



Pre-planning Archaeological Test Trenching Report

Back Road & Kinsealy Lane, Kinsaley,
Broomfield, Malahide,
County Dublin

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NON-TECHNICAL SUMMARY

This report describes the results of a programme of pre-planning Licensed archaeological test trenching undertaken at Broomfield, Kinsaley and Malahide townlands, Malahide, County Dublin.

Test trenching was carried out by Dermot Nelis and Colm Flynn (Licensed archaeologists) between 18th March and 1st July 2020, and in total took 18 days to complete.

The proposed development will be divided into two separate areas, the Northern Area and the Southern Area, and a Strategic Housing Development (SHD) is proposed for these lands. The overall site area measures 12.5 ha.

Test trenching revealed four possible archaeological features (a pit, a hearth/burnt pit, and two possible enclosure ditches) in two fields (Field 1 and Field 5).

A pit was identified towards the northern end of Field 1. A hearth/burnt pit was identified at the northern end of Field 5, although this feature appears to have been disturbed by ploughing activity. The geophysical survey indicated the presence of two previously unrecorded possibly plough-damaged enclosures in Field 5. A possible ditch in the eastern-most enclosure contained animal bone, and stone in the fill may represent packing material. This tentatively suggests that this feature may have functioned as a slot-trench which supported upright wooden posts. A linear feature, also in the eastern-most enclosure, took the form of a possible shallow ditch, and the single fill contained occasional animal bone fragments and two sherds of 18th/19th century glazed red earthenware. The recovery of 18th/19th century pottery however suggests that interpretation of this feature as an enclosure ditch is tentative. The western-most possible enclosure is represented by the badly plough-damaged remains of a probable ditch.

No environmental evidence was revealed during the test trenching exercise, and no additional archaeological features or artefacts were revealed as a result of carrying out the test trenching. With the exception of the hand-excavated sections, all archaeological features have been preserved *in situ*.

It is recommended that all archaeological features revealed during the test trenching programme in Field 1 and Field 5 be fully excavated and recorded well in advance of groundworks commencing on site. Excavation would be carried out under Licence to the Department of Housing, Local Government and Heritage and the National Museum of Ireland.

It is recommended that monitoring of all groundworks be undertaken in Fields 1, 2 and 5. Monitoring would be carried out under Licence to the Department of Housing, Local Government and Heritage and the National Museum of Ireland. Provision would be made for the full excavation and recording of any archaeological features or deposits that may be exposed during monitoring.

It is considered monitoring is not required in Fields 3, 4, 6, 7, 8, 9 and 10 as fieldwork failed to reveal any archaeological features or artefacts in these areas.

1 INTRODUCTION

1.1 General

This report describes the results of a programme of pre-planning archaeological test trenching undertaken at lands on Back Road & Kinsealy Lane, Kinsaley, Broomfield, Malahide, County Dublin (figure 1; Ordnance Survey Sheets 012 and 015).

Test trenching was carried out by Dermot Nelis and Colm Flynn (Licensed archaeologists) between 18th March and 1st July 2020, and in total took 18 days to complete. It required the use of one machine fitted with a 1.8m wide flat bucket under constant archaeological supervision.

A 1km study area has been imposed around the proposed development for the purpose of establishing the archaeological and historical background of the area of land take (figure 7).

Archaeological test trenching is defined as:

“that form of excavation where the purpose is to establish the nature and extent of archaeological deposits and features present in a location which it is proposed to develop (though not normally to fully investigate those deposits or features) and allow an assessment to be made of the archaeological impact of the proposed development” (Department of Arts, Heritage, Gaeltacht and the Islands 1999, 27).

1.2 The Development

The proposed development will be divided into two separate areas, the Northern Area and the Southern Area, and a Strategic Housing Development (SHD) is proposed for these lands (figure 2). The area of land take required for the Northern Area is shown on figures 3 and 5, while the area of land take required for the Southern Area is shown in figures 4 and 6. The overall site area measures 12.5ha (11.1ha developable lands).



Figure 1: Site location

1.3 Previous Archaeological Fieldwork

A geophysical survey (Licence 18R0101) was carried out by Joanna Leigh within the proposed development area in June 2018. The survey was undertaken to locate and identify any potential archaeological responses within the area of land take. In summary, the geophysical survey in the Northern Area revealed the presence of a probable plough-damaged enclosure, along with the presence of a second possible small enclosure. In the Southern Area, linear trends suggest probable former field divisions, although not all of the Southern Area could be surveyed due to the presence of a crop in the southern field. Results of the geophysical survey are discussed in detail below (see **Site-Specific Archaeological Fieldwork**, pp. 29-32).



