KDK Archaeology Ltd

Archaeological Strip, Map and Sample Report

Land at Green End Farm

Arlesey

Bedfordshire

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Quality Check

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Summary

In February and March 2018, KDK Archaeology Ltd undertook a programme of Strip, Map and Sample excavation of Land at Green End Farm, Arlesey, Bedfordshire. The project was required under the terms of the National Planning Policy Framework (NPPF) and as a condition of planning permission. The investigations revealed a number of ditches, pits and gullies across the site, with artefactual evidence of land use beginning in the early medieval period. These features seem to reflect an agricultural use for the site, with a predominance of drainage ditches, sumps and land drains, along with two larger site boundaries. Early maps corroborate this interpretation, showing the site on the periphery of settlement.

1 Introduction

1.1 In February and March 2018 KDK Archaeology Ltd undertook a programme of Strip, Map and Sample excavation of Land at Green End Farm, Arlesey, Bedfordshire. The project was commissioned by PRJ Developments and was carried out according to a Written Scheme of Investigation (WSI) prepared by KDK (Dodd 2018), and approved by Central Bedfordshire Council Archaeology Team (CBCAT), Archaeological Advisor (AA) to the Local Planning Authority (LPA), Central Bedfordshire Council (CBC). The relevant planning application reference is CB/17/01552/FULL.

1.2 *Planning Background*

This project has been required under the terms of National Planning Policy Framework (NPPF) as a condition of planning permission for the development of the site.

1.3 *The Site*

Location

The development is situated within the village and Civil Parish of Arlesey in the administrative district of Central Bedfordshire. The site is located at National Grid Reference (NGR) TL 1922 3538 (Fig. 1).

Description

The plot is roughly rectangular in shape and is located to the east side of Hitchin Road in the southern part of the village. The site connects to the main road through a trackway and is situated behind several modern residential properties. It is bounded to the west by open farmland and to the north lies Green End Farm (Fig. 2).

Geology & Topography

The underlying geology of the site comprises West Melbury Marly Chalk Formation, though no superficial deposits were recorded. The site is located at approximately 44m AOD.

Development

The development comprises the erection of two detached bungalows (Fig. 3).

Figure 1: General location (scale 1:25,000)

Figure 2: Site location (scale 1:1250)

Figure 3: Development plan (scale 1:750)

2 Aims & Methods

2.1 The aims of this project as defined in the approved WSI (Dodd 2018) were:

- To establish the date, nature and extent of activity or occupation within the development area
- To establish the relationship of any remains found to the surrounding contemporary landscape
- To recover palaeo-environmental remains to determine local environmental conditions.

The development site was considered to have the potential to contain archaeological deposits that relate to the medieval and post-medieval development of Arlesey. The investigation of medieval rural settlements enables a better understanding of their origins, morphology, diversity and ultimate success or failure (Wade 2000: 24-25; Oake 2007: 14; Medlycott 2011: 70 and Edgeworth 2007: 121-123).

2.2 *Methods*

In line with the requirements of the brief, the methods used were as follows:

- The excavation area focused on the new buildings, parking area, access and areas affected by the new services
- Significant features or deposits that were shown to be extending beyond the limits of the agreed excavation area were excavated and recorded following discussions with the client and the Central Bedfordshire Council Archaeology Team
- The present ground surface, made ground/overburden was removed to the top of the archaeological deposits by machine fitted with a toothless bucket operating under continuous and constant archaeological supervision

2.3 *Standards*

The work conformed to the following requirements:

- The design brief (CBCAT 2017)
- The relevant sections of the Chartered Institute for Archaeologists' *Standard & Guidance Notes* (CI*f*A 2014)
- The Chartered Institute for Archaeologists' *Code of Conduct* (CI*f*A 2014)
- Current English Heritage guidelines (HE 2015, EH 2008)
- The Association of Local Government Archaeological Officers East of England Region *Standards for Field Archaeology in the East of England* (ALGAO 2003)

3 Archaeological and Historical Background

3.1 The site is situated to the south of the village core. The modern village of Arlesey is built in the footprint of the medieval settlement (HER 17109) and derives its name from the Old English 'Alricheseia' meaning 'island or well-watered land of a man called Ælfric' (Mills 1991: 12). The village grew around two foci: one centered around the church (Church End - HER 17108) and the manorial site of Etonbury (HER 395) to the north and the second strung along the High Street (HER 17109) to the south. As the two core settlements expanded, they joined to create one larger linear village.

This section has been compiled with information from the Victoria County History (Page 1908), the Central Bedfordshire Historic Environment Record (HER Search Number 201718/264), KDK's own library and other reliable online sources.

3.2 ***Prehistoric-Roman*** *(before 600BC-c.AD450)*

The earliest activity within this area is represented by a series of cropmarks east of Hitchin Road comprising a scatter of discrete, mainly sub-rectangular enclosures (HER 16812). These features are observable from aerial photographs and their form would suggest a prehistoric date.

There is further evidence of prehistoric occupation around Arlesey with Bronze Age and Iron Age activity at Fairfield Park (HER 16801) to the east of the development site. Late Bronze Age to Middle Iron Age settlement was also recorded near Etonbury (HER 17900), along with a number of finds of prehistoric flint artefacts and pottery around the Pix Brook (HERs 16083 and 16095).

Roman occupation is also suggested from a large assemblage of samian pottery dating from the 1st and 2nd centuries AD (HER 389) and a Roman coin hoard that was found 650m to the east of the development site (HER 390).

3.3 ***Saxon- Medieval*** *(c.AD450-1500)*

The village of Arlesey is believed to have originated in the late Saxon period or possibly earlier. The village church, St Peter's, was constructed in 1180 by the monks of Etonbury Monastery and it is believed that the church marks the centre and earliest part of the medieval settlement. From Church End in the north of the village, the settlement spread south along the High Street connecting with the Etonbury Manorial site (HER 395).

The village of Arlesey is recorded in the Domesday Survey of 1086. Prior to the Conquest of 1066, the lands were held by the Canons of the Holy Cross of Waltham, who held the manor in alms, and 2 sokemen. In 1086, the lands at Arlesey were held by four landholders. The largest was the Bishop of Durham, whose lands were assessed at 8 hides and 2 parts of 1 virgate, which he would eventually give to the monks of Waltham Abbey. They held the lands until the Dissolution in 1536. The other landholders were Herfast, subtenant of Nigel d'Aubigny, who held 3 virgates and 3 parts of a second and Wulfsige, who held of the king 2 parts of 1 virgate. At the time of the survey, Arlesey Manor was held under William D'Eu by Burnard, and it remained in their family till the late thirteenth century. Burnard's son, Roger, gave some of his holding in Arlesey to St. Neots Priory, as there were strong connections to both the Priory and to Waltham Abbey. In 1270, Stephen Burnard of Edworth was in possession of the manor, before it passed to Walter Langton, the bishop of Coventry and Lichfied.

In time the village was split into three distinct manors; Arleseybury, Etonbury and Lanthony (Page 1908; Williams & Martin 1992; www.arleseytc.co.uk). The Domesday Survey also records a market held at Arlesey.

Medieval ridge and furrow visible as cropmarks and earthworks on aerial photographs have also been observed 340m north northeast and 1.63km north of the site (HER 6982).

3.4 *Post-Medieval* *(1500-1900)*

The building of the Great Northern Railway in the mid-1850s transformed the village. The line, which is now the East Coast mainline, runs parallel to the linear settlement and was opened on the 7th August 1850 (HER 11862). A Victorian footbridge over the railway line marks the site of the former Three Counties Station (HER 196). An archaeological evaluation undertaken by Oxford Archaeology in 2005, uncovered a quarry and subsequent landscaping connected to the building of the railway (HER 9085; EBD 606).

Several other rail and tram lines were constructed in the village, such as a private industrial railway built by the London Brick Company (HER 1530) and an industrial railway/tramway that opened in 1857 between Arlesey Siding Station (later Three Counties Station on the GNR) and the Stotfold Three Counties Asylum (HER 1529), a psychiatric hospital first opened in 1860. Initially the latter was used to carry construction material and passengers to the asylum. The track was removed in 1953, but a weighbridge still exists where the line is thought to have passed. A tramway was also built in the early 19th century joining two quarry pits (HER 1528). Sections of this still survive.

Brickmaking was an important part of Arlesey's economy and during the Victorian period. Six brickworks were operational in the village and materials were sourced locally, for example from the clay extraction pits 840m west of the development site (HER 6685). As well as clay, chalk for the limeworks (HER 6725) and for making cement were sourced locally (HER2871). In addition, the village extracted and processed coprolites into artificial fertilizer. The village exported 1500 tonnes of lime and 'Eddystone' weekly from the village (www.arleseytc.co.uk).

A number of public houses existed in the village prior to the 20th century. The former 'Lamb', built in 1840, was situated on Station Road. In 1964, the pub was converted into four flats, but it was later demolished (HER 12664). Another 19th century public house, originally named the 'Brickground Hotel', existed in the village. The establishment changed its name in 1993 to 'The Mallard' to commemorate the streamlined LNER locomotive of the same name, then closed in 2000 and was converted into a children's nursery (HER 16411). The 'Prince of Wales' public house, Hitchin Road was closed in 1999 (HER 12665). The True Briton, which was built in the 19th century, is the only post-medieval public house still trading (HER 16413).

Other historical buildings surviving in the village include; Church Farmhouse (HER 1113819), Green Farmhouse (HER 1113824), both of which are 17th century, Grade II listed houses, and a group of three post-medieval brick-built cottages at 62-66 High Street (HER 15142).

The Wesleyan Methodist chapel, which was built in *c.*1850 and demolished *c.*1975 (HER 9303), and an onion loft at Whitney Lodge, High Street built in the early 1890s (HER 13368), represent other types of buildings that formed part of the post-medieval streetscape.

3.5 *Modern* *(1900-present)*

RAF Henlow is situated just outside the village to the west and during World War II, Arlesey was the site of two aircraft crashes. The first crash occurred on the 19th December 1943, when a Handley Page Halifax BB364 on a practice flight clipped the top of a 280-foot brickyard chimney before bursting into flames, killing all nine crew members. The plane crashed on the other side of the Arlesey Common bridge. The second crash was also a training flight from RAF Tempsford. On the 28th March 1944, a Lockheed Hudson Bomber crashed, killing the four crew members on board (arcangelolombari.wordpress.com).

A brick Mission Church, St Andrews Mission Room, was built in 1900 to serve as a Chapel of Ease for the southern end of the village. It has since been converted into a house (HER 20437).

3.6 *Previous excavations on the site*

An archaeological evaluation was undertaken by Archaeological Solutions Ltd at the Land at Green End Farm during June 2017. A number of ditches, postholes and a pit were observed dating to the medieval and post-medieval periods. However, there is potential for earlier activity on the site. Sherds of medieval pottery were also recovered from several of the ditch fills, all of which are believed to be residual, as the ditch itself was post-medieval (Edwards 2017).

3.2 *The Known Archaeology & History of the Site*

Arlesey is a long, ribbon settlement with several clusters of development, including Green End, which was formerly a large, triangular green surrounded by housing, with Green End Farm on the east side. The green is now completely infilled, though the modern streets reflect the shape of the former green. The site is on open ground east of the southeast corner of the green. Ordnance Survey maps from the end of the 19th century show the site as an open space and earlier maps also indicate that occupation was situated closer to the green.

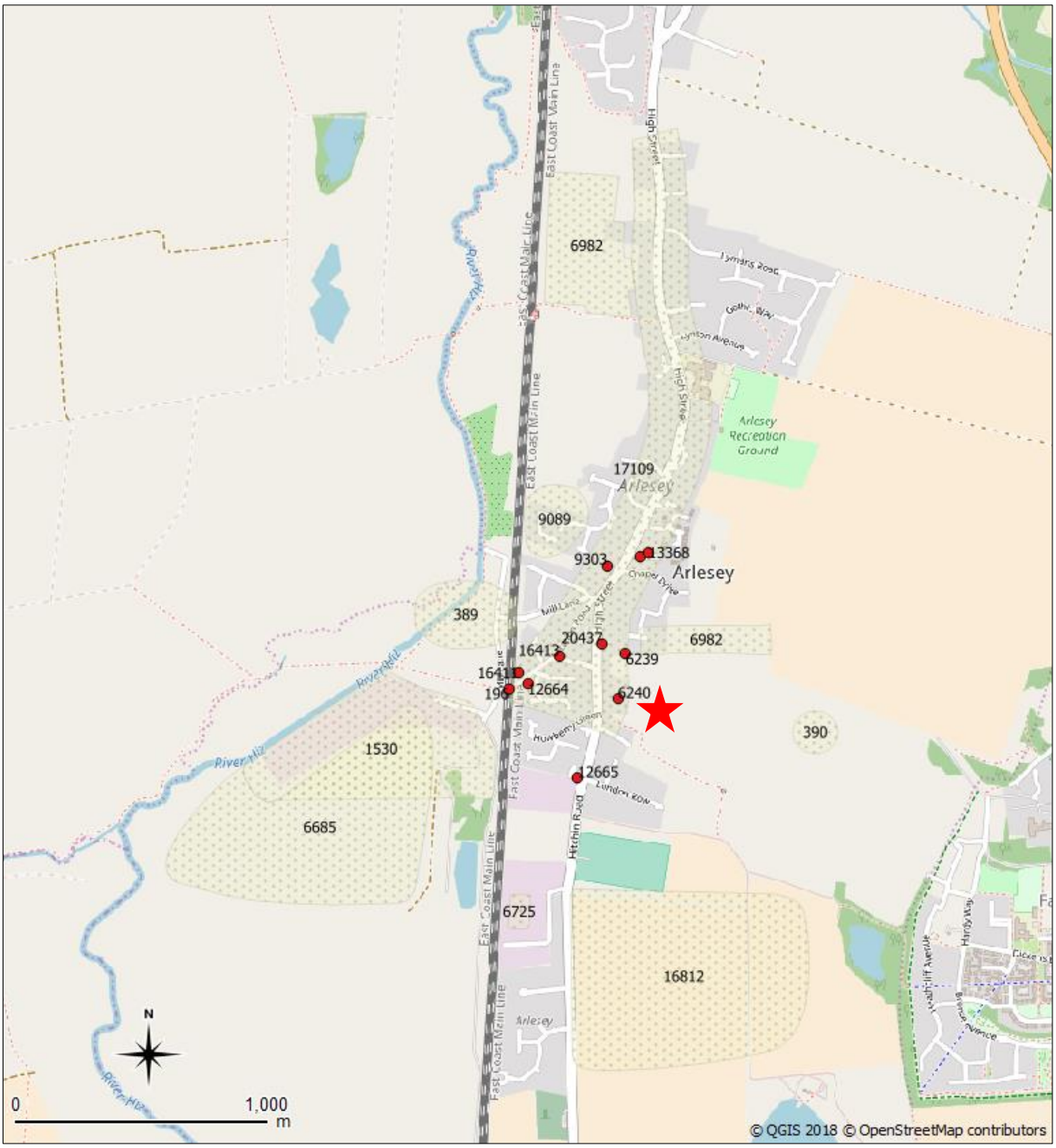


Figure 4: HER data plan (site marked with star) (scale as shown)

Figure 5: Detail from 1765 map of Bedfordshire (scale 1:10000) (Bern University Library, ZB000994249)

4 Results

The investigations comprised three areas, identified as the access road, the parking area, and the housing area. Archaeological features were found in each of the three trenches.

