf of:** Redbrae Stirling Consulting

**NGR:** NS 866 806

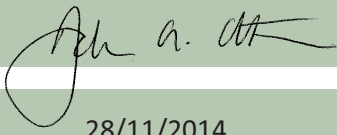
**Project Number:** 3953

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

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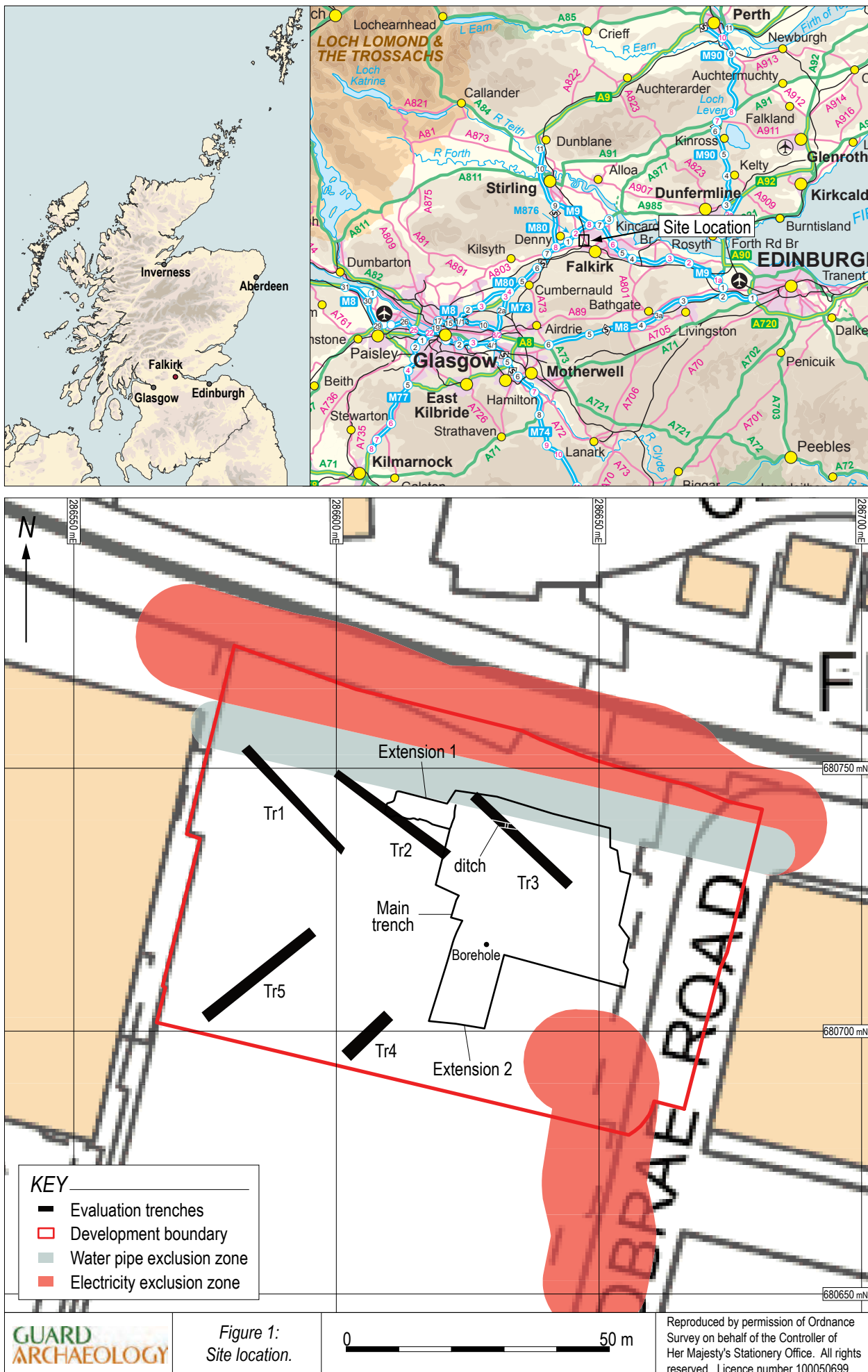
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## Executive Summary

- 1.1 GUARD Archaeology Limited were commissioned by Bracewell Stirling Consulting to undertake an archaeological strip, map and record excavation on an area of ground due to be developed at Redbrae Road, Camelon, near Falkirk. This work was undertaken in addendum to the existing written scheme of investigation (WSI) associated with the mitigation works required in support of the erection of a Class 1 shop unit and associated infrastructure (Planning Reference: P/13/0766/FUL). Previous evaluation trenching at the proposed development site (Rennie 2014) revealed the presence of potentially significant archaeological remains in the north-east corner including a linear ditch which may be associated with the annexe of Camelon Roman Fort. This additional work therefore focused on the north-east area of the site and revealed the presence of two V-shaped ditches with later re-cutting, a probable drainage ditch, four large pits and several smaller posthole/pit features. Finds including sherds of Roman pottery and metal working waste including slag and hearth lining were recovered from the site.

## Introduction

- 2.1 This report sets out the results of archaeological strip, map and record excavation which was undertaken by GUARD Archaeology Limited, on behalf Bracewell Stirling Consulting on an area of ground to be developed at Redbrae Road, Camelon. A previous archaeological evaluation (Rennie 2014) within this area had revealed the presence of significant archaeological features surviving in the north-east corner of the development site. The present work revealed two linear V-shaped ditches with later re-cutting, a probable drainage ditch, four large pits and several smaller posthole/pit features. Finds including sherds of Roman pottery including samian ware and metalworking waste were recovered from several of the features. GUARD Archaeology Limited undertook this fieldwork between 10<sup>th</sup> September 2014 and 8<sup>th</sup> October 2014.

## Site Location, Topography and Geology

- 3.1 The proposed development area was located on the west side of Redbrae Road in Falkirk (centred NGR: NS 866 806) with Camelon railway station to the immediate north, the A803 road to the south and retail units to the east and west. It consisted of a gap site, the previous buildings having been demolished. The available land within the development area measured 0.72 hectares in total. The area of archaeological interest was located in the north-east of the development area (Figure 1). The area in question sits between 26 m and 28 m AOD.
- 3.2 The underlying drift geology consists of raised marine deposits formed 2 million years ago during the Quaternary Period, while the solid geology consists of Scottish Lower Coal Measures Formation (British Geological Survey 1987).

## Archaeological Background

- 4.1 A brief archaeological assessment undertaken during the preparation of this document has identified the following known archaeological sites in the surrounding area close to the proposed development site:
- 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 (Site 1) ahead of redevelopment, located two V-shaped ditches of the first 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 second 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 (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' east/west by 490', and 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 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 north-east, south-east and assumed west gate area of the 'south' fort. A well-constructed second century east/west road approximately bisecting the fort was located just south of its projected nineteenth 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 m by 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 second 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 overlain by the south rampart of the second 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 the north end 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' by 1'6" by 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 first century route may well be perpetuated in part by the present Nailer Road which borders the sand-pit in which the burials were found.
- 4.7 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' by 19" by 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, indicates the potential for buried archaeological artefacts and remains to survive within the proposed development area.

## **Aims and Objectives**

### **5.1 The aims of the archaeological works were to:**

- determine the full extent of the archaeological features within the north-east corner of the development area and to develop an appropriate scheme to investigate, excavate and record the remains.

### **5.2 The objectives were therefore to:**

- Strip concrete/overburden from this area of the development site under archaeological supervision to reveal the full extent of the archaeological remains;
- Map the extent of the archaeological remains;
- Excavate and record all significant archaeological remains, so that preservation by record can be achieved;
- Submit a report to data structure level for agreement to the Falkirk archaeological adviser and Falkirk Council, on completion of the strip, map and a sample assessment;
- Submit an accompanying project design and costing alongside the data structure report, which will outline arrangements for post-excavation works.

## Methodology

- 6.1 Following discussions with the client and the Falkirk archaeological adviser the most appropriate and cost effective means to determine the extent of the archaeological deposits was to strip concrete/overburden from the north-east area of the development area (Figure 1).
- 6.2 A photographic record of the development area and accompanying written description was conducted prior to the commencement of ground-breaking works.
- 6.3 The machine excavation of the overburden was supervised at all times by an experienced archaeologists and the machine excavators were fitted with a c 2 m wide flat-bladed (toothless) ditching buckets. Dumper trucks were used to remove material and these did not travel across areas where overburden had already been removed but followed agreed routes.
- 6.4 The overburden was removed in spits to the first archaeological horizon or, where none was found, to the natural subsoil. Any archaeological features encountered were cleaned by hand by the on-site archaeologists to determine their character and extent.
- 6.5 All potential archaeological features encountered were mapped and recorded by the on-site archaeologists.
- 6.6 All potentially significant archaeological features including negative-cut features were initially part excavated in order to determine their significance, date and function. Further excavation was required depending on these results to fully characterise each feature. A full record of excavated features was made using a single context planning system using pro forma sheets, drawings and photographs. All archaeological features were photographed and recorded at an appropriate scale. Sections were drawn at 1:10, and plans at 1:20. All levels were tied into Ordnance Datum and accurately located with the National Grid.
- 6.7 All archaeological finds were dealt with by the on-site team. Finds were collected as bulk samples by context. Significant small finds were three dimensionally located prior to collection. All finds were processed to MAP2 type standards and subject to specialist assessment. Palaeo-environmental samples were also be taken where appropriate. Conservation of finds will be appraised prior to specialist study.
- 6.8 All excavated feature fills and horizons were sampled, using bulk soil samples, for palaeo-environmental evidence (samples were a minimum of 20 litres where sediment volume allowed).
- 6.9 A record of the full extent in plan of all archaeological deposits as revealed in the investigation was made and related to the OS grid.
- 6.10 Particularly significant archaeological remains were 100% excavated and sampled, however most pit/posthole features were 50% excavated and 10-15% of all linear features were excavated. The Falkirk archaeological adviser, on behalf of the planning authority, had the final say on which features were significant, and where further excavation was required for any features.
- 6.11 Two additional extension areas (1 & 2) were added to the site strip during the works on the request of the Council's Archaeological Adviser, so that a clearer understanding of the remains on site could be developed.
- 6.12 On completion of the strip, map, record excavation the site was backfilled as construction was planned to follow this phase of works.
- 6.13 All elements of the fieldwork was undertaken in line with the policies and guidelines of the IFA (Institute for Archaeologists) of which GUARD Archaeology is a Registered Organisation (RO).



## Results

- 7.1 The north-east area was stripped of overburden to reveal an orange/white/beige fine grained sandy subsoil with occasional coal inclusions (002). Truncating this subsoil were a number of features of archaeological interest which included three linear ditch features, two with later re-cutting, four large sub-oval pits and several smaller pits/postholes (figure 2). Also present were a number of modern features including concrete reinforced platforms, blaes spreads, linear stone filled drains and debris including iron slag, bricks and tile fragments all probably relating to the sites previous use as an ironworks (plate 1, figure 2).



Plate 1: Modern debris 005 in central area of site.

## Linear Features

- 7.2 Six linear features were uncovered during the present work programme. Feature 016 measured 11.58 m in length and was orientated north-west/south-east and was located in the western end of the site (extension 1; plate 2). It measured 0.7 m in width and had a relatively shallow depth of 0.2 m. Its sides were steep and the base was rounded. It was filled with a light reddish/brown sandy silt with infrequent pebble sized stones (010; plate 3) interspersed with thin bands of silty sand. Its south-west terminal end was rounded, while its north-eastern terminal end was more irregularly shaped and truncated by modern blaes deposit 036 (figure 2). Finds included six small body sherds of pottery of possible Roman date (SFs 4, 6, 7, and 8). It was also truncated at its south-western end by a modern gravel filled service trench (figure 2).



Plate 2: Linear ditch 016.



Plate 3: Section of ditch 016.

- 7.3 Linear feature 049 was located in extension 2 (figures 2 and 3) and measured 11 m in length although its maximum length remains unknown, it being truncated by a modern concrete platform and a rubble-filled deposit at its north-eastern end and the excavation limits and blaes deposits 036 at the south-western end (figures 2 and 3). It measured 1.45 m – 1.6 m in width and had a maximum depth of 0.55 m – 0.68 m. Its sides were roughly V-shaped with a roughly 'suarish' slot at the base which measured 0.22 m in width and 0.2 m in depth. This slot was filled/lined with a light grey sand clay (048) (figure 4, plate 4). The fill of the ditch comprised an orange/brown sand with occasional pebble-sized stones and charcoal flecks (047) and measured 0.29 m in depth. Very occasionally thin, light bands of sand could be observed within the fill. One small corroded possible iron nail fragment was located in fill 047. The upper fill (011) comprised a reddish/brown silty sand with occasional pebble-sized stone inclusions and measured 0.19 m in depth. Finds include five small fragments of pottery (SFs 5 and 13). This

upper fill was associated with a later re-cutting (012) of the ditch along its length. Re-cut 012 measured 1.45 m – 1.6 m in width with fairly gently sloping sides onto a rounded base. Four slots were excavated along the length of the ditch (figures 3 and 4) which revealed that the re-cut was present along all of its exposed length (plate 5).



Plate 4: SE facing section of ditch 049/012 slot 1.



Plate 5: Post-excavation of ditch 049/012.