Figure 2: Site plan showing Northern Area and Southern Area



Figure 3: Northern Area proposed site layout

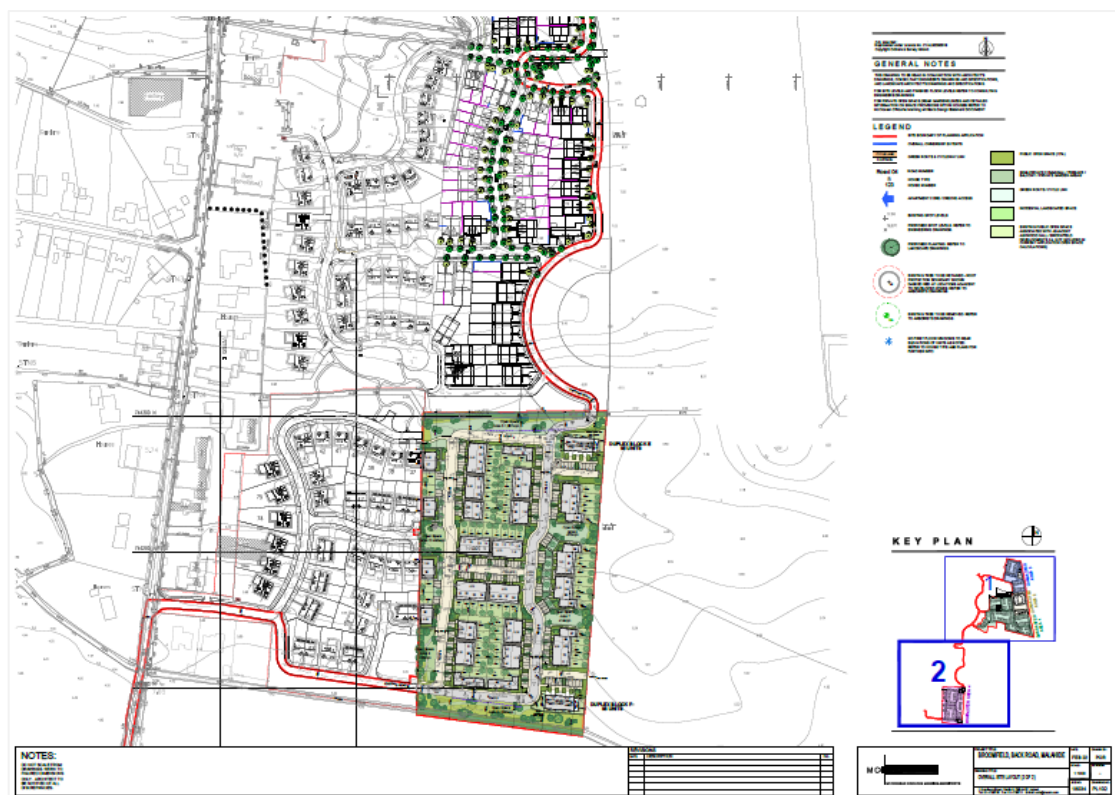


Figure 4: Southern Area proposed site layout



Figure 5: Aerial photograph of the subject lands

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

2.1 Site-Specific Background

During the Mesolithic period (c. 7000-4000 BC) people existed as hunters/gatherers, living on the coastline, along rivers and lakesides. They used flint and other stones to manufacture sharp tools, and locating scatters of discarded stone tools and debris from their manufacture can sometimes identify settlements. The native landscape consisted of woodland with hazel, oak, ash and Scot's pine as the primary species and Mesolithic hunting groups made no significant impact on the landscape.

Late Mesolithic and Neolithic fish traps were discovered during archaeological monitoring of development works on reclaimed land on the north bank of the River Liffey in 2004 (at depths of approximately -6m OD and -4m OD, respectively) (McQuade and O'Donnell 2007, 569-584). A Mesolithic shoreline was revealed and

the remains of up to five wooden fish traps were excavated. The fish traps were constructed almost exclusively of hazel (*Corylus avellana*), and while fragmentary, were in a relatively good state of preservation, with tool marks in evidence. Radiocarbon determinations from five wood samples returned a date range of between 6,100 – 5,720 cal BC, suggesting that these are the earliest fish traps recorded in Ireland or Britain.