4.1 *Site Stripping*

In total, an area of approximately 485 sq. m was mechanically stripped of topsoil and overburden under close archaeological supervision, as required in the brief (Fig. 6). The stratigraphy in each trench was similar, consisting of two layers above the natural geology.

- Topsoil (101) was dark brownish grey, very loamy clay that was between 0.20 and 0.4m deep. This layer was fairly soft and showed signs of extensive bioturbation
- Subsoil (102) was mid-greyish brown, slightly silty clay. It was fairly compact and contained occasional sub-rounded stones. The subsoil varied in depth from 0.20 to -0.3m in depth.
- The underlying Natural Geology (103) was light orange yellow clay. Some variation was noted in the housing area, where patches of lighter yellow with grey flecked clay and a mid-brownish orange, gravelly clay were observed.

Drainage at the site was very poor, and throughout the investigations the flooding of trenches and excavated features was a continuing problem. A system of pumps was utilized in order to drain the excess water, but in several cases, it proved impossible to reach the bottom of features and to clearly define the relationships between features.

4.2 *Sampling Strategy*

Access Road

The first stripped area was located along the proposed access road. It was approximately 4.0m by 23.0m in size, sub-rectangular with a bend in the middle, with the long axis aligned roughly north-south (Fig. 7; Plate 1). The stratigraphic profile consisted of Topsoil (101), *c.* 0.40m deep, over *c*. 0.20m of Subsoil (102), which was above clay Natural geology (103) (Fig. 7; Plate 2).

Upon initial stripping, a land drain was uncovered, leading to extensive flooding. As a result, the trench had to be cleaned and mapped in sections, which made it difficult to fully understand the relationship between features.

This area contained a number of features, including a large ditch [104] and a modern dump [117] (Fig. 7). Sections of the ditch were excavated and numbered separately, as it was impossible to trace the entire length of the ditch due to the flooding. However, it is likely that the sections are part of one large ditch that runs along the western edge of the Access Road Area and in the Parking and Housing Areas. This ditch, which may be the remains of the field boundary seen on early OS maps, was obscured in places by late post-medieval or early modern dumping.

Ditch [104] was a U-shaped and ran approximately north-south along the length of the trench, with its western edge extending into the western baulk for most of its length (Fig. 7). The fill varied from north to south and seemed to consist of multiple episodes of filling, re-cutting and dumping. At the northern end of the trench, the fill consisted of 0.40m of light yellow/orange sandy clay Fill (105), which appeared to be redeposited natural geology covering the full width of the trench, suggesting the ditch was at least 4m wide. Below this was a mottled blue clay and orange sandy clay Fill (106). This fill was machine excavated to 0.50m in depth, but flooding prevented further progress and therefore the depth of the ditch was not ascertained

(Fig. 8; Plate 4). Fill (106) contained modern debris, including ceramic ginger beer bottles and glass Codd-type bottles, dated by manufacturer's marks to the last two decades of the 19th century and three fragments of late 19th century mass produced white earthenware.

Slightly further south, a sample trench was excavated across Ditch [104] (Figs. 7 & 8; Plate 5). In this area, the first fill layer was **Fill (112)**, light grey clay approximately 0.63m wide and 0.35m deep. It contained modern yellow brick. Below this was **Fill (111)**, dark greyish brown clay that was 0.77m wide by 0.49m deep. It also contained modern CBM. The next layer was **Fill (110)**, which contained CBM and animal bone, approximately 0.65m wide by 0.47 deep. Most of the brick from **Fill (110)** was modern, but there was one fragment that appears to be late medieval or early post-medieval, as are the majority of the roof tiles from that context and a large piece of floor tile (Appendix 2). Flooding prevented complete excavation of this context. **Fill (109)** consisted of a light grey clay, 1.0m wide and excavated to a depth of 0.25m. This layer contained modern CBM (Plate 6; Fig. 8). **Fill (110)** and **Fill (112)** both contained fragments of mass-produced White Earthenware dating from the 19th and 20th centuries.

Toward the centre of the Access Road trench, a slot was excavated to examine the relationship between a large, amorphous feature and the underlying ditch (Plates 7-11; Figs. 7 & 8). The east side of **Cut [117]** overlay the natural geology, whilst the west side cut the upper layers of the ditch, here identified as **Ditch [119]. Cut [117]** contained **Fill (118)**, mid brownish orange fairly silty clay with gravel. This fill produced post-medieval brick and roof tile. The feature was >4.0m wide by 5.0m long by 0.28m deep.

At the extreme southern end of the Access Road trench, a large area of modern dumping overlay the ditch feature (Figs. 7 & 8; Plate 12). Only the west edge of **Cut [115]** was visible, as the feature extended into the baulk on the south and east and was cut by a land drain on the north. **Fill (116)** was light greyish yellow slightly sandy clay, approximately 0.18m in depth. Below this fill was **Ditch [113]**, a continuation of **Ditch [104]/[119]**. In this slot, **Fill (114)**, dark brownish grey very silty clay, contained modern brick and roof tile.

Parking Area

A trench was placed between the access road and the proposed new dwellings in order to examine the proposed parking area. This trench was approximately 23.50m long by 4.20m wide, with the long axis orientated east to west (Fig. 9; Plate 13). At the west end of the trench, the stratigraphy consisted of 0.25m of **Topsoil [101]**, over 0.20m of **Subsoil [102]**, over the **Natural geology [103]** (Fig. 9; Plate 14). On the east end of the trench, the excavators first encountered approximately 0.30m of **Topsoil [101]**, but this was underlain by a layer of made ground **[170]**, 0.45m thick (Fig. 9; Plate 15). This layer was dark brownish black fairly silty clay with moderate numbers of small (<100mm) subangular stones, and contained plastic, glass and broken up concrete. Below the made ground was **Natural geology [103]**.

Two features were identified in the Parking Area Trench.

Ditch [107] was located along the northwest edge of the trench (Fig. 9; Plate 16). This ditch had been excavated during the evaluation phase of archaeological research at the site, where it was called F1027 and identified as a post-medieval ditch:

Ditch F1027 was linear in plan (9.0+ x 1.20+ x 0.40m), orientated W-E turning S. It had moderately sloping sides and a flattish base. Its basal fill, L1031, was loose dark brown grey silty clay. This fill was only present in Segment C, and it contained no finds. The upper fill, L1028, was a loose, mid brown grey sandy silt and was present in Segments A, B and C. L1028 contained two sherds of residual medieval pottery, three sherds of post-medieval pottery (late 17th – 18th century pottery (5; 46g), CBM (179g), animal bone (279g) and a copper alloy

buckle (6g), iron fragment including nails (56g), a clay pipe stem fragment (1g) and glass (64g). Postholes F1013 and F1015 cut Ditch F1027 (Edwards 2017: 11).

Because this feature was extensively sampled during the evaluation, no further sampling was conducted during the present excavations.

Ditch [124]/[139], running north to south across the east end of the trench, was probably a continuation of **Ditch [104]/[113]/[119]**. Two slots were excavated into this ditch, one on the east side of the feature and one on the west side. The feature was approximately 4.60m wide and ran into the baulk at the north and south (Fig. 9; Plate 17). Because of site conditions, neither slot reached the bottom of the feature. **Cut [124]/[139]** reflected the upper part of the U-shaped profile seen in other segments of the ditch feature. **Fill (125)/(140)** was mid-dark grey brown fairly silty clay that contained occasional round and subangular stones less than 20mm in size (Fig. 9; Plates 18 & 19). **Fill (125)** was excavated to a depth of *c.* 0.35m. It contained 19th century pottery. **Fill (140)** was excavated to a depth of *c.* 0.10m (Fig. 9; Plate 20) and also produced 19th century pottery.

Housing Area

The final area to be examined was the footprint of the proposed new dwellings. This was a rectangular trench of approximately 289m^2, 27m long by 11m wide, with the long axis aligned northwest to southeast (Fig. 10; Plates 21-23). As in the Parking Area trench, the stratigraphy in the Housing Area differed from the east side to the west side of the trench. At the west end of the trench, the stratigraphy consisted of 0.20m **Topsoil [101]**, over 0.30m **Subsoil (102)**, over **Natural geology [103]** (Fig. 10; Plate 24). At the east end of the trench, the stratigraphy was 0.20m **Topsoil [101],** over 0.20m **Made Ground [170].** Below the made ground was 0.30m of **Subsoil [102]** above **Natural geology [103]** (Fig. 10; Plate 25).

A total of six ditches, two gullies, three pits and a tree throw were encountered in the Housing Area trench. Beginning in the southeast corner of the trench, the excavations uncovered the following archaeological features:

Ditch [147]/[132] was orientated north-south and was a continuation of the ditch previously seen in the Access Road and Parking Area trenches. Site conditions made it impossible to reach the bottom of this feature by hand, but it was sample on both the east side with a machine and the west side. An auger was also used indicting a depth of 1m. These samples showed that the **Fill (148)/(133)** was mid grey brown fairly silty clay, with occasional rounded and subangular stones that were below 100mm in diameter (Fig. 11; Plate 26). An environmental sample was taken from **Fill (148)** and medieval pottery was found in the auger sample taken from the ditch. Ditch cut through **Ditch group 146** and **Gully Group 157**.

Ditch Group 146 was a linear feature, orientated southeast-northwest, 27m long by 1.45m wide, which spanned the length of the Housing Area trench (Fig. 12; Plates 27-30). Artefacts recovered from this group included a small amount of medieval pottery, dating from the 12th-14th centuries. The ditch was 0.57m deep, with sloping sides and a round bottom. It included **Cuts [126]** and **[173]** and **Fills (127)** and **(138)** and was probably a boundary ditch. Its fill was mid brown fairly silty clay with orange flecks, containing occasional rounded stones of <20mm. An environmental sample was taken from **Fill (127)**. This ditch was cut by **Gully Group 157**, **Pit [168]**, **Tree Throw [153]** and **Ditch [147].**

Gully Group 157 was a linear drainage ditch, orientated southeast-northwest, running the length of the trench and cutting **Ditch Group 146**, **Ditch Group 165**, and **Gully Group 145** (Fig. 13; Plates 31 & 32). The gully, which incorporated slots **[136], [143], [155] and [158]**, had sloping sides and a rounded bottom and was 0.85m wide by 0.25m deep. **Fill (137/144/156/159)** was mid brown fairly silty clay with orange flecks, containing occasional

rounded stones <20mm in diameter. Medieval pottery was found in **Fill (156)**. **Gully Group 157** was cut by **Ditch [132/147]**, **Tree Throw [153]** and **Pit [134]**.

Pit [134] was an irregular U-shaped pit, orientated northeast-southwest containing **Fill (135)**, mid brownish grey fairly silty clay. It was approximately 0.45m wide by 0.80m long and was 0.20m deep (Fig. 11). This may have been a dog burial, as 36 animal bone fragments were recovered from the feature, including a dog tooth and other identified bones. The bones appeared to have been articulated with first found, though they were subsequently displaced by flooding prior to excavation.

Tree Throw [153] was an irregular disturbance, 0.24m wide by 1.13m long and 0.15m deep. The **Fill (154)** was mid brownish grey slightly silty clay that was heavily bioturbated and appeared to have developed through gradual silting. A land drain cut through the fill (Fig. 13; Plates 33 & 34). The tree throw disturbed the upper layers of **Gully Group 157**, cutting **Ditch [155]**.

Gully Group 145 was a probable drainage gully that ran north-south in the southern half of the site. This gully was first encountered during the evaluation phase, numbered F1021 in the evaluation report and from which no finds were recovered (Edwards 2017). For this project, two slots were excavated (**Cuts [130]** and **[141]**), which demonstrated that the gully had a U-shaped profile and was 1.10m wide by 6.68m long by 0.18m deep (Plates 35-38; Fig. 12; Plates 35-38). The **Fill (131/142)** was mid greyish brown, slightly silty clay with frequent rounded stones <100mm. There were no finds in the gully, but it was cut by later **Gully Group 157**.

Ditch Group 164 was located in the southwestern corner of the trench, running west-east (Plates 39-41; Fig. 14; Plate 39-41). It was a linear ditch of which only a small part was visible in the trench. Two slots were excavated in the ditch**, [122]** and **[160]**, which showed that it was >0.5 wide by 0.50m deep and was steeped sided with a flat bottom, 0.55m deep (Fig. 14). It was cut by **Ditch Group 165**. Animal bone and a cattle tooth were found in **Fill (123)**, light grey yellow fairly gravelly clay with frequent small rounded stones <20mm. **Fill (161)** also contained modern pottery.

Ditch Group 165 included **Cuts [162]** and **[166]** and **Fills (163)** and **(167)**, both of which contained 19th century pottery. The ditch ran north-south in the southwest corner of the trench, cutting **Ditch Group 164** at the south end and cut by **Gully Group 157** at the north end (Fig. 14; Plates 42-44). The ditch was 0.85m wide by >2.30m long, running into the south baulk. It was steep sided with a flat bottom, 0.65m deep.

Pit [168] was located in the north corner of the trench, orientated southeast-northwest (Fig. 15; Plates 45 & 46). It was more than 2.5m in diameter and ran into the baulk at the northeast and northwest. Because of flooding, it was impossible to excavate this feature to the base, but auger samples were taken which showed that it was at least 0.60m deep towards the centre, rising to 0.37m deep near the northeast corner of the trench. The pit was filled with **(169)**, a mid to dark brownish grey fairly silty clay with moderate numbers of small subangular stones <5.0mm and occasional subangular stones <20mm. Finds from this feature included several fragments of medieval pottery. The pit cut through **Ditch Group 146** and **Ditch [128]**.

Ditch [149] was a short ditch terminus entering the trench from the northeast, orientated northeast-southwest (Fig 15; Plates 47-49). It terminated in **Pit [151]** and may have been a drainage feature feeding water into that pit. The ditch was 1.05m wide, >1m long and 0.27m deep, with concave sides and a flat bottom. It was aligned northeast-southwest. **Fill (150)** was mid brownish grey fairly silty clay with occasional subangular stones. The fill appears to have been formed by natural silting activity. The Ditch cut **Pit [151]** and was cut by **Ditch [128]**.

Pit 151 was a large sub-circular pit, located near the northeast edge of the trench (Fig 15; Plates 47-49). It was 1.40m in diameter and 0.4m deep, with steep sides and a flat bottom.

Ditch [149] ran into the pit from the northeast, whilst Ditch [128] cut it from the north. The pit may have been a sump. The Fill (152) appears to have formed through natural silting and was mid greyish brown fairly silty clay with occasional subangular stones.

Ditch [128], which terminated in Pit [151], was aligned southeast-northwest and contained Fill (129), light greyish brown slightly silty clay with occasional subangular stones. Finds from this feature included three fragments of mid-12th century pottery. The ditch was U-shaped with compound sides and a flat bottom and measured 8.85m long, 0.90m wide and 0.5m deep (Fig 15; Plates 47-50). At its southeast end the ditch cut Pit [151] and Ditch [149], whilst at its northwest end the ditch was cut by Pit [168].

4.3 *Phasing*

The features encountered during the excavations reveal occupation from three broad phases, a medieval occupation, a wide spread post-medieval occupation and a modern phase.