- 7.4 The third linear feature (067) was located within the main trench (figure 2) and was orientated east/west along the northern extent of the site and then turned in a north/south direction in the eastern end of the site. Its exposed north-east corner was curvilinear in shape (plate 6). Its extent at the north-western end remains unknown it being truncated by several modern deposits within this area including spreads of iron work waste (005). At the south-eastern end the ditch appears to terminate (figure 2). It measured 21.5 m (east/west) and 11.46 m (north/south). It measured 1.08 m in width at the top with a depth ranging from 0.6 m – 0.73 m. It had a V-shaped profile with steeply sloping sides and a flattish/slightly rounded base which measured 0.15 m – 0.23 m in width. The base appeared widest at the north-western end of the ditch (plate 6) and became narrower at the south-eastern end (figure 5). Its fill (066) comprised very firm bands of mottled mid-orange/light yellow grey silty sand with occasional inclusions of pebbles and gravel, suggesting that post-cutting the ditch had been left to naturally in-fill. As with ditch 012, this ditch had also been re-cut at a later date by linear ditch feature 003 along all its exposed length. The re-cut ditch sides were relatively gently sloping onto a rounded base. and measured 0.25 m in depth (figure 5; plate 7). The fill (004) comprised a reddish brown fine grained silty sand with occasional inclusions of pebble-sized stones. Two fragments of pottery (SFs 26 and 27) were located within its fill including a small fragment of Roman mortaria (SF 27). Also found were small fragments of corroded unidentified iron objects (SFs 20, 21, 22 and 28). This fill was more homogenous suggesting that the feature had been rapidly backfilled unlike primary ditch 067 where in-filling had occurred naturally prior to its re-cutting (003) probably over a long period of time. It was truncated in several areas (figure 2) by modern linear features (073) and spreads of modern industrial waste (005).



Plate 6: NE corner of ditch 067/003.



Plate 7: E facing section of ditch 067/003 NW end (slot B).



Figure 2: Plan of archaeological features

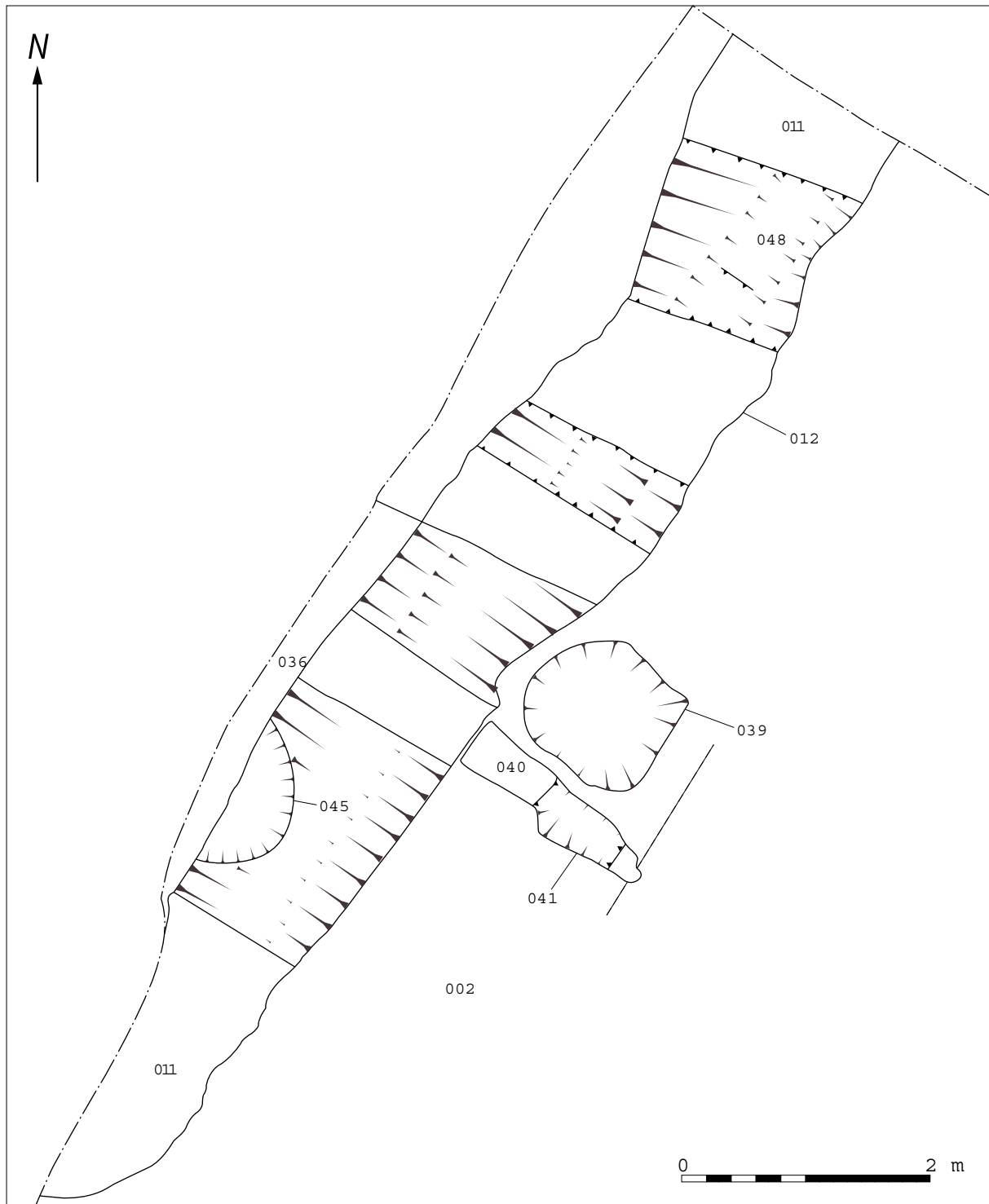


Figure 3: Plan of ditch 049/012, pit 039 and linear feature 041.

- 7.5 Located to the south of the large concrete pad which divided both the central area of the site and extension 2 the possible terminal end of a linear feature was located (figure 2). Only the possible terminal end was observable with the concrete pad truncating the remainder of the feature. It measured 2.03 m in length, 1.9 m in width with a depth of 0.45 m. Its sides were steep and the base rounded. It was orientated north-east/south-west and was in direct alignment with the north/south leg of ditch 003. Its fill (063) comprised a reddish-brown silty sand with frequent charcoal flecks. No datable finds were located. Due to its direct alignment with 003 a slot was excavated through a possible similar deposit (070) to the immediate south of the concrete pad (figure 2). However, no relationship between both linear features was observed with only a very thin mid-grey brown silty sand which measured at most 0.1 m in depth present and this was presumed to be related to the modern concrete pad.



- 7.6 Three smaller linear features were also located during the work programme (figures 2 and 3). Linear feature 041 was located to the immediate east of ditch 049 in extension 2. It measured 1.93 m in length, 0.39 m in width with a shallow depth of 90 mm. Its sides were straight and the base flat. Its longest side was orientated east/west. The fill comprised a brown/mid-grey clay sand with inclusions of charcoal and intrusions of coal and modern blaes (036) pressed into its upper surface. It was truncated at the eastern end by modern blaes deposit 036. One small possible Roman pottery sherd was located within its fill (SF 11).
- 7.7 Linear features 069 and 071 were located within the main trench. Cut 069 abutted linear ditch 003 at its north-east corner. Its full length was not exposed as it was truncated by the trench edge at its eastern side (figures 2 and 5). The exposed length measured 1.29 m, the width was 0.99 m and the depth was a relatively shallow 0.22 m. Its sides sloped gently onto a rounded base. The feature was orientated east/west. The fill (068) comprised a reddish-brown silty sand with occasional pebble-sized stone inclusions. There were no datable artefacts located although its fill appeared similar to re-cut ditch fill 004, which contained sherds of probable Roman date pottery.
- 7.8 Possible linear feature 071 appeared to be truncated by re-cut ditch 003 and also by modern linear drainage feature 073 (figure 2). It measured 0.9 m in length, 0.45 m in width and 0.25 m in depth. Its fill (072) comprised a light reddish-brown sand with occasional charcoal flecks. No finds were recovered.

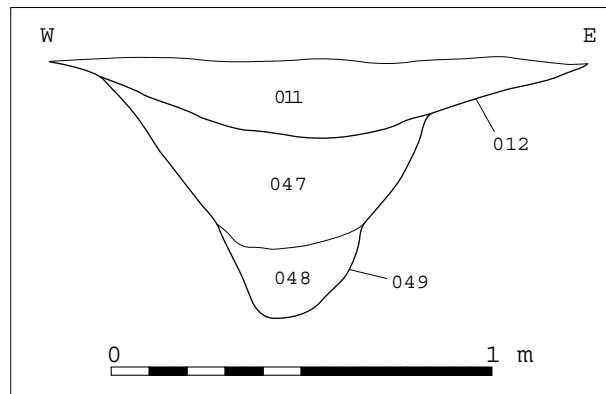


Figure 4: South east facing section of ditch 049/012.

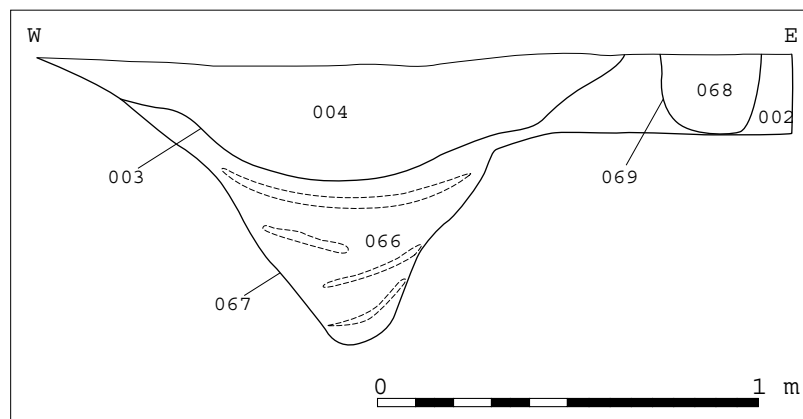


Figure 5: South facing section of ditch 067/003 and linear feature 069.

## Pit features

- 7.9 Four large pits were excavated during the present work programme and all were located in extension 2. Pit 039 was located to the immediate east of ditch 049 (figures 2 and 3). It was sub-oval in shape and measured 1.2 m by 1.05 m with a depth of 0.75. Its sides were steep and the base flat. It contained four fills (028, 042 – 044; figure 6). The lowest fill (044) comprised black brown sand with occasional pebble inclusions and one cobble. It measured 0.2 m in



depth and two base fragments of Roman Samian Ware (SF 16). Above was located a mid-grey brown sand which measured 0.3 m-0.45 m in depth. Its finds included a small fragment of chert (SF 18), two decorated rim fragments of Samian Ware (SF 19) and a further three fragments of ceramic sherds (SF 15). Above was located fill 042, which comprised a golden brown sand with occasional pebble and gravel inclusions and charcoal flecks. No finds were located within this fill. The upper fill 028 comprised a dark brown sand with inclusions of gravel and charcoal. It measured 0.1 m-0.2 m in depth and included 10 fragments of Samian Ware pottery and two fragments of unidentified corroded iron (SF 14). Interestingly all the pottery fragments appeared to be located in the southern end of the pit.

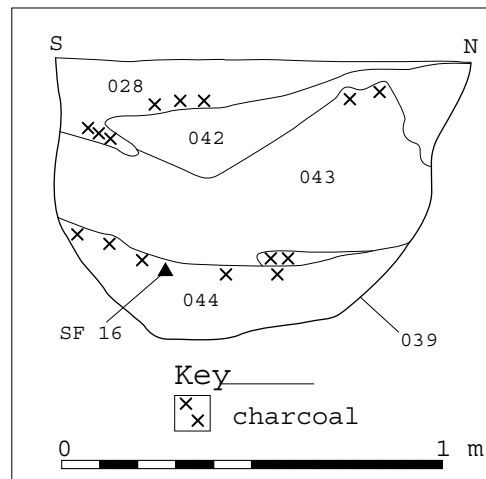


Figure 6: East facing section of pit 039.

- 7.10 Pit 055 was located to the south of pit 039 and was sub-oval in shape measuring 2.4 m by 1.3 m with a depth of 0.8 m. Its sides were near vertical and the base flat. Its fill (032) comprised a very firm mid- to dark brownish grey silty sand with occasional sub-rounded pebble inclusions and very few charcoal fragments (plate 8). No finds were located. The pit was truncated at its western end with modern blaes deposit 036.



Plate 8: E facing section of pit 055.



Plate 9: E facing section of pit 045.

- 7.11 Pit 050 was sub-circular in shape and located to the immediate south-east of pit 055. It measured 1.65 m by 0.2 m with a depth of 0.6 m. Its sides were near vertical and the base flat. Its fill (051) was similar to pit 055 and comprised a dark brownish grey clay silt with inclusions of pebble-sized stones. No finds were located within its fill and the pit was truncated at its western end by modern blaes deposit 036 (figures 2 and 3).
- 7.12 Pit 045 was located at the western trench edge of extension 2 below ditch 049 and was only partially exposed and excavated, it too being truncated by modern blaes deposit 036 at its western side. The pit was sealed below a white/gold sand deposit 065, which ditch cut 049 appeared to truncate (plate 9; figures 2 and 3). The partially exposed pit measured 1.28 m in length, 0.46 m in width and had a depth of 0.65m. Its fill (046) was similar to the above two pits (050 and 055) and comprised a compact dark grey clay sand with pebble-sized stone inclusions although it contained a moderate amount of charcoal. Finds included two small ceramic pot

sherds from different vessels (SF 24 and 30), several fragments of hearth lining (SF 23), three fragments of slag (SF 25) and a very degraded animal tooth (SF 29).