The population became more settled during the Neolithic period (c. 4000-2400 BC) with a subsistence economy based on crop growing and stock-raising. This period also saw changes in burial practices, and a tradition of burying the dead collectively and carrying out of cremations emerged. Neolithic monuments from County Dublin include portal, passage and wedge tombs.

By the 4th millennium BC a farming economy was developing that involved forest clearance. Archaeological and pollen records show an increasingly settled landscape with some fixed field boundaries for livestock and cereal production. While farming did spread throughout the country, the preference was for light soils and upland margins with free draining soils and light woodland cover. Extensive use of the productive though heavy soils of the poorly drained central lowlands was restricted by virtue of the limitations of available tools and technology.

The Bronze Age (c. 2400-600 BC) is characterised by the introduction of metalworking technology to Ireland and coincides with many changes in the archaeological record, both in terms of material culture as well as the nature of the sites and monuments themselves. Though this activity has markedly different characteristics to that of the preceding Neolithic period, including new structural forms and new artefacts, it also reflects a degree of continuity. During this period knowledge of metalworking was acquired resulting in changes in material culture such as the introduction of metal tools and artefacts, as well as the introduction of a highly decorated pottery called Beaker pottery. In addition to changes in material culture, there were changes in burial rite from communal megalithic tombs to single burial in cists.

Bronze Age monuments from County Dublin include standing stones, stone pairs, cairns, barrows and *fulachta fiadh*, which are one of the most numerous monument type in Ireland with over 4,500 examples recorded (Waddell 2005, 174).

RMP DU015-131 and DU015-132 are recorded as ring-ditches, and both are located approximately 920m south east of the Southern Area in Hazelbrook townland (figure 7). Both sites are recorded (www.archaeology.ie) as cropmarks on aerial photographs. (Cropmarks are earthworks that have been removed above-ground and due to subsoil conditions are revealed through aerial photography).

Ring-ditches are interpreted as being the likely remains of ploughed-out ring-barrows, especially when they occur in groups of two or more as ring-barrows sometimes do, forming small cemeteries. Ring-barrows are circular mounds of earth surrounded by a ditch with an external bank. The mounds were usually quite low and were often no higher than the surrounding bank (Waddell 2005, 365). Ring-barrows are widely distributed, and while they vary in size most seem to range in overall diameter from approximately 15m to 25m. The limited evidence of circular ring-barrows and ring-ditches indicates cremation-type burials from the later centuries BC and early centuries AD, with the occasional deposition of small token deposits of bone (*ibid.*, 368). There are 113 ring-ditches recorded in County Dublin (www.archaeology.ie).

During the Iron Age (c. 600 BC-400 AD) new influences came into Ireland which gradually introduced the knowledge and use of iron, although for several centuries bronze continued to be widely used. The Iron Age in Ireland however is problematic for archaeologists as few artefacts dating exclusively to this period have been found, and without extensive excavation it cannot be determined whether several monument types, such as ring-barrows or standing stones, date to the Bronze Age or Iron Age. Most knowledge for this period stems from Irish folklore, the epic poems and legends of warrior kings and queens which are traditionally believed to be Celtic in origin. These stories however come from an oral society and were first recorded by Early Medieval monks.