4.4 *Phase 1: Medieval (12th-14th centuries)*

The earliest evidence of occupation recovered from the site is pottery dating to the mid-12th century and a few fragments of medieval CBM. Some of these came from later contexts, but there were at least three features that may be associated with the medieval use of the site. Ditch Group 146 ran the length of the Housing Area excavation (Fig. 16). It contained fragments of Medieval Shelly Ware, Shelly-sandy Ware and Hertfordshire-type Greyware, all dating from the 12th through 14th centuries and one fragment of Late Medieval Oxidized Ware from the mid-14th through 16th centuries. Other medieval pottery was found in later features that cut Ditch Group 146, including a Shelly-sandy Ware sherd recovered from Gully Group [157].

Ditch [128] was roughly parallel to Ditch Group 146 and slightly to the north (Fig. 16). It terminated on the east in Pit [151], whilst the western end it was cut by Pit [168]. This feature contained three fragments of Hertfordshire-type Greyware dating from the mid to late 12th through the mid-14th centuries.

In the northeast corner of the Housing Area was Pit [168] (Fig. 16). The only pottery recovered from this feature was Hertfordshire-type Greyware, giving the pit a probable medieval date.

Additional medieval material was found in later features. The large ditch that ran north-south across the eastern side of the site (Ditch [104/113/119/124/132/139/147]), produced medieval brick, roof tile and floor tile, all toward the northern end of the site in the Access Road, suggesting that there was a substantial medieval structure in the vicinity. One fragment of Hertfordshire-type Greyware from Fill (148) was discovered at the southern end of the ditch, in the Housing Area. This evidence indicates the nearby presence of a medieval structure, probably closer to the northern end of the site, with possible boundary and drainage ditches toward the south.

Stratigraphically Pit [151] and Ditch [149] are also assigned to the medieval period, despite containing no finds. As both these features were cut by Ditch [128] that contained Hertfordshire-type Greyware dating from the mid to late 12th through the mid-14th centuries.

4.5 *Phase 2: Post medieval (19th century)*

The second phase of occupation dates to the post-medieval period. Most of the features at the site date from the 19th century, when the site was criss-crossed by boundary and drainage ditches. Along the eastern side of the site ran the large boundary ditch (Ditch

[104/113/119/124/132/139/147]) seen in all three areas of investigation. This feature contained 19th century yellow brick, as well as Mass-produced White Earthenware and late 19th century mineral water and ginger beer containers. Other north-south features included Ditch Group 165, whilst Ditch Group 164 and Gully Group 157 ran east-west. These ditches in the Housing Area are probably drainage gullies. Land drains were encountered in Tree Throw [153] and crossing the Access Road trench.

4.6 *Phase 3: Modern (20th century)*

Modern impact on the site was limited and included the probable dog burial in Pit [134] and a large, circular feature [171] in the Housing Area that was not excavated. The investigations also uncovered evidence of one of the evaluation trenches excavated during an earlier phase of research.

Plate 1: Access Road trench, facing south

Plate 2: Stratigraphic profile of Access Road trench

Plate 3: North end of Access Road trench with Ditch [104] in foreground

Plate 4: Section of Ditch [104] at north end of trench, west facing section

Plate 5: Section 3 through Ditch [104], facing south

Plate 6: Section of Ditch [104] as seen in baulk, facing west

Plate 7: Cut [117] as seen in baulk of Access Road trench

Plate 8: West facing section of relationship slot showing Cut [117]

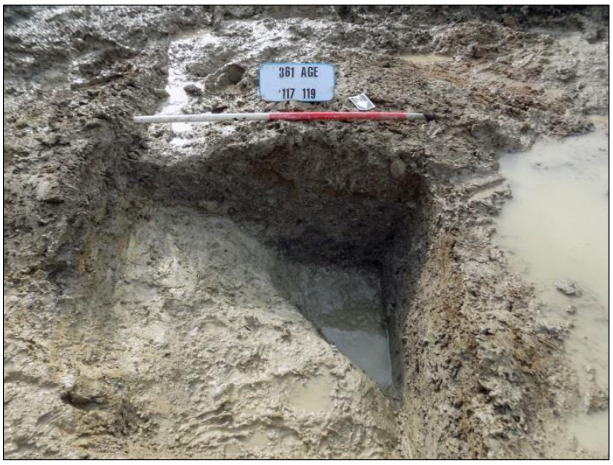


Plate 9: North facing section of relationship slot showing Cut [117] and Ditch [119]

Plate 10: East facing section of relationship slot showing Cut [117] and Ditch [119]

Plate 11: South facing section of relationship slot showing Ditch [119]

Plate 12: North facing section of relationship slot showing Cut [115] and Ditch [113]

Plate 13: Parking Area trench, facing west

Plate 14: North facing section of Parking Area Trench, west end

Plate 15: North facing section of Parking Area Trench, east end

Plate 16: Ditch [107], facing west

Plate 17: Ditch [124]/[139], facing southeast

Plate 18: North facing section of Ditch [124]

Plate 19: East facing section of Ditch [124]

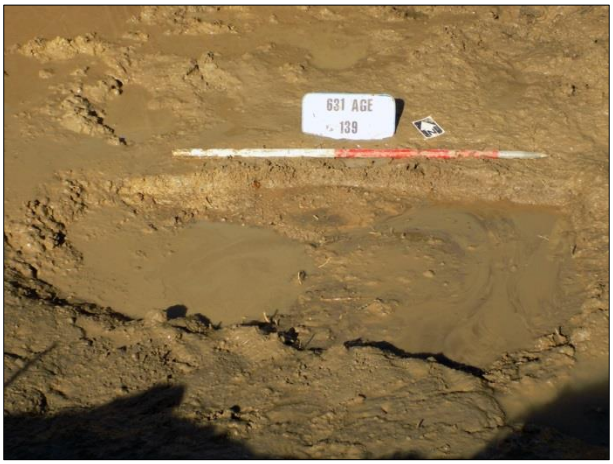


Plate 20: Northeast facing section of Ditch [139]

Plate 21: Housing Area Trench, facing northwest

Plate 22: Housing Area Trench, facing northeast

Plate 23: Housing Area Trench, facing southeast

Plate 24: Housing Area Trench section 1

Plate 25: Housing Area Trench section 2

Plate 26: North facing section of Ditch [147]

Plate 27: East facing section of Gully [136] and Ditch [173]

Plate 28: South facing section of Ditch [173] and [132]

Plate 29: Northwest facing section of Ditch [132]

Plate 30: North facing section of Ditch [132]

Plate 31: Northeast facing section of Groups 146 and 157

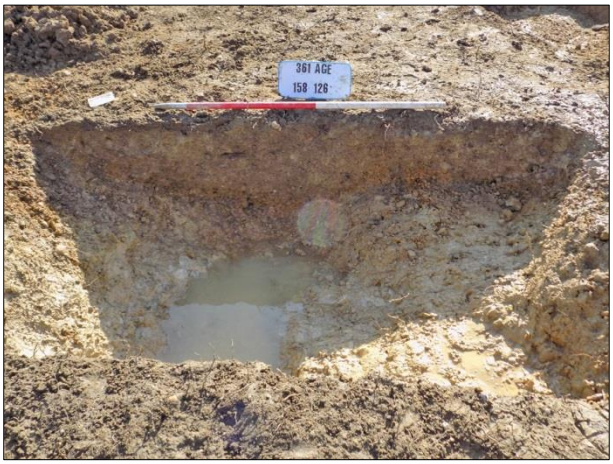


Plate 32: Southwest facing section of Groups 146 and 157

Plate 33: South souteast facing section of Tree Throw [153]

Plate 34: South southwest facing section of Tree Throw [153]

Plate 35: Ditch Group 145, facing south

Plate 36: South facing section of Ditch [141]

Plate 37: West facing profile of Ditch [141]

Plate 38: South facing profile of Ditch [141]

Plate 39: Northeast facing section of Ditch [122]

Plate 40: Southwest facing section of Ditch [122]

Plate 41: Northwest facing section of Ditch [122]

Plate 42: Northeast facing section of Ditch [162]

Plate 43: West facing section of Ditch [162]

Plate 44: Northeast facing section of Ditch [166]

Plate 45: Northeast facing section of Pit [168]

Plate 46: Southwest facing section of Pit [168]

Plate 47: Plan of Ditches [128] and [149] and Pit [151], facing northeast

Plate 48: Southeast facing section of Ditches [128] and [149] and Pit [151]

Plate 49: Southwest facing section of Ditches [128] and [149] and Pit [151]

Plate 50: East southeast facing section of Ditch [128]

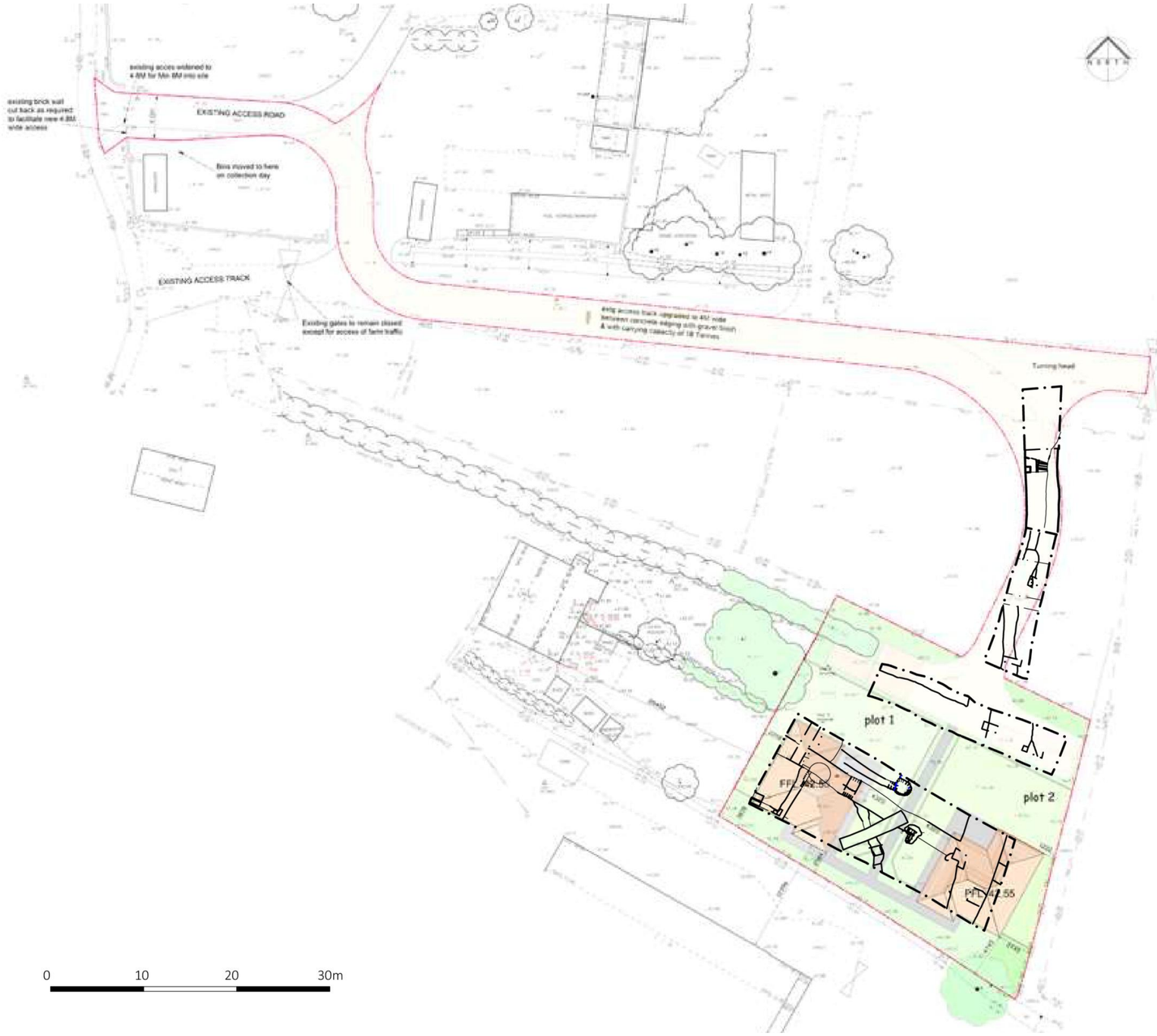


Figure 6: Overall site plan showing trench locations (scale as shown)

Plans 2 & 4

Plan of Access Road trench

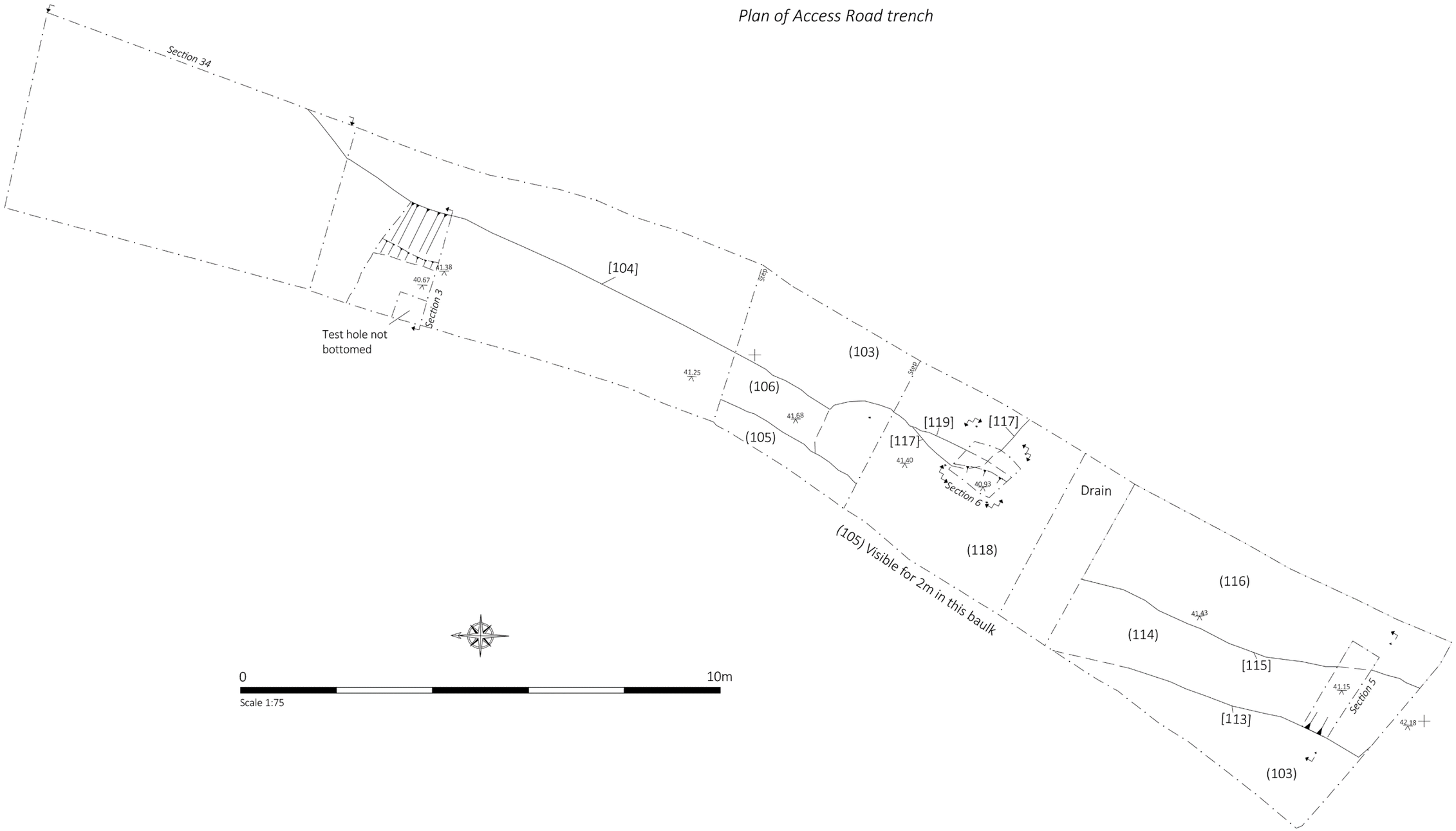
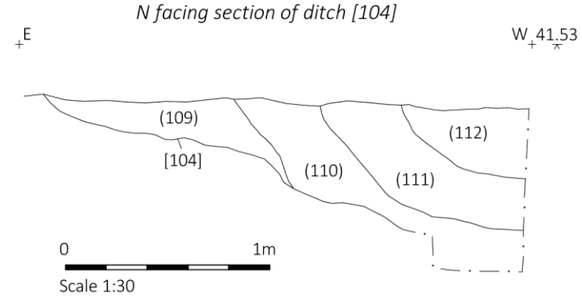