### Posthole/Pit Features

- 7.13** A sub-circular posthole/pit (061) measuring 0.86 m by 0.74 m with a depth of 0.49 m was located within the central area of the site (figure 2). Its sides were relatively straight and the base was slightly concave although it was truncated at its southern edge by modern building material. Its fill (056) comprised an orange/brown silty sand with several small and large stone inclusions. No finds were located (plate 10). Also within the main area and close to the northern trench edge was a small sub-rounded feature (062) measuring 0.5 m by 0.44 m with a depth of 0.28 m. Its sides were steep and the base was flat. Its fill (057) comprised of a mid- to dark orange brown silty sand with occasional charcoal flecks and small stone inclusions. No datable finds were located although several coal fragments were found within the fill.
- 7.14** A further three posthole features were located in extension 2 in close proximity (figures 2 and 7). Posthole 037 was sub-circular in shape and measured 0.7 m by 0.53 m with a depth of 0.27 m. Its fill (029) comprised a dark greyish brown silty sand which contained inclusions of several cobbles. No finds were located within the fill. Immediately adjacent and abutting the above posthole was feature 038, which was sub-circular in shape and measured 0.75 m by 0.67 m with a depth of 0.5 m. Its sides were steep and the base rounded. Its fill (052) comprised a dark greyish brown silty sand with small stone inclusions. No finds were located within the fill. The third feature (053) was roughly rectangular in shape and was located 0.1 m to the immediate west of 038. As with many features in this area, it had been truncated by modern blaes deposit 036 to its immediate west. It measured 0.38 m by 0.31 m with a depth of 0.11m. The sides were straight and the base flat. No datable finds were located within its fill (054), which comprised a light grey sand with occasional gravel inclusions.

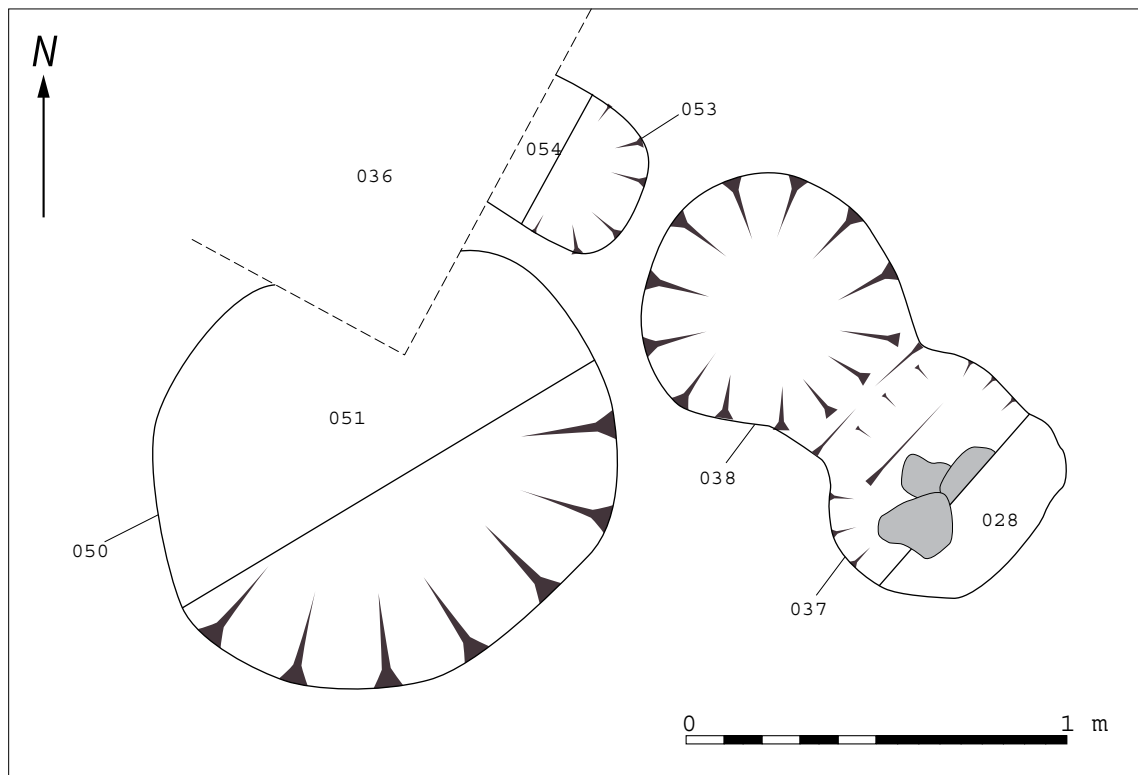


Figure 7: Plan of features 050, 053, 038 and 037.

- 7.15** Posthole 018 was also located in extension 2 and was sub-circular in shape and measured 0.5 m by 0.4 m by 0.23 m. Its sides were steep and the base rounded. Its fill (017) comprised a mid-reddish brown sandy silt with infrequent pebble-sized stone inclusions. A further possible posthole (014) was located to the south-west of 018 and was again sub-circular in shape and measured 0.87 m by 0.73 m with a shallow depth of 0.13 m. Its fill (013) comprised orange

brown clay sand. No finds were located in either 018 or 014 (figure 2). Further to the east were found a further two possible posthole/pits. Cut 009 was sub-circular in shape and measured 0.7 m by 0.65 m with a depth of 0.14 m. Its sides were gently sloping and the base flattish. Its fill (006) comprised an orange brown silty clay with small pebble-sized stone inclusions. Pit/posthole 008 was sub-circular in shape and measured 0.76 m by 0.75 m with a depth of 0.25 m. The sides sloped gradually and the blasé was flat/undulating. The fill comprised a red/brown sandy silt with several small stone inclusions. No finds were found in either feature (figure 2).



Plate 10: Post-excavation of posthole/pit 061.



Plate 11: Blaes deposit truncation subsoil 002 in extension 2.

## Spreads/Deposits

- 7.16 Several spreads/deposits of possible archaeological origin were also located across the site. Deposit 019 was located to the east of ditch 049 in extension 2 and comprised orange brown sandy silt with frequent charcoal inclusions. It measured 0.8 m by 0.4 m with a very shallow depth of 60 mm. No cut was evident and it was interpreted as a spread. A further spread/deposit (015) was located in the western end of extension 1. This spread was irregularly-shaped and comprised a mottled dark brown with reddish patches sandy silt with frequent small fragments of charcoal and one fragment of corroded iron (SF 9). It measured 0.47 m by 0.39 m with a depth of 40 mm. It was truncated by a north/south orientated modern service trench with pipe in situ.

## Modern Debris and Overburden

- 7.17 Within the central area of the main site and in both trench extensions were a large amount of modern debris which truncated both the archaeological features and subsoil (plates 1 and 11). These modern deposits (005) probably relate to the sites previous use as an iron foundry and include concrete pad, brick foundations, ceramic drainage pipes, iron slag waste (023/024) and rubble spreads. Several linear service trenches (073) were also located as were large blaes (036) filled cuts in extensions 1 and 2 and overburden debris deposits (025-027, 030 and 070). In the central area of the main trench a large spread of fused iron slag waste measuring 4.5 m in length by 2.5 m in width was encountered. Two slots were excavated through this deposit which measured in total 0.84 m in depth and contained two lower sand deposits (074 and 075), which contained sherds of modern glass and pottery (SFs 31-34).

- 7.18 Above these deposits was located a tarmac layer to the north of the site with aggregate below comprising a mid-grey hardcore rubble. At the southern end of the site was a re-enforced concrete floor 001. These measured between 0.4 m-0.45 m in depth.

## Discussion

- 8.1 The site at Redbrae Road, Camelon is located within an area rich in Roman archaeological remains, including the nearby forts and annexe at Camelon and a series of temporary camps further to the west including Three Bridges I-V, Lochlands I-VI, Bogton and East and West Carmuir (Jones, 2013). Recent work by AOC Archaeology in 2010 to the immediate west of the present site uncovered features associated with the forts annexe including several buildings,

bread ovens, rubbish pits, ditches and inter-cutting field systems ([www.aocarchaeology.com/key-projects/](http://www.aocarchaeology.com/key-projects/)). The present work programme did not reveal such a density of archaeological remains, however it did uncover several features and finds of archaeological interest which further adds to our knowledge of Roman activity within the area.

- 8.2 Both primary ditch cuts (049 and 067) were V-shaped with ditch 049 also containing a clay lining at its base, which was absent in ditch 067. The function and extent of these ditches is unknown although they do not appear to be military in character despite their closeness to Camelon Roman Fort. However, they could be the remains of enclosures associated with additional settlement structures, such as metalworking areas, which were established next to the fort. The function of the clay lining in ditch 049 is unknown although it could have been used to retain water or manage water by moving it along, particularly as the subsoil is a free draining sandy soil. If so, does this suggest that the ditch had a more mundane purpose as a drainage channel possibly associated with these extra-mural structures? Unfortunately the above ditch was not observed in its entirety therefore it was difficult to decipher where it was draining. However, previous excavation to the west of Camelon North fort in 1974 (Price 1974) uncovered several Roman ditches, with one also containing a clay lined drainage channel at its base, suggesting that it was not an uncommon building technique. The absence of a clay-lined drainage slot and an observable terminal end in the south-east suggests that the function of ditch 067 was not water management and therefore differed to that of ditch 049.
- 8.3 The absence of a clay-lined drainage slot and an observable terminal end in the south-east suggests that the function of ditch 067 was not water management and therefore differed to that of ditch 049. During the recent AOC excavations in 2010 a number of inter-cutting field boundaries were uncovered to the immediate west, which could suggest that the present ditch was part of this system (plates 12 and 13).



Plate 12: E/W ditch 067/003.



Plate 13: N/S ditch 067/003.

- 8.4 Both primary ditch cuts (049 and 067) appear to have been allowed to silt up gradually prior to being re-cut at a later date (012 and 003). Interestingly no finds were located within the primary ditch fills and charcoal fragments were very sparse. However, both re-cut ditch fills (011 and 004) produced finds including ceramic sherds and corroded iron fragments. The re-cut appeared to travel the full exposed length of both ditches and was morphologically different, being more rounded and shallower in depth. Its fill was also homogenous suggesting that it was rapidly backfilled once its use expired as opposed to the earlier ditches which were allowed to gradually backfill prior to being partially re-excavated.
- 8.5 Ditch 016 appeared very different than the above primary ditch cuts, although its fill 010 appeared similar to the re-cut ditch fills (011 and 004), which could suggest that this ditch was cut at the same time as both re-cut ditches 003 and 012.



- 8.6 The pits located in extension 2 of the site were of similar size and morphology although the fill of pit 039 differed markedly, containing multiple fills whilst the others appeared to contain only single fills. Finds were obtained from two of the pits (039 and 045) with pit 045 also containing metalworking waste. Previous excavation work in the southern annexe of the fort also produced pits of similar size to the above which were interpreted as rubbish pits due to their mixed contents which included first and second century AD pottery sherds, daub and iron fragments (Maxfield 1975). The remains of four hearths were also uncovered, with one associated with iron working, which could account for the presence of metal waste in pit 045.
- 8.7 Structural features were more difficult to decipher from the remains encountered although several postholes were present on site. However, due to the sites later truncation by modern features it was difficult to work out any pattern to these features and as such their overall function.

## Recommendations

- 9.1 The work at Redbrae Road in Camelon has uncovered a number of features of archaeological interest probably relating to the extra-mural structures which became established next to the southern annexe of Camelon Roman Fort. At present the material remains undated however, previous excavation work in this area has revealed activity dating from both the earlier Flavian and later Antonine periods. Further analysis will aid interpretation of these features and should include analysis of the finds, both the ceramic and metal work, which will provide relative dates for the excavated features and provide information on possible on-site activities and any trade with the surrounding environs and further afield. Analysis and possible radiocarbon dating of any botanical remains retrieved from the ditch fills and pit features will clarify the sequence of events on site and aid interpretation of these features and their possible associations with the nearby military structures.
- 9.2 Analysis of any botanical material retrieved from the soil samples will also assist in interpretation of local environmental conditions and those materials being used by the local populace. Micromorphological analysis of the soil sample profile from the ditch fill of primary cut 067 could also potentially provide evidence of the environmental conditions during which the primary ditch fill was deposited and any functional aspects which could be inferred, for example, is there evidence of garden soils or occupation deposits. It is therefore recommended that a phase of post-excavation analysis and publication be undertaken that will draw together current and previous discoveries from this site and allow its preservation by record to be achieved.
- 9.3 These recommendations are provided for guidance only. Final decisions on the nature and extent of any future archaeological work rest with Falkirk Archaeological Advisor acting on behalf of the Planning Authority.

## Acknowledgements

- 10.1 GUARD Archaeology would like to thank Bracewell Stirling Consulting and Cuchulain Construction Ltd for their assistance. Plant and drivers were supplied by Colquhullion Construction Ltd. Administrative and technical support was provided by Jen Cochrane, Aileen Maule and John Kiely. A survey of the area under investigation was conducted by Fiona Jackson, who also produced the illustrations for this report. The report was desk top published by Gillian McSwan. The project was managed for GUARD by John Atkinson. Assistance on site was provided by Dougie Allan, Johnnie Atkinson, David Brown, Richard Campbell, Kenny Green, Kristie McGowan, Farshid Namini and Erica Villas.