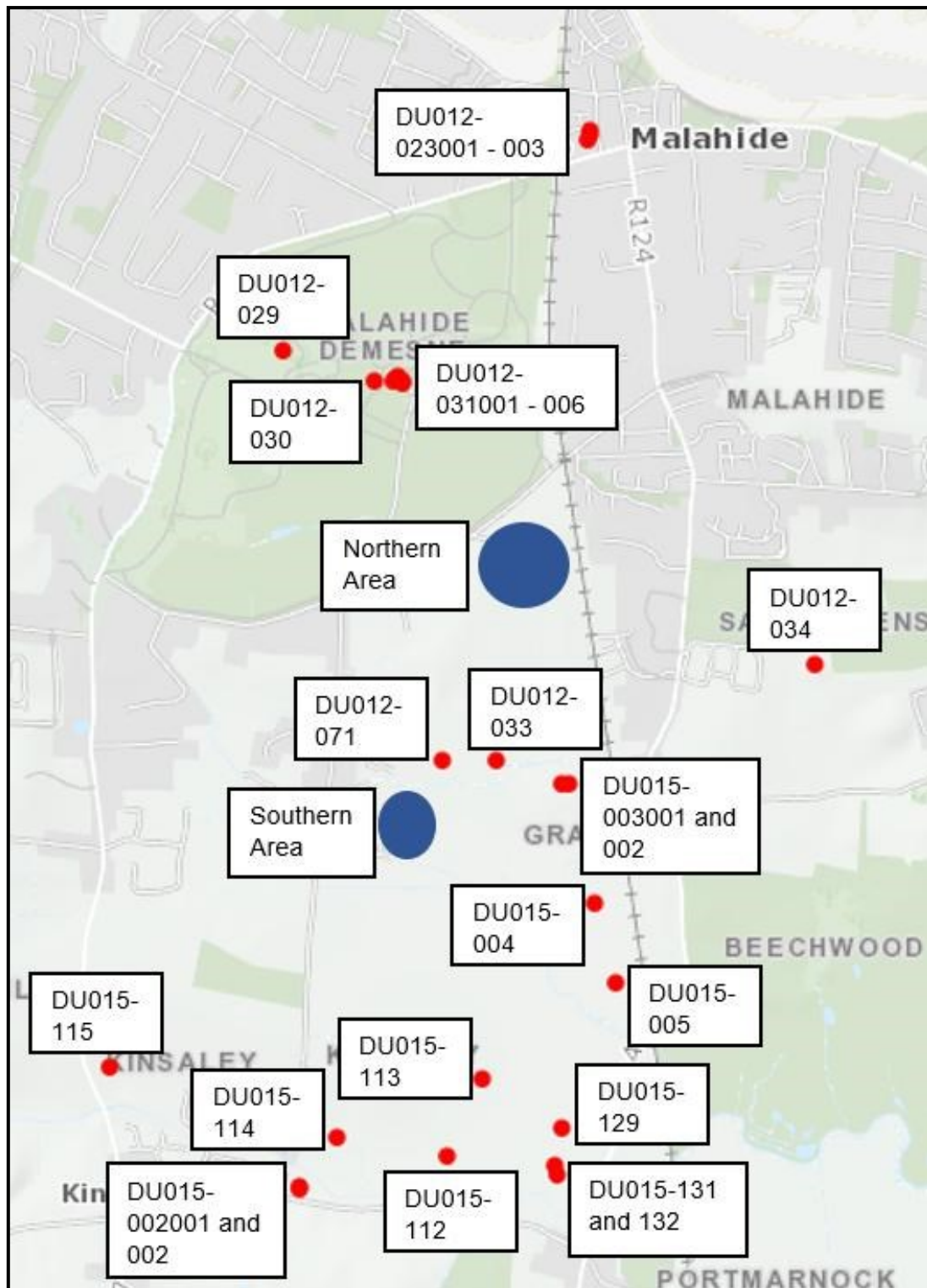


Figure 7: RMP sites within the 1km study area

The Early Medieval period (c. 400-1169 AD) is depicted in the surviving sources as entirely rural, characterised by the basic territorial unit known as *túath*. Walsh (2000, 30) estimates that there were at least 100, and perhaps as many as 150, kings in Ireland at any given time during this period, each ruling over his own *túath*.

Archer (1975, 7) equates the area of North Dublin with the ancient plain of Magh-Mhuireadha, within the sub-kingdom of Brega. Brega was under the control of the Saithne, a branch of the Cianachta tribe, whose seat was at Balrothery in north Dublin (Ryan 1949, 67). The Cianachta were said to have received these lands from the 3rd century High King Cormac MacArt, in return for services against Ulster (*ibid.*), suggesting their domination of the area was long-standing and undisputed. By the 8th century, both the Cianachta and the Gailenga were subject to the powerful sept of the Southern Uí Néill who had gained control of the kingdom of Brega (Ryan 1949, 67; Byrne 2001, 68-69).

One of the principal thoroughfares of Early Medieval Ireland – the *Slighe Cualann* – ran northwards from Dublin to the west of the general development area, near Feltrim Hill, and a branch of this is said to have run eastwards from Feltrim, through the area of Malahide Demesne to Seamount Heights and southwards to Howth (Kennedy 1984, 49). The presence of a principal routeway, the proximity of the coast and the general fertile nature of the land would have made the area very attractive for settlement in the Early Medieval period.