Figure 7: Access Road plan (scale 1:75)

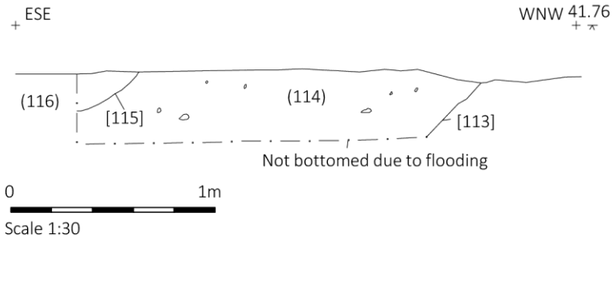
Section 3

N facing section of ditch [104]



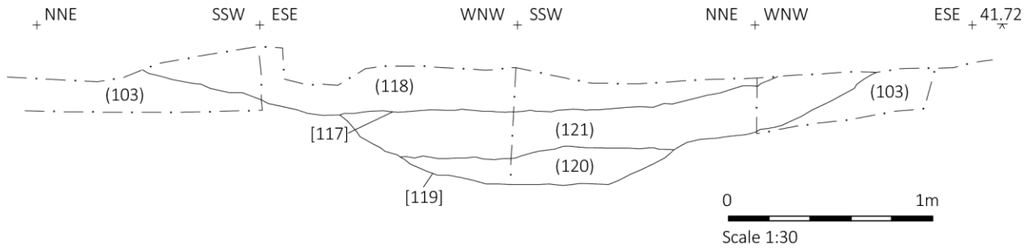
Section 5

NNE facing section of [113] and [115]



Section 6

Multi facing section of pit [117] and ditch [119]



Section 34

W facing section of ditch [104]

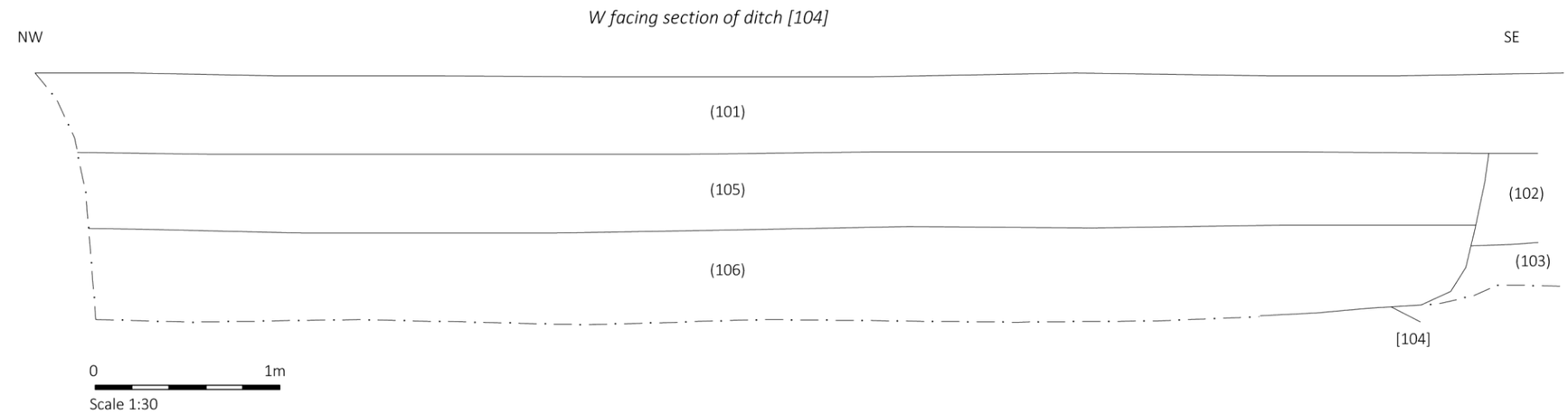
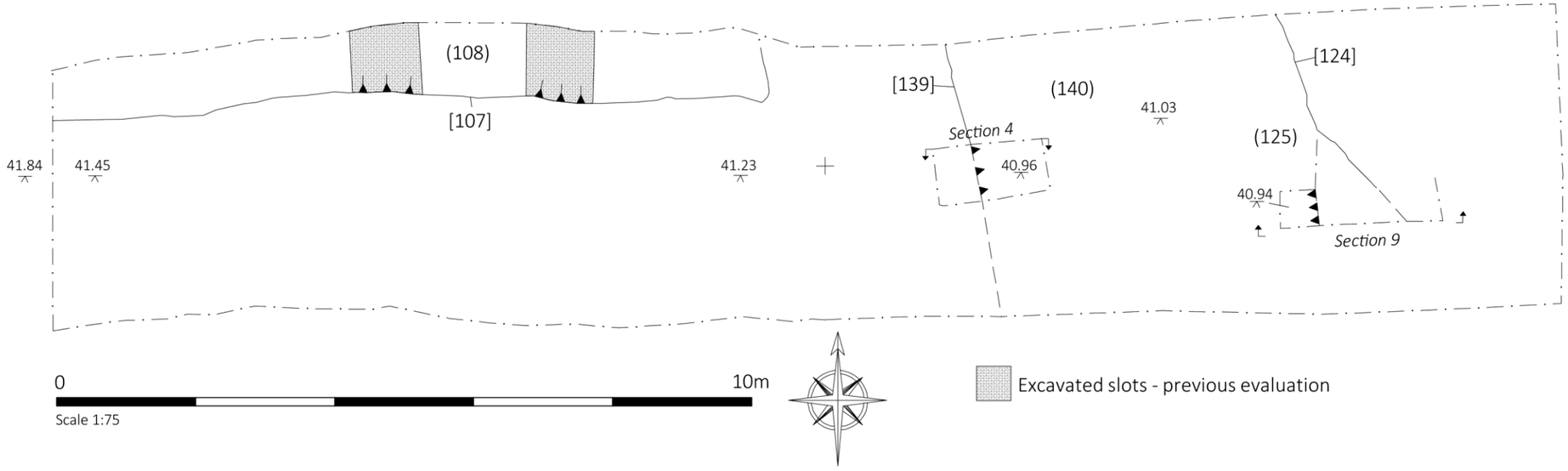


Figure 8: Access Road trench, feature sections (scale 1:30)

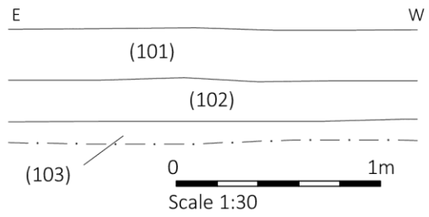
Plan 1

Plan of Parking Area trench



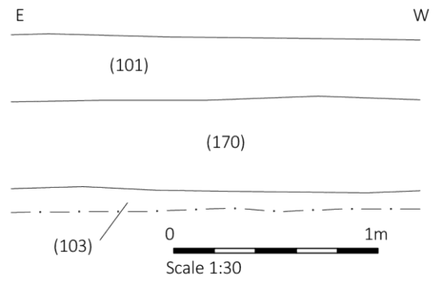
Section 35

N facing section of Parking Area trench
West end of trench



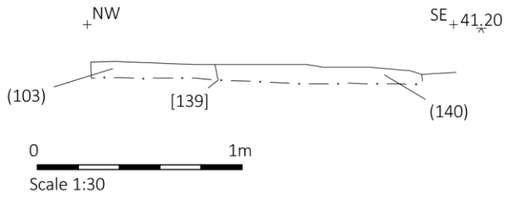
Section 36

N facing section of Parking Area trench
East end of trench



Section 4

SW facing section of ditch [139]



Section 9

NE facing section of ditch [124]

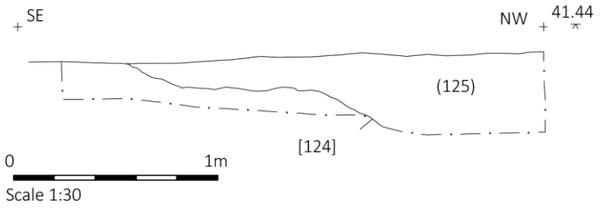


Figure 9: Parking Area plan and sections (scales as shown)

Housing Area Trench Plan

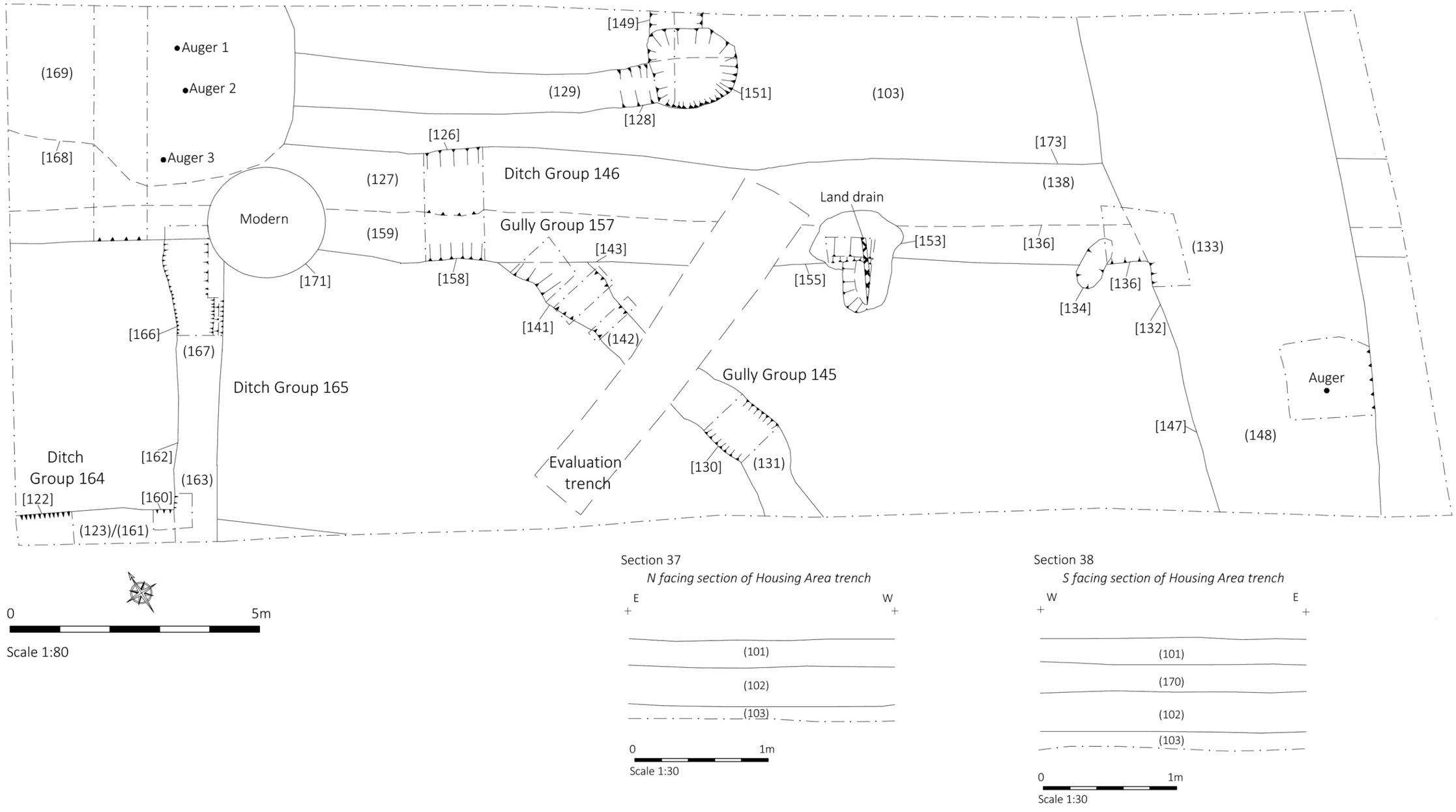
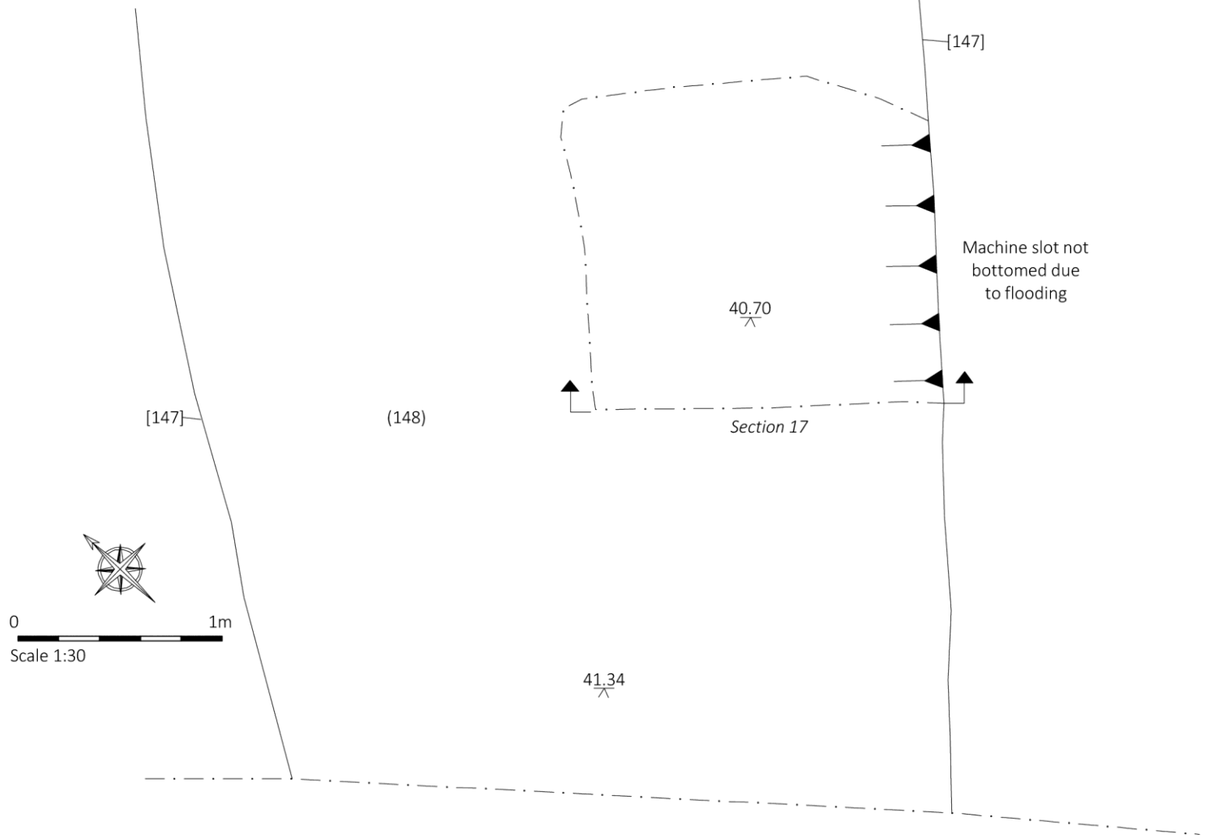