**Redbrae Road, Camelon  
Data Structure Report**

**Section 2: Appendices**



**[www.guard-archaeology.co.uk](http://www.guard-archaeology.co.uk)**

## Appendices

### Appendix A: Bibliography

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### Appendix B: List of Contexts

Context No.	Area	Description	Interpretation
001	-	Firm/ stiff, black grey tarmac and aggregate (hardcore). 0.40 to 0.45m thick across extent of site. Removed by machine.	Ground surface - concrete and aggregate. Tarmac 0.09m depth with hardcore (type 1) below. Previously used as a car park. Also concrete (reinforced with bars) in central area (factory floor).
002	-	Moderately firm to loose reddish brown and golden sand with occasional gravel across the extent of the site. Truncated by modern intrusions (005) and linear features (drainage?) and archaeology. Excavated by machine while dry. Affected by bioturbation.	Subsoil
003	-	Linear L-shaped cut with right angled corner towards east. 21.5 / 11.4m in length, 1.08m width and 0.25m thick. Break of slope at top is gradual to sharp, sides are steep, break of slope at base is gradual, 0.40m, and the base is rounded. E-W and N-S orientation and inclination of axis. Heavily truncated to west by modern industrial fill (005). Fill is (004).	Appears to be a Roman boundary ditch which has recut an earlier ditch on similar alignment (067).
004	-	Moderate reddish brown silt sand (fine grained) with occasional small pebbles. Measures 1.08m in width and 0.25m in depth across the length of the feature. Excavated by hand. Animal burrows present and modern features truncating.	Fill of linear field boundary[003. Two frags of pot (mortaria frag SF27 and other frag found in fill) also frags of iron.
005	-	Stiff dark brown slag with iron slag inclusions measuring 4.5m in length, 2.5m in width and 0.15m in depth. Truncated by service trench at west end. Excavated by hand in dry conditions.	Modern spread comprising of metalwork debris, concrete flooring, ceramic drainage and brick. May be related to previous use of site-factory / iron foundry. Fill of large pit [076].
006	-	Medium compaction, dark orange brown silt clay with small stones, measuring 1265mm x 700mm x 140mm. Hand excavated by trowel in dry conditions. Possibly non archaeological.	Sub circular feature next to (007). Possibly a posthole however no visible CV in fill. No finds were discovered on full excavation.
007	-	Medium compaction, red brown sandy silt with some small stones. Measures 0.76mx0.75mx0.25m. Hand excavated in dry weather. Possibly non archaeological.	Sub circular feature, possibly a post hole base. Close to stepped ditch feature (011) and next to (006).
008	-	Sub circular cut measuring 0.76mx0.75mx0.25m. Break of slope at top was gradual, sides gently sloping, break of slope at base was gradual and the base was undulating. Fill (007).	See (007)
009	-	Sub circular cut measuring 1365mm x 700mm x 140mm. Break of slope at top was gradual and sides gently sloping. Break of slope at base gradual and the base is varying / uneven. Fill (006). Possibly non archaeological.	Cut for (006)

Context No.	Area	Description	Interpretation
010	Ext 1	Moderate compaction, light reddish brown sandy silt with infrequent small rounded stones, rare small pottery frags. 11.5m / 0.7m. Truncated at NW by modern drain, also near middle of feature by modern industrial activity. Machine excavated then cleaned by hand in dry, overcast conditions.	Feature may represent structure within roman field boundary system.
011	-	Medium brown red silty sand with some small stones. 1.61m width (E/W) and 1.31m length (N/S) with depth 0.19m. Hand excavated with mattock, dry conditions. Top fill of drainage ditch.	This seems to be the top fill of a drainage ditch. Roman pottery was found in this context and the two contexts below correspond with the traditional drainage ditch shape.
012	-	Rectangular slot of linear ditch feature measures 1.61m E/W, 1.31m N/S and 0.19m deep. Break of slope at the top is sharp on north and south face and gradual to east and west. Sides are the same. No break of slope at base or base recorded. NE-SW orientation. Fill is (011).	See (011)
013	-	Firm orange brown with dark patches. Sandy clay with white and black clay pockets (infrequent). Thickness = 13cm, extent = 73cm x 87cm. Excavated by hand, dry conditions.	This feature was originally thought to be a post hole. The fill is mixed, with some darker orange soil appearing similar to the subsoil. Due to this the section was slightly undercut, but full excavation exposed the extent of the feature, revealing a mix of orange subsoil, dark brown stains, white clay pockets and a white clay subsoil (beneath the orange) at the base.
014	-	Sub circular cut measuring 13cm in depth and 87cmx73cm in plan. Gradual break of slope at top, steeper to the SE end. Sides are sloping and base break of slope is gradual. Base is rounded / undulating. Orientation is SE-NW. Not truncated. Fill is (013)	Cut for fill 013
015	Ext 1	Moderate compaction, mottled dark brown with reddish patches. Silty sand with inclusions of small frags of charcoal (infrequent) and a single piece of corroded metal / slag. Measures 0.47 / 0.39m. Badly truncated towards west by modern drain / concrete. Hand excavated in dry conditions.	Spread of material containing SF9 (corroded metal/slag)
016	Ext 1	Linear cut measures 11.5 x 0.70x 0.20m. Sharp break of slope at top, steep sides, gradual break of slope at base and rounded / concave base. Oriented NW-SE with NW-SE inclination of axis. Truncated towards NW end by modern drain, also near middle of feature by modern industrial activity. Fill (010).	[016] lies E of linear feature [003]/ (004) although it is on a different alignment and is half the width of (004). It is therefore most likely not to be a continuation of (004) although both were found at a similar level within the sub-surface soil (002). [016] and (010) may represent a feature within the roman field system.
017	-	Medium compaction mid reddish brown sandy silt with infrequent small stone inclusions. 25cmx25cm. Hand excavated while overcast. White clay present in surrounding surface.	Fill of possible post hole (017)
018	-	Sub circular cut measures 52cm x 29cm depth and 40cm width. Top break of slope is undulating, sides are sharp and break of slope at base is gradual. The base undulates slightly. Fill is (017). Spots of white clay in fill.	Cut of (017) in fill were found infrequent small stones and spots of white clay. In the surrounding surface of the cut exists white clay.
019	-	Firm orange brown sandy silt with frequent charcoal inclusions. 38x40cm in plan. Hand excavated in dry conditions.	Originally thought to be a subcircular feature, however once fully excavated no visible cut was found. [020] was voided and (019) was recorded as a possible redeposited fill from a separate context. Sample was taken.
026	-	Medium grey brown silty fill containing some small stones and modern slag. Measures 0.48m N-S, 0.56m E-W and 0.05m in depth. Hand excavated in dry weather. Modern.	Modern spread.
027	-	Medium grey brown silty fill containing some small stones and modern slag. 0.63m E-W, 0.58m N-S and 0.08m depth. Hand excavated in dry conditions. Modern.	Modern spread.
028	Ext 2	Firm dark brown sand with charcoal and gravel. Extends across feature, depth 10 to 20cms. Trowel excavated in dry.	Upper fill of pit [039]. Large amount of charcoal inclusions.

Context No.	Area	Description	Interpretation
029	Ext 2	Medium dark greyish brown sandy silt with small stones. 530mmx700mmx270mm. Hand excavation in dry conditions. Possibly the same fill as (052)	Fill of [037]
030	Ext 2	Very firm mid brown grey slightly silty sand with occasional stones, occasional gravel, frequent coal flecks. Not fully excavated. Approx 4.0 x 1.2m exposed in trench. 0.1m at deepest. Slot dug up to baulk, boxed. Hand excavated in dry and sunny conditions. Seems modern.	A dark sandy spread of sand. Probably staining from rubble make up layer / blaize which was overlying it / overburden. Fairly rich in frags and flecks of coal suggesting it didn't have a great deal of age to it. Very intermixed with 002. Diffuse, no cut. Appears to be same but stained.
032	Ext 2	Very firm for first 10-15cm, firm below. Mid to dark brownish grey silty sand. Frequent gravel, occasional pebbles (small, sub rounded), very occasional CV (about 3 flecks). L - 2.40m, W - 1.30m, D - 0.80m. Truncated by blaize (036) / modern building activity. Excavated first as a slot and then a half section, changed to quarter section mid-excavation. Hand dug with trowel, mattock etc. Overcast but mainly dry conditions. Pit possibly associated with ditch [012].	Fill of large pit located towards SW corner of Ext 2. May be associated with ditch 012. No finds / material culture and very little CV. Date and function unclear but may be Roman due to proximity to 012 and 039 which contained frags of roman pot and clay. Truncated in W/SW by modern blaize 036.
036	Ext 2	Friable / loose mid purple pink silty sand with very frequent angular / sub angular rocks, pebbles and gravel. Covers extent of site in Ext 2 / S of main area at a depth of around 0.8m. Machine stripped to reveal site in various conditions. May be same as aggregate in (001).	Large deposit of blaize. Pinkish rubble which covered all of Ext 2 S of main site and some other areas. Truncates many features in Ext 2. May be same as (001) aggregate.
037	Ext 2	subcircular / irregular cut measuring 530mmx700mmx270mm. Sharp break of slope at top, steep sides, gradual break of slope at base and concave base. Possibly truncated by machine excavation or industrial work - irregular shape. Fill (029).	Possible cut of a post hole. This was believed to be staining from an above deposit due to its irregular shape and proximity to (030) however on excavation a number of large (packing) stones were discovered and the dimensions and depth of what seemed to be a cut were revealed. This possible post-hole is in line with [038] and [053] and may form a structure relating to the near by pit [050]. No finds were recovered.
038	Ext 2	Subcircular cut measures 750mmx670mmx500mm. Sharp break of slope at top, steep sides and gradual break of slope at base. Base is concave. Fill (052), bridged to [037] on the surface.	Posthole located in a line with [037] and [053]. At first this area was believed to be a spread or staining from an above deposit, however an initial excavation it became clear that this was a post hole and may be part of a structure, possibly relating to the near by pit [050]. No material culture was recovered within the fill.
039	Ext 2	Sub circular pit, rounded corners. L-1.20m, W-1.05m D-0.75m. Sharp break of slope at top, relatively straight (vertical) sides. Base is slightly rounded. E-W orientation. Vertical inclination of axis. Fills are (028), (042) - (044).	Cut of pit located to immediate east of ditch (011) / (012). Roman in date (fill contains samian ware and other pottery).
040	Ext 2	Very firm brown / mid grey clay sand with charcoal, coal and blaize frags. Extends cut of feature. Truncated at east end by blaize deposit. Excavated in dry, sunny conditions.	Fill of linear feature, truncated by ditch [012].
041	-	Linear cut with slightly rounded corners measuring L-1.93m W-0.39m D-0.09m. Top break of slope is sharp, sides are gently sloping, base break of slope at 0.15m and base is rounded. Orientation E-W, axis of inclination vertical and truncated on east side by blaize deposit.	Linear feature located to the immediate east of ditch [012].
042	Ext 2	Moderate compaction, golden brown sand with occasional pebbles, gravel and occasional charcoal flecks. L-0.90m W-0.82m D-0.16m. Hand excavated, dry.	Fill of pit [039]. Probably natural in filling of pit. Spread (fill) most evident on north side of pit.
043	Ext 2	Loose mid grey / brown sand measuring extent of feature with a depth of 0.30 to 0.45m. Hand excavated, dry.	Fill of pit [039].
044	Ext 2	Loose / moderate black brown sand fill with occasional pebbles and one sub rounded cobble. Extends across base of pit, depth 0.20m. Hand excavated, dry.	Lower fill of [039].

Context No.	Area	Description	Interpretation
045	Ext 2	Oval cut with rounded corners measures L-1.28m W-0.46m D-0.65m. Break of slope at top is sharp, sides are straight, break of slope at base occurs at 0.80m. The base is slightly rounded. Axis of inclination vertical. Fill (046).	Cut of pit located below ditch [012] and cut into white / gold natural sand covering cut (0.20m depth).
046	Ext 2	Moderate dark grey clay sand with gravel. Inclusions of charcoal, occasional pebbles. Extends cut of pit. Hand excavated, dry and sunny.	Fill of pit [045]. Pit located below deposit (065). Natural found in ditch (002 = 065) which has sealed the pit. Ditch [012] is later cut into this deposit.
047	Ext 2	Medium orange brown sand with some small stones and charcoal. Measures 1.61m E-W, 1.31m N-S and 0.29m depth. Hand excavated with mattock while dry.	This seems to be a stepped drainage ditch with three layers of fill. Roman pottery was found in the context above and possibly a corroded nail was found in this fill. The shape of this feature and clay lining at the bottom heavily indicated this was used as a drainage system. The entire feature runs halfway through Ext 2 for 11 meters.
048	Ext 2	Heavy grey clay with no inclusions. W-1.61m L-1.31m D-0.29m. Hand excavated in dry conditions.	This seems to be a clay lining at the base of a drainage ditch. Finds from the two contexts above (047) and (011) suggest that this is a Roman feature.
049	Ext 2	Linear cut measures 0.91m width, 1.31m length and 0.48m depth. Break of slope at top and sides are both gradual at west and steep at east. Break of slope at base is gradual and base is a concave U-shape. Orientation NE-SW. Fills are (047) and (048)	See (011), (047) and (048)
050	Ext 2	Sub circular cut measuring 1350mm x 1200mm x 600mm. Break of slope at top is sharp, sides are steep and break of slope at base is gradual. Base is concave. Truncated slightly by large deposit of blaize. Fill is (051). Located close to post holes [037], [038] and [053] - possibly a structure relating to this feature.	Large pit to the SE of Ext 2. No material culture found and very limited charcoal traces recovered. Unknown purpose or function.
051	Ext 2	Medium (very hard at surface) compaction dark greyish brown silt clay with small stones measuring 1350mm x 1200mm x 600mm. Truncated by blaize deposit. Hand excavated in dry conditions.	Fill of [050].
052	Ext 2	Medium dark greyish brown sandy silt with small stones. 750mmx670mmx500mm. Hand excavated in dry conditions. Possibly the same fill as (029).	Fill of [038]
053	Ext 2	Rectangular cut with square corners measures 0.38x0.31x0.11m. Break of slope at top is sharp, sides are straight, break of slope at base 0.11m and base is flat. Vertical inclination of axis. Truncated by blaize deposit. Fill id (054).	Feature truncated by blaize deposit to W. In alignment with p/h [037 + 038], possibly a post hole
054	Ext 2	Moderate light grey sand with occasional gravel. Measures extent of feature. Truncated by blaize deposit. Excavated by hand in dry conditions.	Fill of possible pit / posthole. Located next to [038] and [037].
055	Ext 2	Sub oval/ oblong cut with rounded corners. Measures L-2.4m W-1.3m D-0.80m. Break of slope at top is sharp, sides are concave - near vertical. Break of slope at base is sharp. Base is flattish concave. Oriented roughly E-W. Truncated by blaize (036) to SW / W. Fill is (032). Cut for large pit, possibly associated with [012].	Cut for a large pit of unknown date or function. Possibly Roman due to proximity to features such as ditch [012] and pit [039]. Concave edges possibly due to slumping sand over time. See (032) for more.
056	-	Medium compaction, orange brown silty sand with some small and large stones. Measures 0.74m x 0.85m x 0.49m. Truncated by modern layer. Hand excavated in dry conditions.	This pit is badly truncated by a modern layer of gravel fill, some charcoal was found and sampled. The S/E side of pit is adjacent to modern layer so excavation could not be extended this way.
057	-	Firm and friable mid to dark orange brown silty sand with occasional small stones and occasional coal fragments. L-0.50m, W-0.44m, D-0.28m. Half sectioned using hand tools, dry and overcast. May be related to ditch [003].	Fill of a small sub circular pit, possibly a posthole, located around 1.2m N of [003] at approx E176, N111. Contained several fragments of coal suggesting a possible relationship with the railway along the N edge of the site. Age and function unclear.