During this turbulent period roughly circular defensive enclosures known as ringforts were constructed to protect farmsteads. They were enclosed by an earthen bank and exterior ditch, and ranged from approximately 25m to 50m in diameter. The smaller sized and single banked type (univallate) was more than likely home to the lower ranks of society, while larger examples with more than one bank (bivallate/trivallate) housed the more powerful kings and lords. They are regarded as defended family homesteads and the extant dating evidence suggests they were primarily built between the 7th and 9th centuries AD (Stout 1997, 22-31). Cashels are stone built and are generally situated in coastal or mountainous areas.

The ringfort is considered to be the most common indicator of settlement during the Early Medieval period. Detailed study (*ibid.*, 53) has suggested that there is an approximate total of 45,119 potential ringforts or enclosure sites throughout Ireland.

There are four ringforts recorded within the 1km study area. RMP DU015-003001 and RMP DU015-003002 are located in Grange townland, approximately 300m east of the Southern Area (figure 7). RMP DU015-003001 is recorded (www.archaeology.ie) as the cropmark of a single-ditched enclosure, roughly circular in plan and measuring c.

45m in diameter. RMP DU015-003002 is also recorded as cropmark evidence for a sub-circular enclosure measuring approximately 55m east/west x 45m north/south. This feature is recorded on the First Edition (1844) Ordnance Survey map. Neither of these monuments are visible at ground level, and both are interpreted as the below-ground remains of ploughed-out ringforts. Local folklore identifies these ringforts as the stronghold of Hamund MacTorcaill, brother of the last Norse Earl or king of Dublin (Kennedy 1984, 55).

RMP DU015-004 is located in Grange townland, approximately 450m south east of the Southern Area (figure 7). It is recorded on the First Edition Ordnance Survey map (1844) as a univallate enclosure with a centrally located internal feature which may have been a house site. It is interpreted as the remains of a ploughed-out ringfort and is not visible at ground level.

RMP DU015-005 is recorded approximately 600 south east of the Southern Area in Grange townland (figure 7). It is recorded (www.archaeology.ie) as a platform ringfort comprising a circular raised area with slight traces of a bank around the perimeter and an external ditch at the base. There is an entrance ramp in the south east corner.

Enclosure sites belong to a classification of monument whose precise nature is unclear. Often they may represent ringforts, which have either been damaged to a point where they cannot be positively recognised, or are smaller or more irregular in plan than the accepted range for a ringfort. An Early Medieval date is in general likely for this site type, though not a certainty.

There are six enclosures recorded within the 1km study area (figure 4). RMP DU012-071 is located in Kinsaley townland, approximately 60m north of the Southern Area (figure 7), and is recorded (www.archaeology.ie) as a circular enclosure visible as a cropmark which does not survive above-ground. A 1995 black and white aerial photograph (www.map.geohive.ie) shows it as measuring approximately 60m-70m in diameter east/west and with a minimum north/south measurement of approximately 50m. An east/west oriented band of differential growth is noted extending across the northern end of the enclosure on the 1995 aerial photograph, and this may be the remains of an associated field boundary. This feature is also clearly visible on more recent aerial photography (www.bing.com/maps).

RMP DU012-033 (figure 7) is located in Broomfield townland, approximately 160m north east of the Southern Area. A 1997 aerial photograph records the cropmark of a sub-circular enclosure measuring approximately 20m in diameter and with internal features. This feature does not survive above-ground (www.archaeology.ie).

RMP DU015-112 is located approximately 800m south of the Southern Area in Kinsaley townland (figure 7). It is recorded as a circular enclosure on an aerial photograph, and does not survive above-ground (www.archaeology.ie). It is located on a low east/west rise at a relatively low point compared to the surrounding landscape. It is noted (www.archaeology.ie) that other below-ground features are also visible on the aerial photograph, and that these might represent a field system (RMP DU015-113). (Field systems are a group or complex of fields which appear to form a coherent whole, and which may date to any period from the Neolithic (c. 4000-2400 BC) onwards. The enclosed land could have been used for stock-raising, plant husbandry and crop protection. The fields vary in size and it is possible that many of them are more extensive than currently thought. A wide range of monuments, such as barrows, ringforts, enclosures, souterrains, hut sites, ecclesiastical remains *etc.*, can be found inside field systems).