Figure 10: Housing Area Trench Plan (scales as shown)

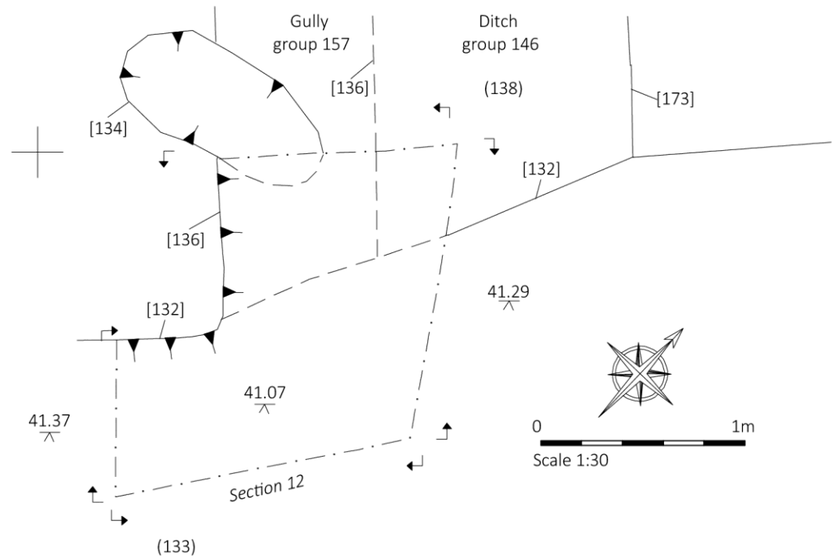
Plan 18

Plan of Ditch [147]



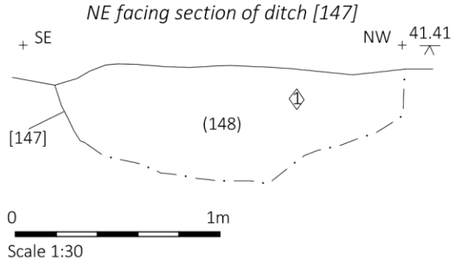
Plan 13

Plan of relationship: ditches[132] [173], gully [136] and pit [134]



Section 17

NE facing section of ditch [147]



Section 12

Multi facing section of ditches [132] [173], gully [136] and pit [134]

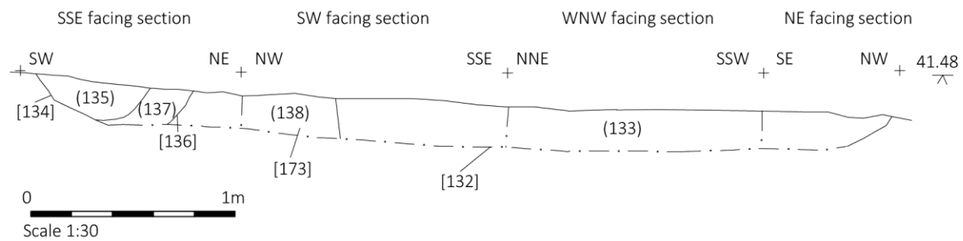
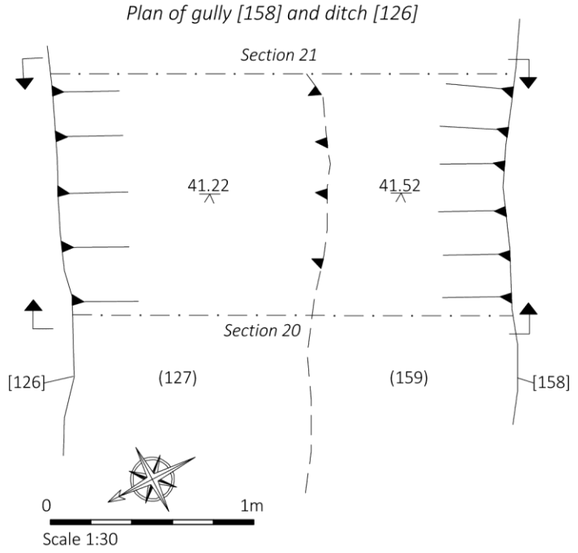


Figure 11: Housing Area Ditch [147] (scale 1:30)

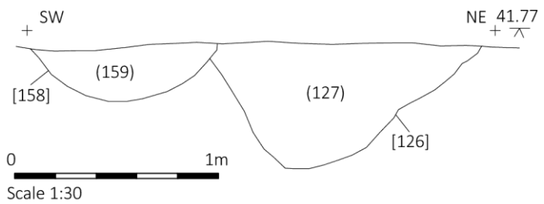
Plan 22

Plan of gully [158] and ditch [126]



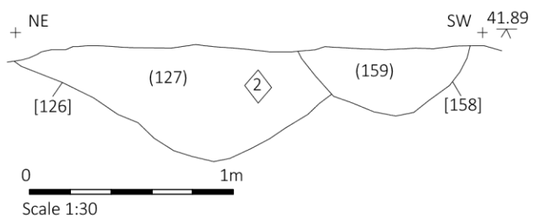
Section 20

SE Facing section of gully [158] and ditch [126]



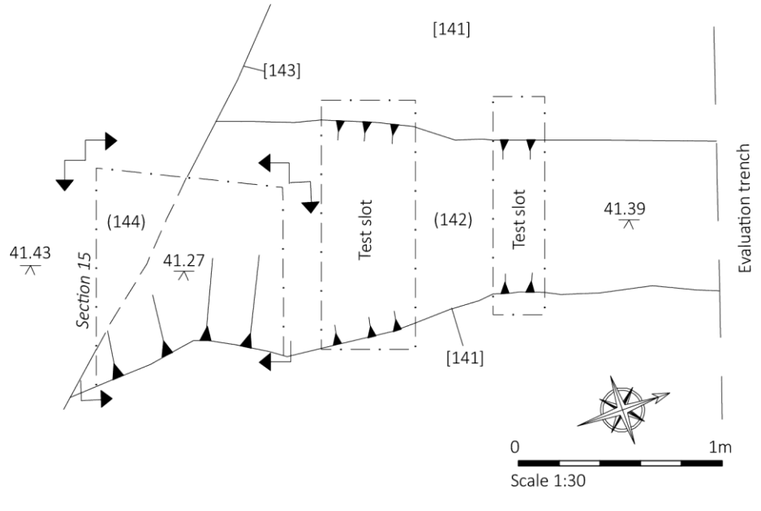
Section 21

NW facing section of gully [158] and ditch [126]



Plan 16

Plan of relatonship slot gully [141] & ditch [143]



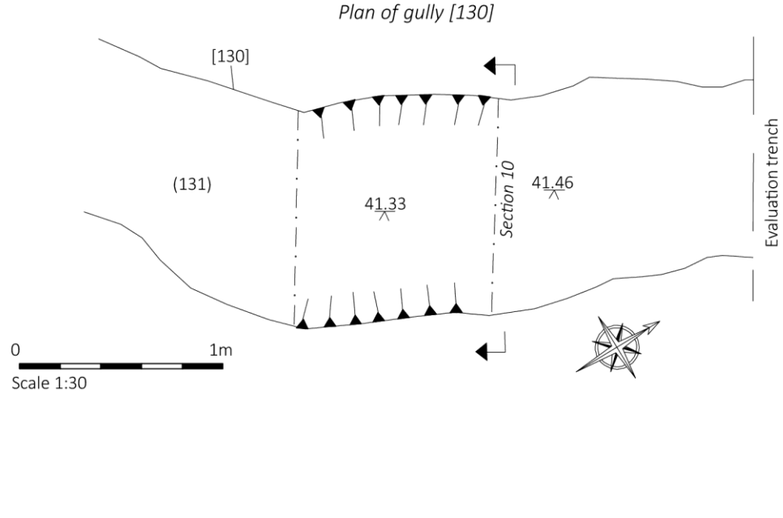
Section 15

Multi facing section of relationship slot gully [141] & ditch [143]

North facing section East facing section South facing section

Plan 11

Plan of gully [130]



Section 10

SW facing section of gully [130]

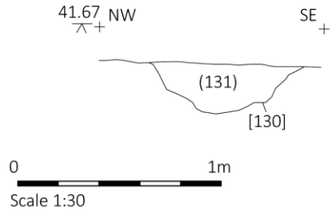


Figure 12: Housing Area features [158]. [126], [141], [143] and [130] (scale 1:30)

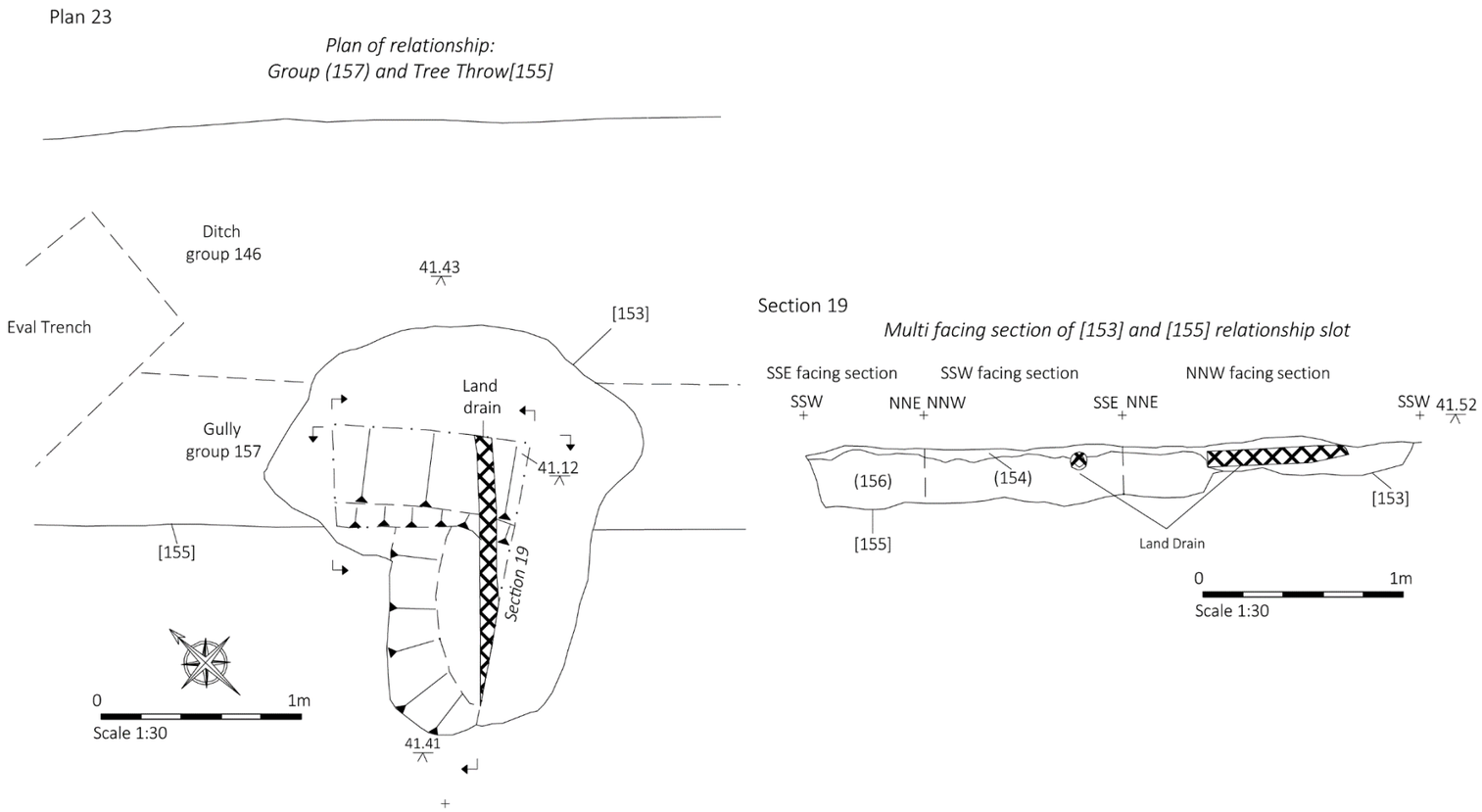
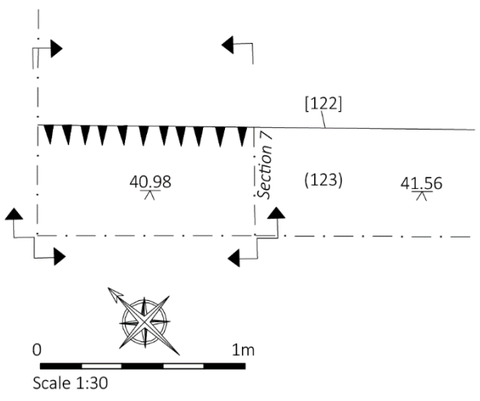


Figure 13: Housing Area Gully Group [157] and Tree Throw [155] (scale 1:30)

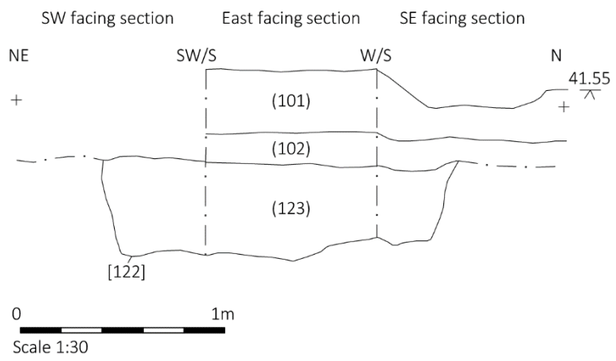
Plan 8

Plan of ditch [122]



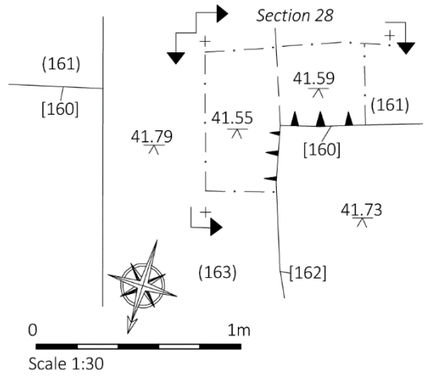
Section 7

Multi-facing sections of ditch [122]