Context No.	Area	Description	Interpretation
061	-	Sub circular cut measuring 0.74 x 0.85 x 0.49m. Break of slope at top is gradual, sharp sloping sides, gradual break of slope at base and concave base. Truncated by modern layer. Fill is (056)	See (056)
062	-	Sub circular cut measuring L-0.50m W - 0.44m D - 0.28m. Break of slope at top is sharp, sides steep, slight concave to NE and a step to SW, the break of slope at the base is sharp and the base is quite flat with a slight concave. Vertical inclination of axis. Fill (057). Possible posthole	Cut for small pit or possible post hole. Age and function not known. The the SW is a small step in the side. See (057) for more.
063	-	Moderately compacted mid reddish brown silty sand with frequent small charcoal frags and occasional small pockets of sandy clay. Measures 2.03m / 1.90m. Truncated towards N by concrete platform. Hand excavated in dry conditions.	Fill of terminal end of ditch? (To immediate S of concrete floor).
064	-	Sub rounded cut measuring 2.03m/1.90m/0.45m. Break of slope at top is sharp, sides are steep, break of slope at base gradual and base is rounded with slight undulation. Possibly NE-SW oriented. Truncated towards W by concrete platform. Fill is (063). May be a continuation of [003].	Possibly a continuation of ditch [003]/ (004) or remnant of the end of another ditch of similar alignment.
065	-	Loose white/gold sand. Depth 20cm. Truncated by ditch [012]. Hand excavated in dry weather	Natural sand deposit above pit [045] and cut by ditch [012]
066	-	Very firm, bands of mottled mid orange / light yellow grey slightly silty sand. Occasional small stones and gravel inclusions. 26m length, 1m wide and 80cm depth. Truncated in various places by modern deposits eg (073). Eight slots hand excavated in varying weather conditions. Layers of wind blown sand filling ditch [067]. Affected by bioturbation and animal burrows.	Layers of wind blown sand which filled ditch [067] before being recut by ditch [003]. Date not clear due to lack of material culture from the ditch but likely Roman or pre Roman due to shape of cut and pottery found in recut fill (004).
067	-	Linear ditch with right angled turn at east end. 26m long, 1m wide and 0.80m deep. Break of slope at top is steep, sides steep and break of slope at base is sharp, occurring at 0.82m. Base width is 0.28m. The base is rounded / concave. Orientation E-W, turning to N-S at the east corner. Truncated by modern deposits. Fill is (066) as well as recut [003] and its fill (004).	Cut of ditch with fill (066). Recut for ditch [003]. Sharp V-shaped ditch and obvious layered infilling of sand deposits. Later recut with [003] / (004). Possible military origin and later field boundary recut?
068	-	Medium compacted orange / red / brown silty sand with some small stones. Measures 1.29 x 0.99 x 0.22m. Truncates [003]. Hand excavated in dry weather. Modern.	This looks like a modern spread truncating feature (004) / [003]. No finds recorded.
069	-	Linear cut measures 1.29 x 0.99 x 0.22m. Soft break of slope at top, slight sloping sides, soft break of slope at base and concave base. Orientation E-W. Truncated [003]. Fill is (068).	See (068)
070	-	Firm and friable mid grey brown silty sand with occasional gravel and small stones, coal flecks, glass and bone. Full extent not excavated. L-1.50m W-0.70m D-0.10m exposed. Truncated by multiple modern deposits. Slot / sondage dug to reveal a section running N-S. Hand excavated, wet weather. Appears to be modern but may be related to [003]. Affected by bioturbation and burrows.	A thin deposit of silty sand which peeled off easily during excavation to reveal natural sand below. Seems likely to be associated with modern deposits relating to construction of structures / buildings which stood here previously, however, this deposit is almost in line with ditch [003] / (004) and it is possible that there is a relationship between them.
071	-	Linear / rectilinear cut with four rounded corners measuring 0.45m x 1m with depth 0.25m. Top break of slope is steep, sides are vertical / sharp, base break of slope is steep, base slightly rounded. N-S orientation. Fill (072).	Cut for linear feature running parallel to ditch cut [003]. Truncated at S extent by modern industrial deposit and also possibly by cut [003]. Date unknown.
072	-	Friable light brown sand with some small charcoal deposits. Measures 1m x 0.45m x 0.25m. Hand excavated in overcast / rainy conditions.	Fill for linear feature [071] - See [071] for more details.
073	-	Mainly loose, friable light yellow grey, some blue grey clay, silty sand and sandy clay with frequent gravel and stones. Full dimensions not known. Not fully excavated. Occurs in linear banding across S/SE part of site. Machine stripped in varying weather. Modern deposits. Affected by bioturbation.	Linear bands of modern material associated with buildings on the site prior to construction work now going on. Consists of gravelly sand and clay. Truncates ditches [003] and [067] in SE corner of site making them difficult to see in plan in places.

Context No.	Area	Description	Interpretation
074	-	Firm burnt orange / brown sand with occasional gravel. Length unknown, only observed in slots A and B in (005). Width 2.5m and depth 0.24m. Excavated by hand in dry weather	Mixed orange / brown sand. Modern pottery and glass found in deposit. Fill of large pit, probable dump of detritus located below (005)
075	-	Firm mid grey clay silt with occasional pebbles. Length unknown, only observed in slots into (005). Width 2.50m, depth 0.50m. Hand excavated, dry.	Grey sand fill - lower fill of pit [076]. Modern detritus.
076	-	Sub oval / rectangular cut with rounded corners. L-4.5m, W-2.5m, D-0.84m. Sharp break of slope at top, straight / near vertical sides, break of slope at base at 0.84m, base is flattish. E-W orientation. Vertical inclination of axis. Truncated by rubble service trench on west side. Fills are (074), (075), (005).	Cut of large pit filled with modern detritus.

### Appendix C: List of Finds

Find No.	Area	Context No.	No. of Pieces	Material	Type	Description
1	-	001	1	CBM	Brick	Fragment of possible Roman brick (Now probably 18th century)
2	-	001	1	CBM	Brick	Fragment of possible Roman brick (Now probably 18th century)
4	-	010	1	Ceramic	Pottery	Small fragment of pottery with white glaze / paint
5	-	011	2	Ceramic	Pottery	Small frags of greyware pottery
6	-	010 slot 2	1	Ceramic	Pottery	Small fragment of pottery
7	-	010 slot 2	3	Ceramic	Pottery	Small frags of red pottery
8	-	010 slot 1	1	Ceramic	Pottery	Small frags of red pottery
9	-	015	1	Metal	Iron / Slag	Piece of corroded iron / slag
10	ext 2	028	3	Ceramic	Pot	Samianware sherd (dec)
11	ext 2	040	1	Ceramic	Pot	Pot frag
12	-	047	1	Metal	Iron	Nail
13	-	011	3	Ceramic	Pot	-
14	-	028	2	Metal	Iron	Nail head?
15	-	043	3	Ceramic	Pot	Pot sherds
16	-	044	2	Ceramic	Pot	Pot sherd (samian)
17	-	028	7	Ceramic	Pot	Pot sherd (samian)
18	ext 2	043	1	Lithic	Flint	Sherd
19	ext 2	043	3	Ceramic	Ceramic	Pot sherds (Samian)
20	-	004	2	Metal	Fe	Frag
21	-	004	1	Stone	Sub rounded	stone with metal fused to it
22	-	004	1	Metal	Iron	Corroded nail
23	ext 2	046	1	Metal	Iron / Ceramic	Hearth lining
24	ext 2	046	1	Ceramic	Ceramic	Pot sherd
25	ext 2	046	3	Metal	Slag	Slag frags
26	-	004	1	Ceramic	Ceramic	Pot sherd
27	-	004	1	Ceramic	Pottery	Mortarium base frag
28	-	004	5	Metal	Fe	Rusty iron fragments
29	ext 2	046	1	Bone	Bone	Animal tooth
30	ext 2	046	1	Ceramic	Ceramic	Pot sherd
31	-	074	1	Glass	Glass	Modern green glass body sherd
32	-	075	2	Ceramic	Ceramic	Modern rim and body sherds
33	-	075	1	Glass	Glass	Modern green glass body sherd
34	-	074	7	Ceramic	Ceramic	Modern white glazed body sherds

## Appendix D: List of Samples

Sample No.	Area	Context No.	Size	Volume (litres)	% of deposit	Reason for Sampling					Other	Application/Comments
1	-	006	1 x L	5	30							Fill of [009]
2	-	007	1 x L	5	50							Fill of [008]
3	-	013	1 x L	-	-							-
4	-	011	1 x L	3	10							Fill of [012]
5	-	019	1 x L	-	-							Fill of [020]
6	-	021	1 x L	-	-							-
7	-	017	1 x L	5	50							Fill of [018]
8	-	010	1 x L	5	14.2							Fill of [010] (slot 3)
9	-	010	1 x L	5	14.2							Fill of [010] (slot 3)
10	-	010	1 x L	5	14.2							Fill of [010] (slot 3)
11	-	010	1 x L	5	14.2							Fill of [010] (slot 3)
12	-	010	1 x L	4	14.2							Fill of [010] (slot 3)
13	-	010	1 x L	5	14.2							Fill of [010] (slot 3)
14	-	010	1 x L	3	14.2							Fill of [010] (slot 3)
15	-	010	1 x L	-	33							Fill of [010] (slot 2)
16	-	010	1 x L	-	33							Fill of [010] (slot 2)
17	-	010	1 x L	-	33							Fill of [010] (slot 2)
18	Ext 1	015	1 x L	2	100							-
19	-	010	1 x L	5	25							Slot 1
20	-	010	1 x L	5	25							Slot 1
21	-	010	1 x L	3	10							Slot 1
22	-	010	1 x L	3	10							Slot 1
23	-	010	1 x L	3	10							Slot 1
24	-	010	1 x L	3	10							Slot 1
25	-	010	1 x L	3	10							Slot 1
26	-	010	1 x L	3	20							Slot 1
27	-	010	1 x L	3	20							Slot 1
28	-	010	1 x L	3	20							Slot 1
29	-	010	1 x L	3	20							Slot 1
30	-	010	1 x L	3	20							Slot 1
31	-	014	1 x L	3	50							-
32	-	004	1 x L	5	<10						CV	Slot F of ditch [003] (004)
33	Ext 2	029	1 x L	5	10							-
34	Ext 2	028	1 x L	3	10						CV	Cut [039]
35	Ext 2	043	1 x L	3	10						CV	Cut [039]
36	Ext 2	044	1 x L	3	10						CV	Cut [039]
37	Ext 2	042	1 x L	3	-							Cut [039]
38	Ext 2	032	1 x L	5	-							Fill of pit
39	Ext 2	011	1 x L	3	-							Fill of ditch [012]
46	Ext 2	046	1 x L	5	-							Fill of pit [045]
47	Ext 2	054	1 x L	2	-							Fill of feature [053]
48	Ext 2	052	1 x L	3	-							Fill of pit / posthole [038]
49	Ext 2	011	1 x L	3	-							Fill of drainage ditch
50	Ext 2	047	1 x L	3	-							Secondary fill of drainage ditch
51	Ext 2	048	1 x L	3	-							Clay fill of drainage ditch
52	Ext 2	051	2 x L	5	-						CV	Fill of pit [050]
53	-	004	1 x L	5	-						CV	Fill of ditch [003]
54	Ext 2	042	1 x L	2	-					x	CV	Fill of pit [039]
55	Ext 2	040	1 x L	3	-					x		Fill of linear feature