RMP DU015-114 is located approximately 800m south of the Southern Area in Kinsaley townland (figure 7). Like RMP DU015-112 which is located 300m to the east, it is recorded (www.archaeology.ie) as a roughly circular enclosure visible as a crop mark on an aerial photograph. Again, it is located on a low east/west rise at a relatively low point compared to the surrounding landscape.

RMP DU015-115 is the third enclosure recorded within the study area on aerial photography in Kinsaley townland. It is located approximately 980m south west of the Southern Area (figure 7), and no above-ground evidence for the site survives (www.archaeology.ie).

RMP DU015-129 is located 810m south east of the Southern Area in Hazelbrook townland (figure 7). It takes the form of a sub-circular enclosure visible as a crop mark on an aerial photograph, and is in the same field as RMP DU015-131 and RMP DU015-132 (ring-ditches) (www.archaeology.ie). It is located on a low east/west rise at a relatively low point compared to the surrounding landscape

The classification of archaeological monuments is often made difficult by their condition, whether it be the result of deliberate destruction, trampling by livestock or natural weathering and erosion. The term “*earthwork*” is used to denote any monument or feature of artificial origin which cannot be further categorised without excavation. The term “*earthwork site*” indicates sites which were levelled before detailed archaeological inspection took place. The majority of such sites may be levelled or destroyed ringforts.

An earthwork (RMP DU012-029) is recorded approximately 820m north west of the Northern Area in Malahide Demesne townland (figure 7). Formerly located within the ornamental grounds of Malahide Demesne, the site originally consisted of an earthen platform approximately 17m in diameter, enclosed by a 3m-4m wide ditch, a c. 2m wide bank and an outer ditch measuring 3m-4m in width and 1m deep (www.archaeology.ie).

The Early Medieval period is also characterised by the foundation of a large number of ecclesiastical sites throughout Ireland in the centuries following the introduction of Christianity in the 5th century AD. The early churches tended to be constructed of wood or post-and-wattle. Between the late 8th and 10th centuries mortared stone churches gradually replaced the earlier structures. Many of the sites, some of which were monastic foundations, were possibly originally defined by an enclosing wall or bank similar to that found at coeval secular sites. This enclosing feature was probably built more to define the sacred character of the area of the church than as a defence against aggression. An inner and outer enclosure can be seen at some of the more important sites; the inner enclosure surrounding the sacred area of church and burial ground and the outer enclosure providing a boundary around living quarters and craft areas. Where remains of an enclosure survive it is often the only evidence that the site was an early Christian foundation.

A church (RMP DU012-031001) is located in the grounds of Malahide Castle, approximately 500m north west of the Northern Area in Malahide Demesne townland (figure 7). It contains a nave and chancel with a sacristy attached to the south east corner. There are stepped battlements on the side walls of the nave. Built of coursed, well-mortared limestone masonry, there are buttresses against the west gable either side of the window and a batter or buttress in the south west corner. The church is entered towards the west end of the nave through opposed doorways with pointed arches, chamfered jambs and a hood moulding. The interior is lit by a triple light, ogee-

headed west window of 15th century date and two double-light tracery windows in the east end. Above the west gable is a triple bellcote with steps leading up to it. The chancel is entered through a pointed, segmental chancel arch. There are wide, flat-arched windows in the south wall. The east window is a large, limestone, triple-light, tracery window. The sacristy is entered off the chancel into a vaulted ground floor with wall presses. There is an external stairs to first floor which contains a fireplace and wall presses in the east wall. A possible sheela-na-gig (RMP DU012-031003) is located at the exterior east gable wall of the Medieval church. Another sheela-na-gig (RMP DU012-031002) is built into a quoin at the north east angle of the chancel of the church. Both features are of sandstone and show evidence of having been worked to fit their present location.

A graveyard (RMP DU012-031006) is located in the grounds of Malahide Castle and surrounded by farm buildings. It is a relatively small sub-circular graveyard measuring approximately 45m north/south x 40m east/west and is enclosed by a battlemented wall. It is raised in the centre and dominated by the Medieval church (RMP DU012-031001). There are low headstones of 19th/20th century date.

The apex on the exterior of the south door of the Medieval church contains a carving of a "mitred head" (RMP DU012-031004). Located inside the church is an altar tomb (RMP DU012-031005) dedicated to Maud Plunkett (died 1494) with a recumbent effigy of a female figure in a horned cap.