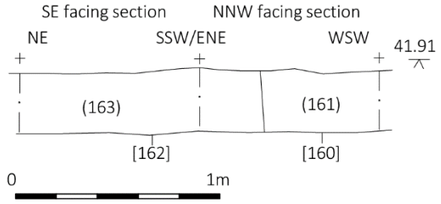
Plan 29

Plan of ditches [160] and [162]



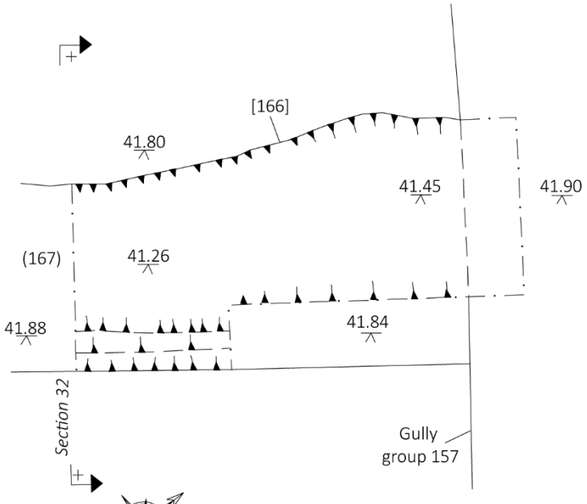
Section 28

Multi facing section of ditch [160]/[162]



Plan 33

Plan of ditch [166]



Section 32

NE facing section of ditch [166]

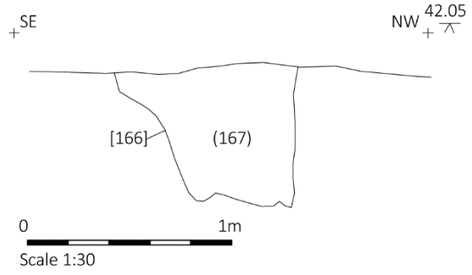
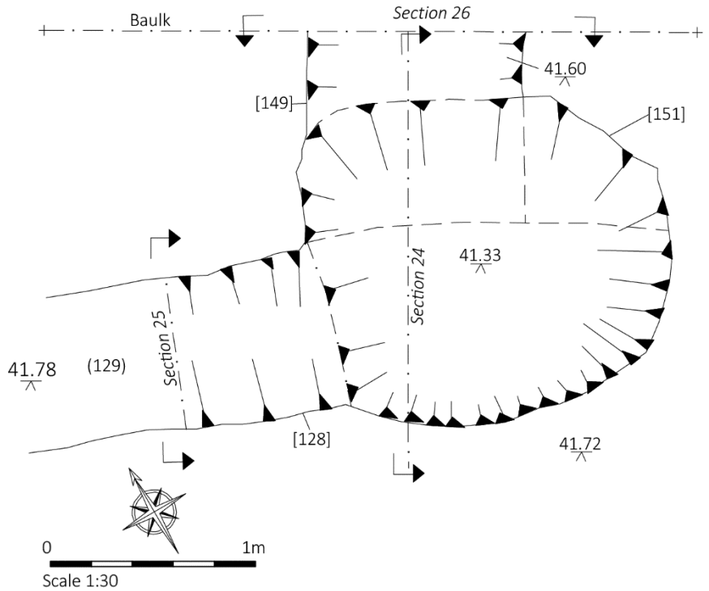


Figure 14: Housing Area Ditches Groups 160 and 162 (scale 1:30)

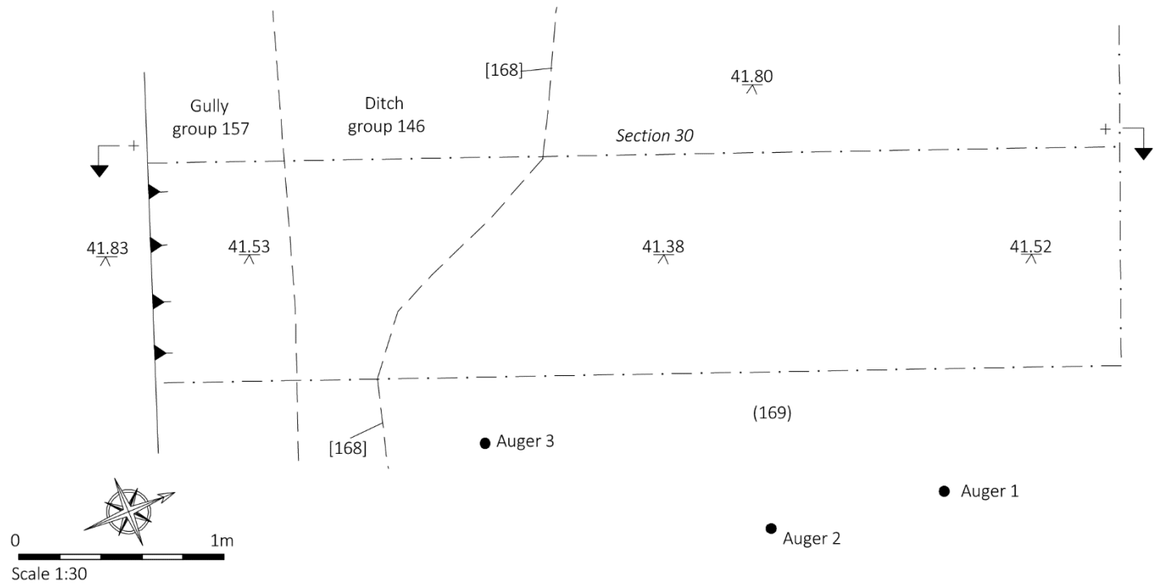
Plan 27

Plan of pit [151], ditch terminus [128] and linear feature [149]



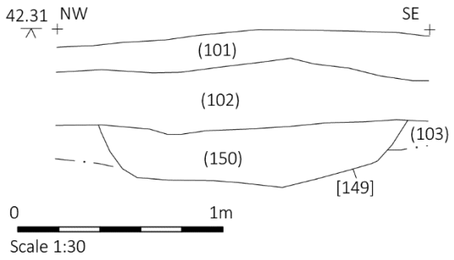
Plan 31

Plan of Pit [168]



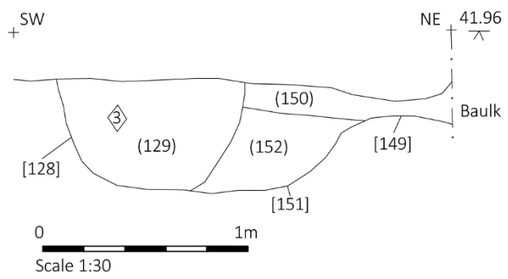
Section 26

SW facing section of linear feature [149]



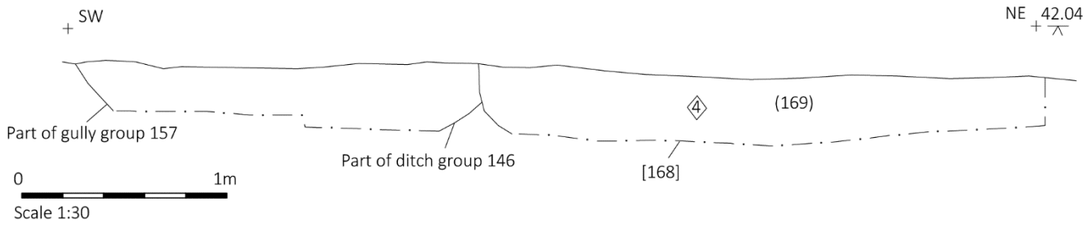
Section 24

SE facing section of pit [151], possible pit/ditch [149] and ditch terminus [128]



Section 30

SE facing section of gully group 157, ditch group 146 and pit [168]



Section 25

SE facing section of ditch [128]

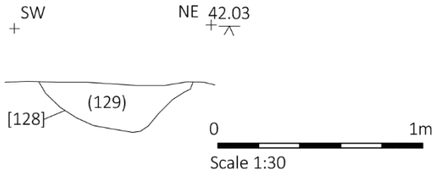


Figure 15: Housing Area Pits [151] and [168] and Ditches [128] and [149] (scale 1:30)

Figure 16: Phase plan (scale 1:150)

5 Conclusions

The current programme of archaeological investigation at Green End Farm uncovered a variety of ditches and pits. Most of the identified features within the excavated area are boundary and drainage ditches; for instance, Ditch Group 146, which runs the length of the Housing Area, was probably used as a boundary ditch defining the edge of a field. Artefacts recovered from these features, including pottery and CBM, show that the site was in use as early as the 12th-14th century, probably as agricultural land used for crops or pasture, and remained in similar use until the 20th century.

Analysis of the plant remains found very small quantities of charred grains, including wheat, rye and barley (Appendix 4.3). The low density is suggestive of accidental or secondary deposition and is unlikely to represent direct evidence of how features were used. Instead, it reflects an open environment where the charred seeds were spread through a combination natural environmental processes and unintentional human activitiy.

During the late 19th century, drainage may have become more of a problem, as there are increasing numbers of drainage ditches at the site. Land drains were also installed (Figs. 7 & 10) and Pit [151] has been identified as a possible sump pit. These features crisscross the site, including one that crosses the large boundary ditch that runs along the eastern edge of the excavated areas and that probably corresponds to the boundary seen on 19th century Ordnance Survey maps. The presence of freshwater snail in Pit [126] may also reflect the wet conditions at the site.

The discovery of medieval brick, roof tile and floor tile suggest that there was a structure in the general vicinity at an early date, although no structural remains were found during the investigations. Because the site is to the southeast end of what was once the village green, which is now completely infilled, the medieval building material probably derives from a structure facing the green or from buildings at the nearby Green End Farm, rather than from the excavated area itself.

In the 20th century, the land around the site changed from agricultural use to housing and the site itself was used by neighbouring properties as an extension to their gardens. It may be from this period that the dog found in Pit [134] was buried.

The site has historically been on the periphery of the settlement of Green End and the archaeological features discovered during the investigations reflect its use as agricultural or open land. Drainage is an ongoing problem at the site, as conditions during the excavation attested, and the archaeology suggests that this has long been the case, with a variety of water control efforts, from simple ditches to sumps to land drains, installed to cope with the issue.

The site was considered to have the potential to contain archaeological deposits that relate to the medieval and post-medieval development of Arlesey, and in that respect the project has fulfilled the research aims, albeit in a modest way. It might have been possible to have added further information to this data set, but conditions were such that much of the excavation was compromised by flooding.

6 Acknowledgements

KDK Archaeology is grateful to Rob Scott for commissioning this report on behalf of PRJ Developments. Thanks, are also due to Stephen Coleman of the Central Bedfordshire HER for providing historic environment records and other relevant documents and to Slawek Ultrata of the CBCAT for monitoring the project.

The fieldwork was carried out by, Rebecca Bradford BSc, Chris Martin -Taylor BSc, Barney King, Greg Jones and Martin Sycamore under the direction of project manager Carina Summerfield-Hill MSc ACI*f*A. The report was written by Ellen Shlasko PhD, and edited by David Kaye BA ACI*f*A.

7 Archive

7.1 The project archive will comprise:

1. Brief
2. Written Scheme of Investigation
3. Initial report
4. Monitoring sheets
5. Site drawings
6. Client's site plans
7. List of photographs
8. B/W prints & negatives
9. Specialist reports
10. CDROM with copies of all digital files.

7.2 The archive will be deposited with Higgins Art Gallery and Museum, Bedford (BEDFM 2018.09).

8 References

Standards & Specifications

ALGAO 2003 *Standards for Field Archaeology in the East of England.* East Anglian Archaeology Occasional Paper 14.

Allen J. L. & Holt A. St J. 1986 (with later updates) *Health & Safety in Field Archaeology.* London: Federation of Archaeological Managers & Employers

Bedford Museum 2010 *Procedure for Preparing Archaeological Archives for Deposition with Registered Museums in Bedfordshire*

Brickley M. & McKinley J. I. 2004 *Guidelines to the Standards for Recording Human Remains*. Reading: Chartered Institute for Archaeologists' Technical Paper.

CBCAT 2017. *Brief for a Programme of Archaeological Investigation; Recording, Analysis, and Publication: Land at Green End Farm, Arlesey, Bedfordshire*. V1.0. Central Bedfordshire Council

CIfA 2014 *Standard & Guidance* documents *(Desk-Based Assessments, Watching Briefs, Evaluations, Excavations, Investigation and Recording of Standing Buildings, Finds, Archiving)*

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Appendix 1: Excavation Summary Tables

Context Register

Context	Type	Description
101	Layer	Topsoil
102	Layer	Subsoil
103	Layer	Natural geology
104	Cut	Access Road: large feature at N end of Access Road
105	Fill	Access Road: top fill of [104]
106	Fill	Access Road: bottom mixed fill of [104]
107	Cut	Parking Area: feature found in previous evaluation
108	Fill	Parking Area: Fill of ditch [107]
109	Fill	Access Road: fill of ditch [104]
110	Fill	Access Road: fill of ditch [104]
111	Fill	Access Road: fill of ditch [104]
112	Fill	Access Road: fill of ditch [104]
113	Cut	Access Road: ditch
114	Fill	Access Road: fill of [113]
115	Cut	Access Road: recut
116	Fill	Access Road: fill of recut
117	Cut	Access Road: pos. pit/dumping
118	Fill	Access Road: fill of pit/dumping [117]
119	Cut	Access Road: ditch
120	Fill	Access Road: fill of ditch [119]
121	Fill	Access Road: fill of ditch [119]
122	Cut	Housing Area: ditch
123	Fill	Housing Area: fill of ditch (122)
124	Cut	Parking Area: ditch possibly same as [104]
125	Fill	Parking Area: fill of ditch [124]
126	Cut	Housing Area: e-w ditch part of Grp 146
127	Fill	Housing Area: fill of ditch [126] part of Grp 146
128	Cut	Housing Area: e-w ditch terminus
129	Fill	Housing Area: fill of gully terminus [128]
130	Cut	Housing Area: gully
131	Fill	Housing Area: fill of gully
132	Cut	Housing Area: ditch (n-s)
133	Fill	Housing Area: fill of ditch [132]
134	Cut	Housing Area: Pit
135	Fill	Housing Area: fill of pit [134]
136	Cut	Housing Area: gully (e-w) part of grp 157
137	Fill	Housing Area: fill of gully [136]
138	Fill	Housing Area: fill of ditch [173] part of grp 146
139	Cut	Parking Area: n-s ditch
140	Fill	Parking Area: fill of n-s ditch [139]
141	Cut	Housing Area: Gully
142	Fill	Housing Area: fill of gully [141]
143	Cut	Housing Area: e-w ditch
144	Fill	Housing Area: fill of e-w ditch
145	Group	Housing Area: gully
146	Group	Housing Area: nw-se ditch
147	Cut	Housing Area: n-s ditch (machine slot)
148	Fill	Housing Area: fill of n-s ditch [147] (machine slot)
149	Cut	Housing Area: Possible pit/gully terminus cut by [128]
150	Fill	Housing Area: fill of [149]
151	Cut	Housing Area: pit cut by [149] and [128]
152	Fill	Housing Area: fill of [151]