Sample No.	Area	Context No.	Size	Volume (litres)	% of deposit	Reason for Sampling					Other	Application/Comments
56	-	056	1 x L	2	-						CV	Fill of circular pit
57	-	057	1 x L	5	20						CV? Poss. Coal	Fill of posthole [062]
58	-	035	1 x L	5	<10						CV	Fill of linear [034]
59	-	063	1 x L	4	-							Fill of [064]
60	-	004	1 x L	5	<10	x					CV	Fill of ditch at corner / turn - NE end of site - Slot D
61	-	066	1 x L	5	<10		x				CV	Lower fill of [003]
62	-	004	1 x L	3	<10						CV & Metal	-
63	-	004	1 x L	3	<10						CV & Metal	-
64	-	066	1 x L	5	<10							Fill of [067] Slot A
65	-	068	1 x L	3	20						CV	-
66	-	004	1 x L	5	10							Fill of [003] Slot G
67	-	006	1 x L	5	10							Fill of [067] Slot G
68	-	004	1 x L	5	<10						CV, Fe	Fill of [003] Slot B
69	-	066	1 x L	5	<10						CV?	Fill of [067] Slot B
70	-	004	1 x L	4	<10						CV?	Fill of [003] Slot F
71	-	004	1 x L	5	<10						CV	Fill of [003] slot H
72	-	072	1 x L	6	<10							Fill of [071]
73	-	063	1 x L	5	20							Terminal end of possible ditch to S of concrete floor
74	-	066	1 x L	5	<10							Slot A
75	-	066	1 x L	5	<10							Slot B
76	-	066	1 x L	5	<10							Slot C
77	-	066	1 x L	5	<10							Slot D
78	-	066	1 x L	5	<10							Slot F
79	-	066	1 x L	5	<10							Slot G

## Appendix E: List of Drawings

Drawing No.	Area	Sheet No.	Feature No.	Subject	Scale
1	-	1	(007)	East facing section of sub circular feature	1:10
2	-	1	(006)	East facing section of sub circular feature	1:10
3	-	1	[008] (007)	Plan of sub circular feature	1:20
4	-	1	[009] (006)	Plan of sub circular feature	1:20
5	-	1	(013) [014]	Section of possible posthole	1:10
6	-	1	[014]	Plan of shallow sub circular feature	1:20
7	-	1	(011) [012]	Plan of ditch feature	1:20
8	-	1	[018]	Plan of possible posthole	1:20
9	-	2	(019) [020]	Section of (019)	1:10
10	-	2	(011) [012]	South facing section of stepped ditch	1:10
11	-	2	(011) [012]	North facing section of stepped ditch	1:10
12	-	2	(019) [020]	Plan of sub circular feature	1:20
13	Ext 1	2	(015) [022]	North facing section of possible feature	1:10
14	-	2	(010) [016]	West facing section of slot 1	1:10
15	-	2	(010) [016]	East facing section of slot 1	1:10
16	-	2	(010) [016]	West facing section of slot 2	1:10
17	-	2	(010) [016]	East facing section of slot 2	1:10
18	Ext 1	2	(010) [016]	E facing section of slot 3	1:10
19	Ext 1	2	(010) [016]	W facing section of slot 3	1:10

Drawing No.	Area	Sheet No.	Feature No.	Subject	Scale
20	Ext 2	5	[037] (029)	NW facing section of posthole	1:10
21	Ext 2	5	[038] (029)	SE facing section of pit	1:10
22	Ext 2	5	[039] (028, 042, 043, 044)	SE facing section of pit	1:10
23	Ext 2	4	(011) [012] (047) (048) [049]	NE facing section of drainage ditch slot 1	1:10
24	Ext 2	5	(011) [012] (045) (046)	NE facing section	1:10
25	Ext 2	5	055 / 032	E facing section of pit	1:10
26	Ext 2	4	053 / 054	E facing section of post hole	1:10
27	Ext 2	4	[055] (032)	Plan of pit / post ex	1:20
28	-	5	(056) [061]	East facing section of pit	1:10
29	-	4	003 / 004	W facing section of slot 3	1:10
30	-	4	057 / 062	Se facing section of posthole	1:10
31	-	3	(004) [003]	Plan of linear feature - west	1:20
32	-	4	(004) [003]	E facing section of ditch	1:10
33	Ext 2	4	(011) [012] (047) (048) [049]	S facing section of ditch	1:10
34	-	4	003 / 004, 034 / 035	S facing section of sondage at ditch junction	1:10
35	Ext 2	13	-	Post ex plan of Ext 2	1:50
36	Ext 2	13	011, 012, 048	Slot 1 post exc of ditch	1:20
37	Ext 2	13	011, 012, 048	Slot 2 post exc of ditch	1:20
38	Ext 2	6	011, 012, 045, 046	Slot 2 with pit below ditch [012] e facing section	1:10
39	Ext 2	6	011, 012, 048	S facing section of ditch [012]	1:10
40	Ext 2	8	-	Plan of central area of main trench (joins to 31)	1:50
41	-	4	034, 035	W facing section of ditch	1:10
42	-	4	003, 004	W facing section of slot into ditch	1:10
43	Ext 2	7	011, 012	Plan of ditch in north west of ext 2	1:20
44	-	4	(063) [064]	S facing section of poss feature	1:10
45	-	4	(063) [064]	N facing section of poss feature	1:10
46	-	6	(063) [064]	Plan of [064]	1:20
47	-	4	003, 067	W facing section in slot A of ditch	1:10
48	Ext 2	4	(051) [050]	SE facing section of pit	1:10
49	Ext 2	4	[039]	Plan of pit in north west corner of Ext 2	1:20
50	Ext 2	4	[037] [038] [050] [053]	Plan of features in south east of ext 2	1:20
51	-	6	003, 067	W facing section in slot B	1:10
52	-	9	003, 004, 066, 067	N facing section in slot D	1:10
53	-	9	003/004, 066/067	E facing section slot D	1:10
54	-	11	003/004, 066/067	East facing section of slot C	1:10
55	-	9	003, 067	W facing section of slot C	1:10
56	-	10	003, 067	S facing section of slot G	1:10
57	-	10	003, 067	E facing section of slot H	1:10
58	-	12	many	Plan of 003 - East	1:50
59	-	10	005, 074, 075	Fill of modern dump	1:10
60	-	10	003/004, 066/067	N facing section of slot F	1:10
61	-	10	003/004, 066/067	S facing section of slot F	1:10
62	-	2	017, 018	NE facing section of 017	1:10
63	-	2	010	West facing section of slot 4	1:10

## Appendix F: List of Photographs

Frame	Area	Context	Subject	Taken from
1	-	-	General shot of site	E
2	-	-	General shot of site	W
3	-	-	General shot of site	W
4	-	003, 004	Linear cut of ditch - pre ex	E
5	-	003, 004	Linear cut of ditch - pre ex	E
6	-	003, 004	General pre ex of linear feature	S
7	-	003, 004	General pre ex of linear feature	E



Frame	Area	Context	Subject	Taken from
8	-	003, 004	General pre ex of linear feature	W
9	-	003, 004	W facing section of 003, 004	E
10	-	003, 004	E facing section of 003, 004	W
11	-	003, 004	W facing shot of section	E
12	-	003, 004	E facing shot of section	W
13	-	003, 004	Terminus of ditch cut, possible entrance way	E
14	-	003, 004	Terminus of ditch cut, possible entrance way	S
15	-	Gen	Working shot of site	NE
16	-	Gen	Working shot of site	NE
17	-	Gen	Working shot of site	NW
18	-	Gen	Working shot of site	W
19	-	Gen	Working shot of site	SW
20	-	Gen	Working shot of site	S
21	-	Gen	Working shot of site	SE
22	-	Gen	Working shot of site	E
23	-	Gen	Working shot of site showing concrete	E
24	-	Gen	Working shot of site	E
25	-	Gen	Working shot of site	E
26	-	007	Pre ex of possible sub circular feature	N
27	-	006	Pre ex of possible sub circular feature	W
28	-	007, 008	Mid ex of possible sub circular feature	W
29	-	006, 009	Mid ex of possible sub circular feature	W
30	-	007, 008	Post ex of sub circular feature	W
31	-	006, 009	Post ex of sub circular feature	W
32	-	011	Pre ex of linear feature	S
33	Ext 1	010	General shot of trench extension 1	E
34	Ext 1	010	General shot of trench extension 1	W
35	-	013	Shot of possible post hole mid ex	NW
36	-	013	Shot of possible post hole mid ex	NW
37	-	010	East facing section of 010	E
38	-	010	East facing section of 010	E
39	-	015	Pre ex of possible feature	E
40	-	016, 010	pre ex of linear feature	W
41	-	017	pre ex of possible post hole	NE
42	-	013, 014	Post ex shot	NW
43	-	013, 014	Post ex shot	NW
44	-	017	Mid ex shot	NW
45	-	019, 020	Pre ex shot	NW
46	-	019, 020	Mid ex section, W facing	NW
47	-	017, 018	Post ex	NW
48	-	011, 012	Post ex of slot in feature	NW
49	-	011, 012	Post ex of n facing section	S
50	-	011, 012	Post ex of S facing section	S
51	-	019, 020	Post ex shot	N
52	Ext 1	016, 010	Pre ex of linear feature	NE
53	Ext 1	022, 015	Pre ex of poss feature	E
54	Ext 1	022, 015	Mid ex of poss feature	E
55	Ext 1	010, 016	Post ex slot 1 in linear feature	NE
56	Ext 1	010, 016	W facing section of slot 1 in linear feature	E
57	Ext 1	010, 016	E facing section of slot 1 in linear feature	W
58	Ext 1	010, 016	W facing section of slot 2 in linear feature	E
59	Ext 1	010, 016	E facing section of slot 2 in linear feature	W
60	Ext 1	010, 016	Post ex of slot 2 in linear feature	SE
65	Ext 1	010, 016	East facing section of slot 4 in linear feature	E
66	Ext 1	010, 016	General post ex shot	W

Frame	Area	Context	Subject	Taken from
67	-	003, 004	Mid ex of linear	W
68	-	025	Pre ex of dark greyish brown deposit	S
69	-	026, 027	Pre ex of sub circular and sub oval feature	NWW
70	-	027	Mid ex of modern spread	NE
71	-	026	Mid ex of modern spread	NE
72	-	003, 004	Slot F into ditch	NW
73	-	003, 004	Slot F into ditch	ESE
74	-	003, 004	S facing section slot F	SE
75	-	003, 004	N facing section slot F	S
76	Ext 2	(011) [012]	General shot of ext 2	N
77	Ext 2	(011) [012]	general shot of ext 2	N
78	Ext 2	(011) [012]	General shot of ext 2	S
79	Ext 2	(011) [012]	General shot of ext 2	E
80	Ext 2	028	Pre ex shot of (028)	E
81	Ext 2	011, 012	Pre ex shot	E
82	Ext 2	011, 012	Pre ex shot	NE
83	Ext 2	033, 032	Pre ex shot	NE
84	Ext 2	029, 030	Pre ex shot	NE
85	Ext 2	030	Mid/post ex shot - slot into spread	SW
86	Ext 2	030	Mid/post ex shot - slot into spread	W
87	Ext 2	029	Post ex of possible posthole / pit	SW
88	Ext 2	031	Post ex of spread	NW
89	Ext 2	032	Mid ex of slot in pit 055	W
90	Ext 2	039, 028	SE facing section	E
91	Ext 2	041, 040	Slot through linear feature	SE
92	Ext 2	011, 012	Slot 2 ditch plan shot	SW
93	Ext 2	011, 012	SE facing section slot 2 ditch	SE
94	Ext 2	011, 012	SE facing section slot 2 ditch	SE
95	Ext 2	011, 012	SE facing section of slot 1 ditch	SE
96	Ext 2	011, 012	Plan shot of slot 1 in ditch	N
97	Ext 2	050, 037, 058	General shot of feature (next to 050)	N
98	Ext 2	050, 051	Pre ex of possible pit	NE
99	Ext 2	055, 032	E facing section mid ex	NE
100	Ext 2	055, 032	Overview of pit	E
101	Ext 2	055, 032	Overview of pit	SE
102	Ext 2	055, 032	S facing section	S
103	Ext 2	055, 032	Post ex E facing section	S
104	Ext 2	055, 032	Post ex gen shot of pit	E
105	Ext 2	055, 032	Post ex gen shot of pit	S
106	Ext 2	055, 032	Post ex gen shot of pit	SE
107	Ext 2	053, 054	East facing section	SW
108	-	034, 035	Pre ex of linear feature	E
109	-	gen	Gen shot of area 1	E
110	-	gen	Gen shot of area 1	E
111	-	058	Pre ex of modern linear feature	E
112	-	005	Pre ex of 005	E
113	-	059	Pre ex of linear feature	E
114	-	056	Pre ex of sub circular feature	N
115	-	034/035	NE facing section of linear feature	N
116	-	003/004	View of W end of ditch	E
117	-	057	Pre ex of sub circular feature	N
118	-	034/035	gen shot west end	N
119	-	gen	Gen shot area 1	N
120	-	gen	Gen shot area 1	N
121	-	gen	Gen shot area 1	NE

Frame	Area	Context	Subject	Taken from
122	Ext 2	050/051	SE facing section of pit	SE
123	Ext 2	012/011	Post ex of feature	N
124	Ext 2	012/011	post ex of feature	W
125	Ext 2	045/046	mid ex of feature	N
126	Ext 2	045/046	post ex of feature	E
127	Ext 2	046/045	Post ex of feature	N
128	Ext 2	011/012	post ex slot 2 of ditch	N
129	Ext 2	011/012	post ex slot 2 of ditch	NE
130	Ext 2	011/012	post ex slot 2 of ditch	N
131	Ext 2	011/012	post ex of ditch	NE
132	Ext 2	011/012	post ex of ditch	NE
133	Ext 2	128	post ex of pit	E
134	Ext 2	128	post ex of pit	N
135	Ext 2	050/053/037/035	post ex of pit and post holes	SW
136	Ext 2	050/053/037/035	post ex of pit and post holes	S
137	Ext 2	050/053/037/035	post ex of pit and post holes	SW
138	Ext 2	050/053/037/035	post ex of pit and post holes	W
139	Ext 2	-	general shot post ex western side	S
140	-	-	general shot post ex eastern side	SW
141	-	-	general shot post ex eastern side	NE
142	-	-	general shot post ex western side	NE
143	-	-	general shot post ex northern end	E
144	-	056/061	mid ex of pit with stone from section drawing removed	E
145	-	-	Pit in slot 2 of ditch	E
146	-	-	Pit in slot 2 of ditch	N
147	-	061	Post ex of circular pit and truncation	E
148	Ext 2	040/041	post ex linear feature	E
149	Ext 2	040/041	e facing section of 041	E
150	Ext 2	040/041	post ex 041, 040 and pit	E
151	-	003/004	gen view of slot	N
152	-	003/004	gen view of slot	NW
153	-	003/004	W facing section	W
154	-	003/004	E facing section	E
155	-	057	SE facing section	SE
156	-	004/003	E facing section	E
157	Ext 2	011/012	Slot 2 S facing section of ditch	S
158	Ext 2	011/012	Slot post ex shot	S
159	Ext 2	011/012	Slot post ex shot	S
160	Ext 2	011/012	Pit below slot 2 ditch	E
161	Ext 2	011/012	Pit below slot 2 ditch	E
162	Ext 2	011/012	Slot 2 post ex shot	S
163	-	011/012	S facing section slot 2 ditch	S
164	-	004/003	General shot of linear feature	W
165	-	004/003	General shot of linear feature	E
166	-	004/003	General shot of linear feature	E
167	-	004/003	General shot of linear feature	NE
168	-	004/003	Section E facing slot A	E
169	Ext 2	011/012	Post ex of ditch	NE
170	Ext 2	011/012	post ex of ditch	NE
171	Ext 2	011/012	post ex of ditch	SW
172	Ext 2	011/012	post ex of ditch	SW
173	Ext 2	011/012	post ex of ditch	SW
174	-	003/004/034/035	S facing section of slot	S
175	-	003/004/034/035	E facing section of slot	E
176	-	003/004/034/035	Gen view of slot	NE

Frame	Area	Context	Subject	Taken from
177	-	003/004/034/035	gen view of slot	SW
178	Ext 2	011/012	Slot 3 N facing section of ditch	N
179	Ext 2	011/012	Slot 2 - N facing section of ditch	N
180	Ext 2	011/012	Slot 2 - N facing section of ditch	N
181	Ext 2	011/012	Slot 2 - N facing section of ditch	N
182	Ext 2	011/012	Slot 3 N facing section of ditch	N
183	Ext 2	011/012	Slot 2 - N facing section of ditch	N
184	Ext 2	011/012	Slot 2 - N facing section of ditch	N
185	-	034/035	View of slot	S
186	-	034/035	E facing section	E
187	-	034/035	W facing section	W
188	-	034/035	View of slot	SE
189	Ext 2	-	Post exc of pit	E
190	-	063/064	pre ex of poss feature	S
191	-	-	Gen post ex shots of ext 2	-
192	-	-	-	-
193	-	-	-	-
194	-	-	-	-
195	-	-	-	-
196	-	-	-	-
197	-	-	-	-
198	-	-	-	-
199	-	-	-	-
200	-	063/064	mid ex of poss feature	S
201	-	-	working shot	E
202	-	-	working shot	SE
203	-	-	working shot	W
204	-	003/004	east facing section of slot C in ditch	E
205	-	066/067	plan shot of slot C in ditch	E
206	-	066/067	west facing section of slot c in ditch	W
207	-	003/004/066/067	gen shot of slot at turn in ditch	NE
208	-	003/004/066/067	e facing section of ditch slot	E
209	-	003/004/066/067	N facing section of ditch slot	N
210	-	003/004/066/067	E facing section of ditch slot	E
211	-	003/004/066/067	N facing section of ditch slot	N
212	-	003/004/066/067	Slot A gen shot	NE
213	-	003/004/066/067	Slot A gen shot	N
214	-	003/004/066/067	Slot A E facing section	E
215	-	003/004/066/067	Slot A W facing section	W
216	-	068/069	Plan shot of linear ditch	E
217	-	068/069	East facing section	E
218	-	003/004/066/067	W facing section slot B	W
219	-	003/004/066/067	W facing section slot B	W
220	-	003/004/066/067	Gen shot, W facing section, slot B	SW
221	-	003/004/066/067	S facing section slot G	S
222	-	003/004/066/067	General shot of slot F	E
223	-	003/004/066/067	North facing section of slot F	N
224	-	003/004/066/067	South facing section of slot F	S
225	-	003/004/066/067	North facing section of slot E	N
226	-	-	Slag deposit at NW end of site	W
227	-	-	Slag deposit at NW end of site	W
228	-	-	working shot	NE
229	-	-	working shot	SE
230	-	005	gen shot	E
231	-	005	gen shot	E

Frame	Area	Context	Subject	Taken from
232	-	005	N facing section	N
233	-	005	N facing section	N
234	-	005	Close up of bricks	N
235	-	-	S area of central	E
236	-	-	S area of central	SE
237	-	-	Eastern area	S
238	-	-	Eastern area	S
239	-	003/004	ditch	E
240	-	003/004	ditch	E
241	-	003/004	ditch	N
242	-	003/004	ditch	N
243	-	-	gen shot of drainage trench	SE
244	-	-	gen shot of drainage trench	E
245	-	003/070	w facing section of slot into possible continuation of ditch 003	W
246	-	067/003	w facing section of slot C	E
247	-	067/003	Slot G s facing section	S
248	-	067/003	Slot G s facing section	S
249	-	67/003	Slot g small feature to immediate east	N
250	-	003/004/066/067	Slot G with kubiana tins in situ (not used)	S
251	-	003/004/067/066	Slot G with kubiana tins in situ (not used)	S
252	-	003/004/066/068	Slot B extension WNW facing section - slag 005 upper right	WNW
253	-	003/004/067/067	Slot B extension - band of slag 005 cut into upper fill on south side	NNE
254	-	003/004/066/069	slot c post ex	NE
255	-	003/004/067/068	slot c post ex	NE
256	-	003/004/066/070	slot H east facing section	E
257	-	003/004/067/069	Slot H east facing section detail	E
258	-	003/004/066/071	slot G kubiana tins	W
259	-	003/004/067/070	S facing section slot F	S
260	-	003/004/066/072	General view slot F	E
261	-	003/004/067/071	N facing section slot F	N
262	-	003/004/066/073	Slot H W facing section	W
263	-	003/004/067/072	Slot H general shot	SE
264	-	-	Gen shot of ditch and linear feature 071	E
265	-	001/002	S facing section of overburden	S
266	-	-	working shots	E
267	-	-	working shots	E
268	-	005	Slot A through H	E
269	-	005	Slot A through H	NE
270	-	005	Slot A through H	NE
271	-	005	Slot A through H	SE
272	-	005	Slot A through H	SE
273	-	005	Slot B through 005	N
274	-	005	Slot B through 005	N
275	-	003/067	Slot D - E facing	E
276	-	003/067	Slot D	E
277	-	003/067	Slot G, S facing section	S
278	-	003/067	E facing section slot D	E
279	-	003/067	N facing section slot D	N
280	-	003/067	Plan shot slot D	S
281	-	003/067	Plan shot slot D	E
282	-	003/067	Plan shot slot D	E
283	-	003/067	Plan shot slot D	E
284	-	003/067	Plan shot slot D - oblique	NE
285	-	003/067	Plan shot slot D - oblique	NE



Frame	Area	Context	Subject	Taken from
286	-	003/067	Gen post ex of ditch	SE
287	-	003/067	Gen post ex of ditch	E
288	-	003/067	Gen post ex of ditch	E
289	-	003/067	Gen post ex of ditch	NE
290	-	003/067	Gen post ex of ditch	E
291	-	003/067	Gen post ex of ditch	E
292	-	003/067	Gen post ex of ditch	S
293	-	003/067	Gen post ex of ditch	S
294	-	003/067	Gen post ex of ditch	S
295	-	003/067	Gen post ex of ditch	S
296	-	003/067	Gen post ex of ditch	W
297	-	003/067	Gen post ex of ditch	NW
298	-	005	Post ex modern pit	E
299	-	005	Post ex modern pit	NE
300	-	005	Post ex modern pit	NW
301	-	005	Post ex modern pit	W
302	-	005	Post ex modern pit	SW
303	-	many	Gen shots E side of site post ex	E
304	-	many	Gen shots E side of site post ex	E
305	-	many	Gen shots E side of site post ex	SE
306	-	many	Gen shots E side of site post ex	S
307	-	many	Gen shots E side of site post ex	S
308	-	many	Gen shots E side of site post ex	SW
309	-	many	Gen shots E side of site post ex	W
310	-	many	Gen shots E side of site post ex	W
311	-	many	Gen shots E side of site post ex	NW
312	-	many	Gen shots E side of site post ex	NE
313	-	003	Gen shot 003 E/W section of ditch	E
314	-	003	Gen shot 003 E/W section of ditch	E
315	-	003	Gen shot 003 E/W section of ditch	W
316	-	003	Gen shot 003 E/W section of ditch	W
317	-	005	Gen shot 005	W
318	-	005	Gen shot 005	W
319	-	-	gen shot of site	W
320	-	-	gen shot of site	W
321	-	-	gen shot of site	W
322	-	003	Gen shot of ditch N-S section	S
323	-	003	Gen shot of ditch N-S section	S
324	-	003	Gen shot of ditch N-S section	S
325	-	003	Gen shot of ditch N-S section	S
326	-	003	Gen shot of ditch N-S section	N
327	-	003	Gen shot of ditch N-S section	N
328	-	003	Gen shot of ditch N-S section	N
329	-	003	Gen shot of ditch N-S section	N
330	-	003	Shot of S terminus of ditch	E
331	-	gen	gen shot of site	SE
332	-	gen	gen shot of site	SE
333	-	003	gen shot of E-W ditch	E
334	-	003	gen shot of E-W ditch	E
335	-	003	gen shot of E-W ditch	E
336	-	003	Gen shot N-S ditch	N
337	-	003	Gen shot E-W ditch	W
338	-	gen	gen shot of site	NW
339	-	gen	gen shot of site	NW
340	-	003	N-S ditch shot	S

Frame	Area	Context	Subject	Taken from
341	-	-	shot of concrete spread	E
342	-	-	Working shot Kenny	SE
343	-	-	Working shot David	SW
344	-	-	Gen shots of site	SE
345	-	-	Gen shots of site	SE
346	-	-	Gen shots of site	SE

## Appendix G: Discovery and Excavations Scotland

LOCAL AUTHORITY:	FalkirkCouncil
PROJECT TITLE/SITE NAME:	Redbrae Road, Falkirk
PROJECT CODE:	3953
PARISH:	Falkirk
NAME OF CONTRIBUTOR(S):	Maureen C Kilpatrick
NAME OF ORGANISATION:	GUARD Archaeology Limited
TYPE(S) OF PROJECT:	Archaeological Strip, Map, Sample and Record
NMRS NO(S):	NS88SE 23.00
SITE/MONUMENT TYPE(S):	Roman ditch
SIGNIFICANT FINDS:	Roman pottery
NGR (2 letters, 6 figures)	NS 866 806
START DATE (this season)	10 <sup>th</sup> September 2014
END DATE (this season)	8 <sup>th</sup> October 2014
PREVIOUS WORK (incl. DES ref.)	--
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	GUARD Archaeology Limited were commissioned to undertake an archaeological strip, map and record excavation on an area of ground due to be developed at Redbrae Road, Camelon, near Falkirk. Previous evaluation trenching at the proposed development site (Rennie 2014) revealed the presence of potentially significant archaeological remains in the north-east corner including a linear ditch which may be associated with the annexe of Camelon Roman Fort. This additional work therefore focused on the north-east area of the site and revealed the presence of two V-shaped ditches with later re-cutting, a probable drainage ditch, four large pits and several smaller posthole/pit features. Finds including sherds of Roman pottery and metal working waste including slag and hearth lining were recovered from the site.
PROPOSED FUTURE WORK:	Post-excavation analysis and publication
SPONSOR OR FUNDING BODY:	Bracewell Stirling Consulting
CAPTION(S) FOR ILLUSTRS:	--
ADDRESS OF MAIN CONTRIBUTOR:	Guard Archaeology Limited, 52 Elderpark Workspace, 100 Elderpark Street, Glasgow, G51 3TR
EMAIL ADDRESS:	maureen.kilpatrick@guard-archaeology.co.uk
ARCHIVE LOCATION (intended/deposited)	Archive will be deposited with the NMRS and Falkirk SMR