Context	Type	Description
153	Cut	Housing Area: tree throw
154	Fill	Housing Area: fill of tree throw [153]
155	Cut	Housing Area: nw-se gully
156	Fill	Housing Area: fill of [155]
157	Group	Housing Area: nw-se gully (adjacent and cutting ditch grp [146]
158	Cut	cut of gully housing area cutting [126]
159	Fill	Fill of gully [158]
160	Cut	Housing Area: ditch n-s (part of grp 164)
161	Fill	Housing Area: fill of ditch (160)
162	Cut	Housing Area: ditch e-w (part of grp 165)
163	Fill	Housing Area: fill of ditch (162)
164	Group	Housing Area: n-s ditch (west end of area)
165	Group	Housing Area: e-w ditch (SW corner of area)
166	Cut	Housing Area: n-s ditch (west end of area) part of grp 164
167	Fill	Housing Area: fill of ditch [166]
168	Cut	Housing Area: pit (NW spread)
169	Fill	Housing Area: fill of pit [168]
170	Deposit	Parking Area: made-ground (was originally numbered 118)!
171	Cut	Housing Area: modern pit - unexcavated
172	Fill	Housing Area: fill of modern pit - unexcavated
173	Cut	Housing Area: ditch part of grp 146

Plan Register

Sheet No	Drawing No	Scale	Details
1a&b	1a&b	1:20	Parking Area: 1a west side of area - ditch [107]; 1b east side of area – ditch slots [124] & [139]
2	2	1:20	Access Road: ditch/pit [104]
4	4	1:50	Access Road southern end
6	8	1:20	Housing Area: ditch [122]
6	11	1:20	Housing Area: gully [130]
3	13	1:20	Housing Area: plan of relationship slot with ditches [132] [136] & pit [134]
8	16	1:20	Housing Area: plan of relationship gully [141] & ditch [143]
3	18	1:20	Housing Area: plan of ditch [147]
9	22	1:20	Housing Area: plan of gully [152] & ditch [126]
4	23	1:20	Housing Area: plan of tree throw [153] & gully [155]
10	27	1:20	Housing Area: plan of pit [151] gully [149] & ditch terminus [128]
11	29	1:20	Housing Area: ditch [160] & ditch [162]
12	31	1:20	Housing Area: plan of pit [168]
13	33	1:20	Housing Area: plan of ditch [166]

Section Register

Sheet No	Drawing No	Scale	Contexts
3/3	3	1:10	Access Road: ditch/pit [104]
4/5	5	1:10	Access Road: ditch [113]&[115]
5/6	6	1:20	Access Road: ditch [119] Spread [117]
6/7	7	1:10	Housing Area: ditch [122]
7/9	9	1:10	Parking Area: SE facing section of ditch [124]
6/10	10	1:10	Housing Area: gully [130]
6/12	12	1:10	Housing Area: multi facing section of

Sheet No	Drawing No	Scale	Contexts
			ditches [132] [136] & pit [134]
3/14	14	1:10	Housing Area: SW facing section of ditch [139]
8/15	15	1:10	Housing Area: multi facing section of gully [141] & ditch [143]
3/17	17	1:10	Housing Area: NE facing section of ditch [147] mach. slot
4/19	19	1:10	Housing Area: multi facing section of tree throw[153] & gully [155]
9/20	20	1:10	Housing Area: SE facing section of gully [158] & ditch [126]
9/21	21	1:10	Housing Area: NW facing section of gully [158] & ditch [126]
9/24	24	1:10	Housing Area: section of pit [151] gully [149] & ditch terminus [128]
9/25	25	1:10	Housing Area: section of ditch [128]
9/26	26	1:10	Housing Area: baulk section of linear feature [149]
11/28	28	1:10	Housing Area: ditch [160] & ditch [162]
12/30	30	1:10	Housing Area: SE facing section of pit [168]
13/32	32	1:10	Housing Area: ? facing section of ditch [166]

Sample Register

Sample No	Context No	Sample Type	Quantity
1	(148)	Bulk - Fill of ditch [147]	3 tubs, 1 bag
2	(127)	Bulk - Fill of ditch [126]	4 bags
3	(129)	Bulk - Fill of ditch terminus [128]	4 bags
4	(169)	Bulk - Fill of pit [168]	4 bags

Not processed due to Post-Medieval date

Appendix 2: Finds Concordances

Context No	Pottery		Animal Bone		CBM		Fe objects		Glass	
	No.	Gms	No.	Gms	No.	Gms	No.	Gms	No.	Gms
106	5	1157							2	1123
110	7	77	6	196	10	1422			5	60
112	12	113			8	501			1	17
114					2	271				
117					2	691				
123			2	42						
125	3	14								
127	2	30								
127	1	16			2	9				
129	2	11								
129	1	51								
131	1	3								
135			45	354						
140	5	344					1	70		
146	2	22								
148	1	1	1	15						
156	1	53								
157	2	1	1	16					1	6
161	1	2	2	18						
163	2	29								
167	2	13								
169	5	80								
Eval BF	2	70								
Total	**57**	**2087**	**57**	**641**	**24**	**2894**	**1**	**70**	**9**	**1206**

Appendix 3: Photograph List

Digital	B&W	View	Subject
1	1	S	Access Road overall
2	2	N	Access Road overall
3	3	E	Access Road: Stratigraphy
4	4	E	Access Road: Stratigraphy
5	5	E	Access Road: Baulk section of [104]
6		E	Access Road: Baulk section of [104]
7	6	SSW	Access Road
8		NNE	Access Road
9	7	S	Access Road
10		S	Access Road overall
11		NNE	Access Road overall
12	8	WNW	Parking Area: overall
13		SSW	Parking Area: stratigraphy
14		WNW	Parking Area: ditch [107] (excavated in evaluation)
15	9	S	Access Road: N facing section of [104]
16		S	Access Road: N facing section of [104]
17	10	W	Access Road: E facing baulk section of [104]
18	11	SSW	Access Road: overall, showing edge of [113]
19	12	SSW	Access Road: NNE facing section of [113] and [115]
20		SSW	Access Road: NNE facing section of [113] and [115]
21		SE	Access Road: test slot [113] & [115]
22		SE	Access Road: deposit (117) & ditch [119]
23		SW	Access Road: deposit (117) & ditch [119]
24		SW	Access Road: deposit (117) & ditch [119]
25		SW	Access Road: deposit (117) & ditch [119]
26	13	SW	Access Road: deposit (117) & ditch [119]
27		W	Access Road: deposit (117) & ditch [119]
28		N	Access Road: deposit (117) & ditch [119]
29		W	Access Road: stratigraphy (117)
30		W	Access Road: stratigraphy
31		W	Access Road: stratigraphy
32		W	Access Road: stratigraphy
33		W	Access Road: stratigraphy
34		W	Access Road: stratigraphy
35		W	Access Road: stratigraphy
36		E	Access Road: stratigraphy
37		E	Access Road: stratigraphy
38		E	Access Road: stratigraphy
39		E	Access Road: stratigraphy
40		E	Access Road: stratigraphy
41		E	Access Road: stratigraphy
42		E	Access Road: stratigraphy
43	14	NW	Housing Area: pre-ex
44	15	NW	Housing Area: pre-ex
45	16	NW	Housing Area: pre-ex
46	17	NW	Housing Area: pre-ex
47	18	NW	Housing Area: pre-ex

48		NW	Housing Area: pre-ex
49		NW	Housing Area: pre-ex
50	19	NE	Housing Area: pre-ex
51	20	NE	Housing Area: pre-ex
52	21	NE	Housing Area: pre-ex
53	22	NE	Housing Area: pre-ex
54		SE	Housing Area: pre-ex
55	23	SE	Housing Area: pre-ex
56		NW	Housing Area: pre-ex
57	24	SW	Housing Area: ditch (122)
58		NW	Housing Area: ditch (122)
59		ESE	Housing Area: ditch (122)
60	25	SW	Parking Area (east end) pre-ex
61		SE	Parking Area (east end) pre-ex
62		SW	Parking Area (east end) pre-ex
63	26	SW	Parking Area: ditch [124]
64		SW	Parking Area: ditch [124]
65	27	NW	Parking Area: ditch [124]
66		NW	Parking Area: ditch [124]
67	28	NNE	Housing Area: SW facing section of [130]
68		NW	Housing Area: relationship slot –ditches [132] & [136]
69		NE	Housing Area: relationship slot –ditches [132] & [136]
70		SE	Housing Area: relationship slot –ditches [132] & [136]
71		SW	Housing Area: relationship slot –ditches [132] & [136]
72	29	SW	Housing Area: relationship slot –ditches [132] & [136]
73	30	NE	Parking Area: ditch [139]
74		NE	Parking Area: ditch [139]
75		NE	Parking Area: ditch [139]
76		NE	Parking Area: ditch [139]
77	31	SW	Housing Area: relationship slot overall gully [141] & ditch [143]
78		SE	Housing Area: relationship slot overall gully [141] & ditch [143]
79	32	SW	Housing Area: gully group [145]
80		SW	Parking Area: east end stratigraphy
81		SE	Parking Area: east end stratigraphy
82	33	SW	Housing Area: ditch [147] (machine slot)
83		SW	Housing Area: ditch [147] (machine slot)
84		SW	Housing Area: ditch [147] (machine slot)
85	34	SW	Housing Area: Relationship slot gully [141] & ditch [143]
86		N	Housing Area: general working shot
87		NE	Housing Area: general working shot (auguring)
88	35	NW	Housing Area: SE facing section of [128] [149] and [151] – ditch, pit and possible pit/gully terminus
89	36	NE	Housing Area: SW facing section of [128] [149] and [151] – ditch, pit and possible pit/gully terminus
90	37	NE	Housing Area: SW facing section of [128] [149] and [151] – ditch, pit and possible pit/gully terminus
91	38	NE	Housing Area: SW facing section of [128] [149] and [151] – ditch, pit and possible pit/gully terminus
92	39	NW	Housing Area: SE facing section of gully [155]
93	40	SE	Housing Area: NW facing section of [153] tree throw and [155] gully
94	41	NW	Housing Area: SE facing section of gully [158] & ditch [126]
95		NW	Housing Area: SE facing section of gully [158] & ditch [126]

96		NW	Housing Area: SE facing section of gully [158] & ditch [126]
97		NW	Housing Area: SE facing section of gully [158] & ditch [126]
98	42	SE	Housing Area: NW facing section of gully [158] & ditch [126]
99	43	NW	Housing Area: SE facing section of ditch terminus [128]
100	44	NE	Housing Area: SW facing section of pit/ditch terminus [149]
101	45	N	Housing Area: overall shot of pit [151], ditch terminus [128] & pit/ditch terminus [149]
102	46	SW	Housing Area: relationship slot of ditches [160] & [162]
103	47	E	Housing Area: relationship slot of ditches [160] & [162]
104	48	SE	Housing Area: relationship slot of ditches [160] & [162]
105	49	SW	Housing Area: NE facing section of ditch [166] (1m scale)
106		SW	Housing Area: NE facing section of ditch [166]
107		SW	Housing Area: NE facing section of ditch [166]
108		SW	Housing Area: general site stratigraphy
109		NE	Housing Area: general site stratigraphy
110	50	NW	Housing Area: SE facing section of pit [168]
111		NW	Housing Area: SE facing section of pit [168]
112	51	SE	Housing Area: NW facing section of pit [168]
113		SE	Housing Area: NW facing section of pit [168]
114		NE	Housing Area: general shot
115		SE	Housing Area: general shot
116		NW	Housing Area: general shot

Appendix 4: Specialist Reports

4.1 Pottery and CBM from Arlesey, Bedfordshire (Site 361/AGE)

Paul Blinkhorn

4.1.1 *Pottery*

The pottery assemblage comprised 50 sherds with a total weight of 924g. It was all medieval or modern, and was recorded using the conventions of the Bedfordshire County Archaeology Service type-series (eg Baker and Hassall 1977), as follows:

B07: Medieval Shelly Ware, AD1100-1400. 1 sherd, 8g.
C59: Shelly-sandy Ware, 12th – 13th century. 3 sherds, 145g.
C60: Hertfordshire-type Greyware, mid/late 12th – mid 14th century. 11 sherds, 171g.
E02: Late Medieval Oxidized Ware, mid-14th– 16th century. 1 sherd, 16g.
P01: Glazed Red Earthenware, 16th – 19th century. 5 sherds, 332g.
P56: Mass-produced White Earthenware, 19th – 20th century. 29 sherds, 252g.

The pottery occurrence by number and weight of sherds per context by fabric type is shown in Table 1. Each date should be regarded as a *terminus post quem*. The medieval material almost entirely consisted of bodysherds from unglazed jars, with a rim from such a vessel occurring in the back-fill of evaluation trench 1. This is typical of the earlier medieval period in the region. The unstratified sherd aside, all the medieval material is in fairly good condition, and appears reliably stratified. The sherds of P01 are all from internally-glazed bowls, and the P56 assemblage is all fragments of tablewares. This is again typical of the respective traditions.

Table 1: Pottery occurrence by number and weight (in g) of sherds per context by fabric type

	B07		C59		C60		E02		P01		P56		
Cntxt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	Date
Tr1 B/F			1	71									U/S
110											7	76	19thC
112											12	112	19thC
125											3	14	19thC
127	1	8	1	22			1	16					12-M14thC
129					3	62							M12thC
131											1	3	19thC
140									4	310	1	35	19thC
146 surface					2	22							M12thC
148 auger					1	1							M12thC
156			1	52									12thC
157											2	2	19thC
161											1	2	MOD
163									1	22	1	1	19thC
167					1	5					1	7	19thC
169					4	81							M12thC
Total	1	8	3	145	11	171	1	16	5	332	29	252	

4.1.2 *CBM*

Context 127 also produced two fragments of burnt daub weighing 9g. They are in a sandy fabric with rounded iron ore fragments and have traces of an outer face remaining, suggesting they were originally structural.

Twenty fragments of brick and tile were noted. Many were modern, but late medieval/early post-medieval material was also noted. The three of the fragments of brick from context 110 are "yellow brick" of 19th – 20th century date (weight = 312g). The fourth fragment (52g) is handmade and appears likely to be late medieval or early post-medieval. Four of the fragments of roof tile (261g) from the same context are in a red sandy fabric and are c12mm thick. They are of the same date as the hand-made brick. A fifth fragment ((64g) is modern. Also noted in this context was a fairly large piece of a floor tile (735g). It is 38mm thick and unglazed, but in a sandy fabric with rare calcined flint, and again appears to be late medieval or early post-medieval.

Context 112 produced five fragments of the red sandy roof-tile, including one with a peg-hole 15mm in diameter. The same context also produced a piece of modern tile ((41g) and a fragment of modern concrete tile (109g)

Another fragment of "yellow brick" occurred in context 117, along with a small fragment of late medieval roof tile. The former is 90mm wide and 45mm thick and appears hand-made. Another piece occurred in context 112, along with a fragment of modern roof-tile.

The modern material is unremarkable, but the earlier brick and tile suggests that there was a fairly substantial structure within the vicinity of these excavations at that time.