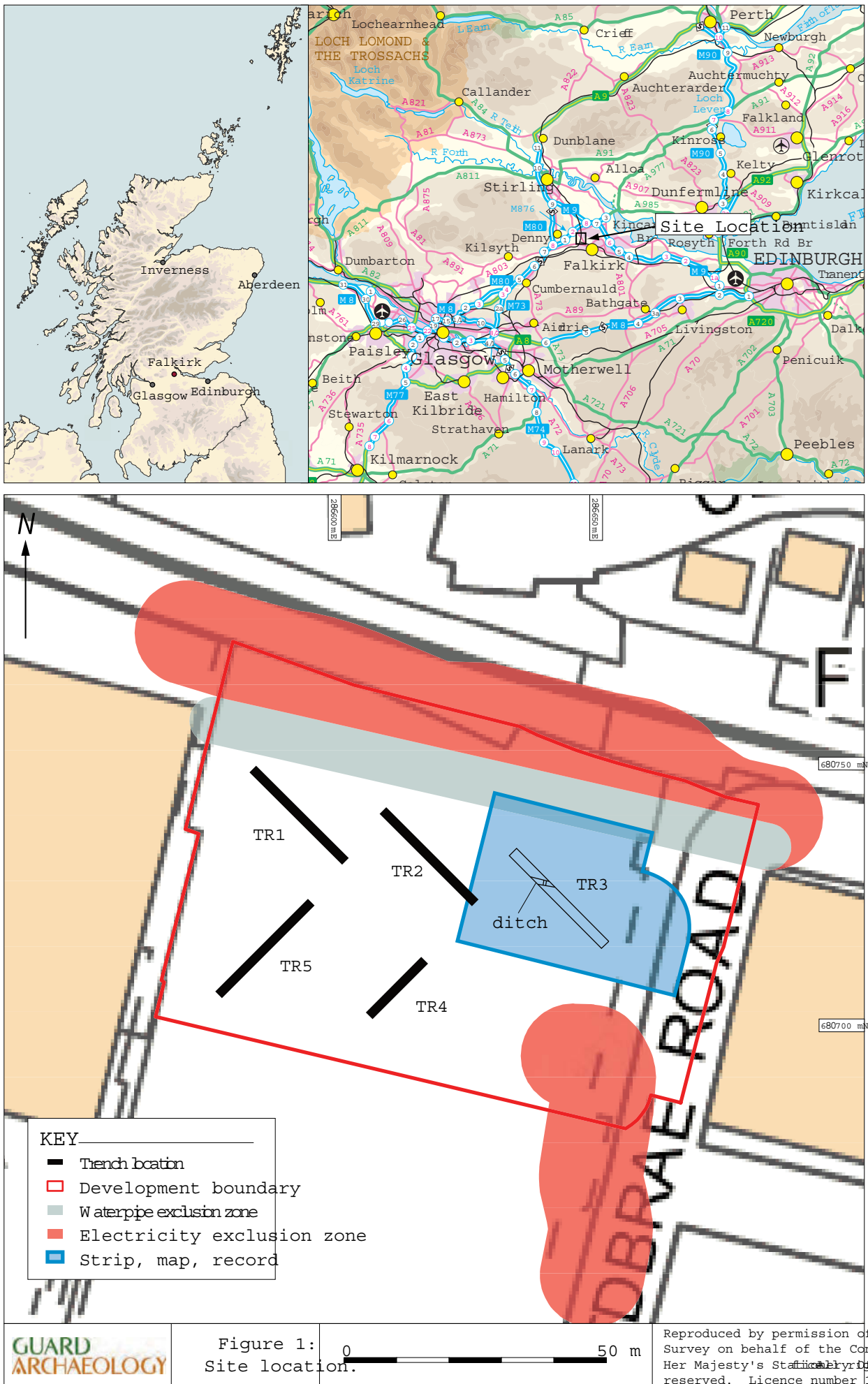
**Appendix H: Written Scheme of Investigation**

# REDBRAE ROAD, FALKIRK

WRITTEN SCHEME OF INVESTIGATION ADDENDUM

ARCHAEOLOGICAL STRIP, MAP AND RECORD METHODOLOGY

PROJECT 3953



## Executive Summary

- 1.1 This archaeological method statement forms an addendum to the existing Written Scheme of Investigation for the Redbrae Road development at Falkirk. This Written Scheme of Investigation will require to be approved by the local authority prior to the commencement of archaeological fieldwork.

## Introduction

- 2.1 This addendum to the existing Written Scheme of Investigation (WSI) sets out the methodology for the archaeological mitigation works required in support of the erection of a Class 1 shop unit and associated infrastructure in accordance with planning condition applied to the project (Planning Reference: P/13/0766/FUL). In accordance with the specification provided by the Falkirk archaeological adviser who advises Falkirk Council. The scope of work is for an archaeological strip, map and record exercise in order to determine the full extent of significance archaeological features within the north-east corner of the development area. The evaluation trenching across the site determined that potentially significant archaeological remains survived in this area.
- 2.2 This addendum to the existing WSI outlines the programme of archaeological works needed to mitigate the effects of the proposed development. It details the methodology to be employed following the Stage 1 archaeological evaluation. This addendum covers the mitigation methodology to be employed during Stage 2 strip, map and record phase. Further Stage post-excavation analysis and publication, if required, will be specified in a further addendum. These WSI addendums will be submitted for the agreement of Falkirk archaeological adviser, 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 on the west side of Redbrae Road in Falkirk (centred NGR: NS 866 806) with the railway to the north. The Proposed Development Area consists of a gap site, the previous buildings having been demolished. The available land within the development area measures 0.72 ha in total. The area of archaeological interest is located in the north-east of the development area (Figure 1).

## Archaeological Background

- 4.1 A brief archaeological assessment undertaken during the preparation of this document has identified the following known archaeological sites in the surrounding area close to the proposed development site:
  - 4 Excavation on the site of Dorrator Ironworks (Site 1; NMRS: NS88SE 23.02; NGR: NS 866 807);
  - 5 Camelon Roman Forts (Site 2; NMRS: NS88SE 23.00; NGR: NS 8630 8097);
  - 6 Camelon Roman Burial Cist (Site 3; NMRS: NS88SE 19; NGR: NS 8717 8055);
  - 7 Camelon Prehistoric Burial Cist (Site 4; NMRS: NS88SE 14; NGR: NS 8701 8067)
  - 8 Camelon Polished Stone Axe Find (Site 5; NMRS: NS88SE 23.01; NGR: 862 810);
  - 9 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 1<sup>st</sup> 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 2<sup>nd</sup> 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 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.
- 4.5 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 2<sup>nd</sup> 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 2<sup>nd</sup> 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 2<sup>nd</sup> 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 and 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 1<sup>st</sup> 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.
- 4.11 Recent evaluation has identified the presence a ditch of likely Roman origin in the north-east corner of the development area.

## Aims and Objectives

- 5.1 The aims of the archaeological works is to:
  - determine the full extent of the archaeological features within the north-east corner of the development area and to develop an appropriate scheme to investigate, excavate and record the remains.
- 5.2 The objectives are therefore to:
  - Strip concrete/overburden from this area of the development site under archaeological supervision to reveal the full extent of the archaeological remains;
  - Map the extent of the archaeological remains;
  - Excavate and record all significant archaeological remains, so that preservation by record can be achieved;
  - Submit a report to data structure level for agreement to the Falkirk archaeological adviser and Falkirk Council, on completion of the evaluation;
  - Submit an accompanying project design and costing alongside the data structure report, which will outline arrangements for post-excavation works.

## Methodology

- 6.1 Following discussions with the client and the Falkirk archaeological adviser the most appropriate and cost effective means to determine the extent of the archaeological deposits is to strip concrete/overburden from the north-east area of the development area (Figure 1).
- 6.2 A GUARD Archaeologist will photograph the development area and make a brief written description prior to the commencement of ground-breaking works.
- 6.3 The machine excavation of the topsoil will be supervised at all times by an experienced GUARD Archaeologists and the machine excavators will be fitted with a c 2 m wide flat-bladed (toothless)

ditching bucket. Dumper trucks will be used to remove material and these will not travel across area where overburden has been removed but will follow agreed routes.

- 6.4 The overburden will be removed in spits to the first archaeological horizon or, where none was found, to the natural subsoil. Any archaeological features encountered will be cleaned by hand by the on-site Archaeologists to determine their character and extent.
- 6.5 All potential archaeological features encountered will be mapped and recorded by the on-site Archaeologists.
- 6.6 All potentially significant archaeological features including negative-cut features will initially be 25-50% excavated (depending on size) in order to determine their significance, date and function. Further excavation may be required depending on results to fully characterise each feature. A full record of excavated features will be made using a single context planning 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 levels will be tied into Ordnance Datum and accurately located with the National Grid.
- 6.7 All archaeological finds will be dealt with by the on-site Archaeologists. 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 specialist assessment. Palaeo-environmental samples will also be taken where appropriate. If necessary, conservation of finds will be appraised to allow for specialist study.
- 6.8 All excavated feature fills and horizons will be sampled, using bulk soil samples, for palaeo-environmental evidence (samples will be a minimum of 20 litres where sediment volume allows).
- 6.9 A record of the full extent in plan of all archaeological deposits as revealed in the investigation will be made, either digitally or by hand, and related to the OS grid.
- 6.10 Should significant archaeological remains be encountered they will be 100% excavated and sampled. The Falkirk archaeological adviser, on behalf of the planning authority, will have the final say on which features are significant, and further excavation may be required for any features that cannot be demonstrated to be either natural or modern.
- 6.11 Should human remains be revealed by the excavation, the local police, the client and the Falkirk archaeological adviser will be informed immediately. Any human remains will be left *in situ*, pending the agreement of the police, the client and the Council on an appropriate mitigation strategy.
- 6.12 On completion of the strip, map, record excavation the site will be left open and not backfilled as construction is planned to follow this phase of works.
- 6.14 All elements of the fieldwork and any subsequent post-excavation work will be undertaken in line with the policies and guidelines of the IFA (Institute for Archaeologists) of which GUARD Archaeology Ltd is a registered organisation.

## Report Preparation and Contents

- 7.1 A report detailing the results of the archaeological strip, map and record excavation will be submitted to the client and, subject to client approval, then submitted to the Falkirk archaeological adviser. The report will take the form of a Data Structure Report and will contain an analysis of the results of the archaeological evaluation. The report will include a full descriptive text that will characterise any archaeological features encountered. It will also include plans and photographs at an appropriate scale showing the evaluation trenches and archiving lists of all drawings and photographs.
- 7.2 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
  - 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
  - discussion of the results of the archaeological evaluation
  - recommendations regarding the need for, and scope of, any further archaeological work, such as excavation, post-excavation analysis and publication
  - bibliography
- 7.3 The Data Structure Report (DSR) will be completed within four weeks of the completion of the evaluation. A final report on any subsequent post-excavation work will be submitted within one year of fieldwork completion.
- 7.3 At least two copies of the DSR will be prepared for the client and a further one including a digital PDF copy sent to the Falkirk archaeological adviser.
- 7.4 The report will be presented in an ordered state and contained within a protective cover/sleeve or bound in some fashion. 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 Limited.

## 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 work, 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 DSR.

## 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 1 month 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 archaeological adviser will validate the OASIS form thus placing the information into the public domain on the OASIS website.
- 10.3 A copy of the archive contents will be included in the DSR which will be provided to the Falkirk archaeological adviser for inclusion in the planning file and HER archive in order that the condition can be discharged.

## 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 Archaeology until a decision has been made by the panel.

## Personnel and Liaison

- 12.1 The GUARD Archaeology team will comprise the following qualified and experienced GUARD archaeologists:
- Project Director (on-site Archaeologist): TBC
  - Additional field staff will be drawn from our team of experienced field staff
  - Technical Support: Ms Aileen Maule
  - Finds and Environmental Support and Conservation: Ms Aileen Maule
  - Illustrator: Ms Fiona Jackson
  - Project Manager: Mr John Atkinson
- 12.2 The GUARD Archaeology Project Manager, Mr 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 works has still to be determined. Once established the Falkirk archaeological adviser will be informed of the site mobile phone number prior to the start date so that monitoring visits can be arranged.

## Health & Safety and Insurance

- 14.1 GUARD Archaeology Limited 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. It is standard GUARD Archaeology 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 Archaeology Limited's Fieldwork Safety Policy Statement may be viewed upon request.
- 14.2 GUARD Archaeology Limited also possesses all necessary insurance cover, proofs of which may be supplied upon request.



## Appendix

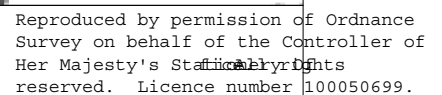
Written Scheme of Investigation - Version Date 26 June 2014 (GUARD 3887)

See following pages.

# REDBRAE ROAD, FALKIRK

## ARCHAEOLOGICAL WRITTEN SCHEME OF INVESTIGATION

PROJECT 3887



## Executive Summary

- 1.1 This Written Scheme of Investigation forms the archaeological method statement for the evaluation of the proposed development site at Redbrae Road, 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 development site at Redbrae Road, Falkirk. 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 on the west side of Redbrae Road in Falkirk (centred NGR: NS 866 806) with the railway to the north. The Proposed Development Area consists of a gap site, the previous buildings having been demolished. The available land within the development area measures 0.72 ha in total.

## Archaeological Background

- 4.1 A brief archaeological assessment undertaken during the preparation of this document has identified the following known archaeological sites in the surrounding area close to the proposed development site:
- 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 (Site 1) ahead of redevelopment, located two V-shaped ditches of the 1<sup>st</sup> 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 2<sup>nd</sup> 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 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.
- 4.5 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 2<sup>nd</sup> 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 2<sup>nd</sup> 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 2<sup>nd</sup> 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 1<sup>st</sup> 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 five trenches, each measuring 25 m by 2 m and arranged 10 m apart, will follow, across the northern part of the development area, in order to evaluate the presence, nature, significance and extent of any archaeological features below the concrete apron (Figure 1). Although the total area of the site is 0.72ha there are services within the site and appropriate buffer zones have been placed round them to ensure that these are avoided. Therefore, the total area for the evaluation has been reduced to 4491 m<sup>2</sup> and will consist of three trenches each 25 m long and 2 m wide and two trenches 20 m long and 2 m wide. If archaeological deposits are uncovered in any of the trenches it may be necessary to extend the trenches or excavate further trenches to reveal the

extend of the deposits. Any additional trenching will be limited to a maximum of 3% of the available area (135 m<sup>2</sup>) and will only be undertaken following agreement with the Council archaeologist and the client.

- 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

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## 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.

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- 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.
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## Personnel and Liaison

- 12.1 The GUARD team will include the following qualified and experienced GUARD archaeologists:
- Project Manager: Bob Will
  - Project Director (on-site Archaeologist): TBC
  - Finds and Environmental Support and Conservation: Aileen Maule
  - Illustrator: Gillian McSwan
- 12.2 The GUARD Project Manager, Bob Will, 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. 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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