Table 2: CBM occurrence by number and weight (in g) of fragments per context by type

	Brick		Roof Tile		Floor Tile		Burnt Daub	
Cntxt	No	Wt	No	Wt	No	Wt	No	Wt
110	4	364	4	261	1	735		
112			7	485				
114	1	207	1	62				
117	1	638	1	51				
127							2	9
Total	6	1209	13	859	1	735	2	9

4.1.3 *References*

Baker E. and Hassall E. 1979 'The Pottery' in D. Baker, E. Baker, J. Hassall and A. Simco Excavations in Bedford 1967-1977. *Bedfordshire Archaeological Journal* **13**, 147 - 239

4.2 Animal Bones from Land at Green End Farm, Arlesey, Bedfordshire (361/AGE)

Derek Watson, PhD

Animal bones recovered during the archaeological strip, map and sample excavation of land at Green End Farm, Arlesey, Bedfordshire, are detailed in Table 1. The remains found comprise various elements of domestic animals (i.e. dog, sheep and cattle) from the fill ((110), (123), (148), (161)) of ditches ([104], [122], [147], [160]), surface finds from gully grp [157], and the fill (135) of pit ([134]. The remains (i.e. condition and type of bone) of sheep and cattle recovered from the site, and the contexts in which they were found, are typical of primary butchery waste, i.e. the disposal of the least meaty bones that are often discarded during initial disarticulation of an animal carcass, and then incorporated into the fills of cut features that are used for disposal. The dog remains probably constitute a large single animal (e.g. a pet or working dog) that may have been interred as the bones appeared to have been articulated when first found, though they were subsequently displaced by flooding prior to the excavation of the area.

In conclusion, the animal species are common types found at farms, whereas the majority of the bones, and their low numbers, probably represent domestic waste. Conversely, the dog remains likely represent the burial of a beloved animal.

Table 1: Animal bone from Land at Green End Farm, Arlesey, Bedfordshire. Indet. = indeterminate; S-M: small to medium sized animal; M= medium sized animal.

Context	Species	Element	No.	Side	Modification/Damage
110	Sheep (*Ovis aries*)	Radius	1	L	Proximal diaphysis and articular end
110	Cattle (*Bos* sp.)	Tibia	5	R	5 fragments. Eroded.
123	M	Indet.	1		Fragment
123	Cattle (*Bos* sp.)	Tooth=M1 (Molar) Maxillary	1	R	Nearly complete. Limited tooth wear
135	S-M	Skull fragments	11		
135	Dog (*Canis familiaris*)	Tooth = M2 (Molar): Maxillary	1	L	Heavily worn (use-wear?) tooth
135	Dog (*Canis familiaris*)	Scaplua	2	L & R	L=+/- complete; R= proximal end incl. articular end
135	Dog (*Canis familiaris*)	Humerus	1	R	Proximal diaphysis and articular end
135	S-M	Ulna	1	R?	Distal end fragment
135	S-M	Ribs (articular end and shaft fragments)	20		Fragments
148	M	Indet.	1		Possible femoral fragment
157 grp	Sheep (*Ovis aries*)	Ulna	1		Articular surface fragment
161	Sheep (*Ovis aries*)	Metatarsal	1	L	Proximal half. Eroded

4.3 Land at Green End Farm, Arslesy Bedfordshire: Assessment of Archaeobotanical Remains in Environmental Samples taken during an excavation.

Lisa Gray MSc MA ACIfA

All comments in this report are provisional and should not be considered as the author's final opinion until stratigraphic analysis is complete, other specialist assessments have been written and any further processing or analysis carried out. The author would like to be consulted before any part of this report is used in any situation other than its place in the assessment archive and updated project design.

4.3.1 *Introduction – Aims and Objectives*

This excavation took place prior to development at Land at Green End Farm, Arlesey, Bedfordshire and revealed evidence of early medieval land use (Shlasko 2018, 3) with archaeological features reflecting its use as agricultural or open land (Shlasko 2018, 40).

Three samples were presented for assessment (Table 1, for locations see Figures 12 and 15).

Table 1: Samples

Sample	Context	Sample Type	Pot Date
2	127	Ditch [126]	12-14th C AD
3	129	Ditch terminus [128]	Mid 12th C AD
4	169	Pit [168]	Mid 12th C AD

The aims of this assessment are to determine the local, regional and national significance of the archaeobotanical remains in the samples and to assess the potential of the plant macro-remains to provide information about diet, craft, medicine, crop-husbandry, feature function and environment.

Comments will also be made on faunal and artefactual remains in the samples with the advice that they are passed onto relevant specialists.

The underlying geology of the site comprises West Melbury Marly Chalk Formation (Shlasko 2018, 4).

4.3.2 *Sampling and Processing Methods*

Samples were taken and processed by KDK Archaeology. All samples were completely processed using a flotation device. Flot was collected in a 300 micron mesh sieve then dried. The volume of each sample was not recorded.

Once with the author, the flots were scanned under a low powered stereo-microscope with a magnification range of 10 to 40x. The whole flots were examined. The abundance, diversity and state of preservation of eco- and artefacts in each sample were recorded. A magnet was passed across each flot to record the presence or absence of magnetised material or hammerscale.

Identifications were made using uncharred reference material (author's own and the Northern European Seed Reference Collection at the Institute of Archaeology, University College London) and reference manuals (such as Beijerinck 1947; Cappers *et al.* 2006; Charles 1984;

Fuller 2007; Jacomet 2006). Nomenclature for plants is taken from Stace (Stace 2010). Latin names are given once and the common names used thereafter. Low numbers of non-charcoal charred plant macro-remains were counted. Uncharred plant remains, fauna and magnetic fragments were given estimated levels of abundance unless, in the case of seeds, numbers are very low, in which case they were counted.

At this stage numbers given are estimates, but where only one item is present that has been noted. Identifiable charred wood >4mm in diameter has been described as that. Charred wood <4mm diameter are described as 'flecks'. Samples this size are easier to break to reveal the cross-sections and diagnostic features necessary for identification and are less likely to be blown or unintentionally moved around the site (Asouti 2006, 31; Smart and Hoffman, 1988, 178-179). Fragments smaller than this and larger then 2mmØ were scanned in case any fragments of twig or roundwood survived.

4.3.3 *Results*

4.3.3.1 The Plant Remains (see table 2 below)

Table 2: Plant Macro-Remains in Samples

Sample	Context	Sample Type	Charred grains			Charred seeds			Nutshell fragment	Grain tissue	Charcoal>4mmØ	Charcoal <4mmØ	Dried waterlogged Seeds			Modern root/rhizomes
			a	d	p	a	d	p	a	a	a	a	a	d	p	a
2	127	Ditch [126]	2	1	3	-	-	-	-	-	1	3	-	-	-	3
3	129	Ditch terminus [128]	2	1	3	1	1	1	1	1	1	3	1	1	3	3
4	169	Pit [168]	2	1	3	1	1	2	-	-	1	3	-	-	-	3

Key: a = abundance [1=occasional1-10,2=moderate 11-100 and 3= abundant>100;
d = diversity [1=low1-4 taxa types, 2=moderate5-10,3= high;
p = preservation [1 = poor (family level only), 2= moderate (genus), 3= good (species identification possible)

Identifiable charcoal fragments and moderate quantities of charred grains were found in each sample. These were mostly grains of bread/club/rivet (*Triticum aestivum/durum/turgidum* L.) wheat. A possible rye (*Secale cereale* L.) grain was found in pit [168] and a poorly preserved straight barley (*Hordeum vulgare* L.) grain was found in ditch terminus [128]. Ditch terminus [128] also contained a nutshell fragment and a poorly preserved fragment resembling that of a large legume. Low numbers of vetch/pea (*Vicia/Pisum* sp.) and a broad bean (*Vicia faba* L.) fragment were found in pit [168].
Uncharred, possibly intrusive seeds of the damp ground plant marshwort (*Apium* sp.) and hedgerow/scrub plant dog's mercury (*Mercuralis perennis* L.).

Due to no sample volumes being recorded, it was not possible to calculate and compare the density of plant remains for each sample but sample sheets for each sample described them as being made up of four bags and being '<40L'. If one assumes that the samples are 40L samples it is possible to estimate the density of plant remains in them by dividing the estimated number of plant macro-remains other than charcoal flecks and modern root/rhizome fragments in a sample by the number of litres taken for that sample. At this

stage, plant macro-remains are not counted, as they are at analysis level, so estimated amounts were calculated by giving a value of 1- to and abundance of '1' and of 100 to an abundance of '2'. Although these are estimates they help give an idea of the productivity of the samples. Each sample has very low to low density. These levels of density could mean that the plant macro-remains entered the deposits as wind-blown accidental additions to a deposit in a feature they have no relation to or are background waste from activities taking place at the site (Nicholson 2014, 158).

4.3.3.2 Fauna

Terrestrial mollusca were found in each sample in moderate amounts. Among these were low to moderate numbers of the terrestrial snail *Ceciliodes acicula* (Müller). Ditch [126] contained low numbers of freshwater snail shells. Ditch terminus [128] contained an earthworm cocoon. 12 bone fragments were found in ditch [126] while digging or processing that sample. Ditch terminus [128] contained low numbers of unburnt bone. Pit [168] contained one fragment of charred bone.

4.3.3.3 Inorganic Remains

Angular unburnt gravel dominated each sample. No hammerscale was present. One piece of iron was found in ditch [126] while digging/processing that sample. A single potsherd each was found in ditch terminus [128] and [it [168] while digging/processing those samples.

4.3.4 *Discussion*

4.3.4.1 Biases in Recovery, Residuality, Contamination

The sample sheets describe contamination as being low. The samples do contain evidence for bioturbation in the form of modern root/rhizomes and terrestrial snails. All samples contained low to moderate numbers of the terrestrial snail *Ceciliodes acicula* (Müller). This snail burrows well below the ground surface (Kerney & Cameron 1979, 149). The earthworm cocoon in ditch terminus [128] is indicative of earthworm activity. Worm action can carry small items such as seeds and small stones up to a metre down into the soil (Canti 2003, 143). These items can be indicative of bioturbation and oxygenation of the soil. Conditions like these tend to create aerobic preservation conditions that are biased towards the survival of charred plant remains and uncharred plant remains with robust testas as evident in the samples. Due to the evidence of bioturbation It is possible that the uncharred seeds are intrusive.

4.3.4.2 Quality and type of preservation

Plant macro-remains were preserved by charring. No plant remains were preserved by mineralisation (Green 1979, 281) or silicification (Robinson and Straker 1990), which means that there is no archaeobotanical evidence for the cess disposal or slow-burning aerated fires. A low number of uncharred, possibly dried waterlogged seeds were found but these may be intrusive.

Charring of plant macrofossils occurs when plant material is heated under '…reducing conditions…' where oxygen is largely excluded (Boardman and Jones 1990, 2) leaving a carbon skeleton resistant to biological and chemical decay (Campbell *et al* 2011,17). These conditions can occur in a charcoal clamp, the centre of a bonfire or pit or in an oven or when a building burns down with the roof excluding the oxygen from the fire (Reynolds, 1979, 57).

4.3.4.3 Potential

The density of charred plant remains in these samples is low to very low so likely to be general background waste from activities in the area or wind-blown, accidental deposits rather than evidence of feature use.

It is also important to use caution when interpreting low numbers of charred plant remains or assemblages with low to very low density because of the following factor. A study of intrusion and residuality in the archaeobotanical record for southern and central England (Pelling *et al*. 2015), where preservation conditions are similar to those encountered in much of the East of England, has highlighted the problem of assigning charred plant remains such as these to the dated contexts they were taken from because it is possible that these durable charred plant remains survived being moved between contexts by human action and bioturbation so cannot be properly interpreted unless radiocarbon dates are gained from the plant macro-remains themselves. That is the only way to secure a genuine date for the charred plant macro-remains like these (Pelling *et al.* 2015, 96).

Each sample contains items that have the potential to be radiocarbon dated. In the case of charcoal, these fragments would have to be identified to select suitable taxa. The charred plant remains have the potential to reveal general information about diet, crop husbandry and feature function.

If the date of these charred plant remains can be proven they may add to information about activities taking place in the area of the excavation. The plant macro-remains in these samples are typical of those commonly found in medieval samples in Britain (Van Der Veen *et al* 2013,160).

4.3.4.4 Significance of the Samples and Recommendations for Further Work

The excavation revealed evidence of medieval activity and that this area was agricultural or open land with the ditches being drainage ditches for an area vulnerable to flooding (Shlasko 2018, 40). These plant macro-remains are present in low density so likely to be general background waste form activities in the area rather than evidence of feature use. If they ca be proven to be medieval then they have local and regional significance.

It may be also possible to compare archaeobotanical work here with previous work at Green End Farm by Archaeological Solutions in 2017 (Shlasko 2018, 11) but a search of the grey literature for Archaeological Solutions did not contain the report for that intervention (Archaeological Solutions 2018; University of York 2018). It would be interesting to know if any environmental work took place then and what the results were. This would help to determine the significance of these finds.

Further work would be useful on these charred plant remains only if they can be securely dated and if the bulk sample sizes can be given. If the '<40L' sizes are much smaller than the density of charred plant remains may be much higher and mean that these charred assemblages came from a single activity related to the feature. But as they currently stand, they probable arrived in soil used to backfill the features or as wind-blown or accidental inclusions on features with which they had no relation.

4.3.5 *Acknowledgements*

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4.3.6 *References*

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Appendix 5: OASIS and Site Data

PROJECT DETAILS			
Project Name & Address	Land at Green End Farm, Arlesey, Bedfordshire	**Project Site Code**	361/AGE
OASIS reference	Kdkarcha1-306970	**Event/Accession no**	BEDFM 2018.09
OS reference	TL 1922 3538	**Study area size**	1135.63 sq. m
Project Type	Strip, map and sample	**Height (mAOD)**	44
Short Description	In February and March 2018, KDK Archaeology Ltd undertook a programme of Strip, Map and Sample excavation of Land at Green End Farm, Arlesey, Bedfordshire. The project was required under the terms of the National Planning Policy Framework (NPPF) and as a condition of planning permission. The investigations revealed a number of ditches, pits and gullies across the site, with artefactual evidence of land use beginning in the early medieval period. These features seem to reflect an agricultural use for the site, with a predominance of drainage ditches, sumps and land drains, along with two larger site boundaries. Early maps corroborate this interpretation, showing the site on the periphery of settlement.		
Previous work	Edwards N. 2017. Green End Farm, 1 Hitchin Road, Arlesey, Bedfordshire, SG15 6RP: Heritage Statement, Archaeological Evaluation. Archaeological Solutions Ref: 5387	**Site status**	None
Planning proposal	Erection of two detached bungalows	**Current land use**	Garden
Local Planning Authority	Central Bedfordshire Council	**Planning application ref.**	CB/17/01552/FULL
Monument type	Ditches, gullies, pits	**Monument period**	Medieval-modern
Significant finds	Pottery, CBM, animal bone	**Future work**	Unknown

PROJECT CREATORS			
Organisation	KDK Archaeology Ltd		
Project Brief originator	CBCAT	**Project Design originator**	KDK Archaeology Ltd
Project Manager	Carina Summerfield-Hill MSc ACIfA	**Director/Supervisor**	David Kaye BA ACIfA
Sponsor/funding body	PRJ Developments		

PROJECT DATE			
Start date	21.02.18	**End date**	03.04.18

PROJECT ARCHIVES		
	Location	**Content (eg. pottery, animal bone, files/sheets)**
Physical	Higgins Art Gallery and Museum, Bedford	Pottery, CBM, animal bone
Paper		WSI, report, site records, b&w photographs and negatives
Digital		Digital versions of all of the above onto a CD

BIBLIOGRAPHY (Journal/monograph, published or forthcoming, or unpublished client report)			
Title	Strip, Map and Sample: Land at Green End Farm, Arlesey, Bedfordshire		
Serial title & volume	361/AGE/2.1		
Author(s)	Ellen Shlasko PhD		
Page nos	61	**Date**	17.08.2018