A Medieval church (RMP DU015-002001) is located approximately 970m south of the Southern Area in Kinsaley townland (figure 7). It is recorded (www.archaeology.ie) as a plain, rectangular building, aligned east/west and built of random rubble masonry. Only the nave survives, and internal dimensions are 10.25m in length x 5.10m in width and the walls are 0.95m thick. There are opposed pointed segmental arched doorways in the west end of the nave. The interior is lit by narrow slit opes on the south wall and a tall round arched window at loft level in the west gable which contains a double bellcote. The chancel arch is all that survives of the chancel, and it is of pointed segmented type.

A rectangular walled graveyard (RMP DU015-002002) encloses the remains of the Medieval church. There is a kink in the wall along the south east boundary which possibly indicates the former existence of an earlier enclosure. There are 19th and 20th century memorials within the graveyard (www.archaeology.ie).

A Medieval church (RMP DU012-023002) is reputed to have existed on the present site of St. Sylvester's Catholic church (www.archaeology.ie). The site is located approximately 1km north of the Northern Area (figure 7). Test trenching (Licence No. 10E0426), undertaken in advance of an extension to the modern church, revealed two Post-Medieval masonry walls which were interpreted as the remains of the early 19th century church building that previously occupied the site. A small undated pit/drainage gully and a silty deposit that may date from the Medieval period were also identified. No burial remains were uncovered. A second phase of test trenching on the site (Licence No. 11E0326) uncovered Medieval structural remains, a ditch, pits and 18th/19th century masonry walls.

RMP DU012-023001 is a holy well, traditionally called "*Sunday Well*" or "*(St.) Sylvester's Well*", located in a square at the rear of St. Sylvester's Church. The well is covered by a conical stone-built superstructure, and access is from a flight of steps. Pattern day is on August 15th. A modern stone plaque at the foot of the well is inscribed: "*St Sylvester's well ca. AD 430, restored 2001*" (www.archaeology.ie).

Tradition also notes that an earthwork or mound (RMP DU012-023003) existed on the present site of St. Sylvester's Catholic church (www.archaeology.ie). The recovery of Medieval pottery from the site during the above-mentioned test trenching exercises is interpreted as some level of activity taking place on the site or in the vicinity during the 13th or 14th centuries. It is possible the pottery sherds could relate to activity associated with the mound that once stood on the site, perhaps suggesting it may have been a motte or ringfort that was occupied for a considerable period of time.

The commencement of Viking raids at the end of the 8th century and their subsequent settlement during the following two centuries marked the first ever foreign invasion of Ireland. Viking settlement evidence is scarce and has been found in Cork, Dublin and Waterford, however excavations there have revealed extensive remains of the Viking towns. Outside these towns, understanding of Viking settlement is largely drawn from documentary and place-name evidence. In addition to Cork, Dublin and Waterford, documentary sources provide evidence for the Viking foundation of the coastal towns of Limerick and Wexford (Edwards 2006, 179). Other indirect evidence which suggests Viking settlement, or at least a Norse influence in Ireland, is represented by upwards of 120 Viking-age coin hoards, possible votive offerings of Viking style objects and the assimilation of Scandinavian art styles into Irish designs. While the initial Viking raids would have been traumatic, the wealth and urban expansion brought into the country

as a result of Viking trading would have eventually benefited the Gaelic Irish, and cultural assimilation in some parts would have been significant.

The late 8th and early 9th centuries saw the arrival of Viking raiders to the east coast of Ireland, with the islands and coastline of north Dublin being among the earliest casualties. Annalistic sources record Viking raids on Howth and the coast of Brega in 821 and Lusk in 824, 825 and 854 (Ryan 1949, 68; Kennedy 1984, 46). Within a short time the raiders had occupied the lands of Malahide and Howth and had assumed possession of Dublin to the south (*ibid.*).

The arrival of Anglo-Normans in Ireland towards the end of the 12th century caused great changes during the following century. Large numbers of colonists arrived from England and Wales and established towns and villages. They brought with them new methods of agriculture which facilitated an intensification of production. Surplus foods were exported to markets all along Atlantic Europe which created great wealth and economic growth. Results of this wealth can be seen in the landscape in the form of stone castles, churches and monasteries.

The political structure of the Anglo-Normans centered itself around the establishment of shires, manors, castles, villages and churches. In the initial decades after the Anglo-Norman invasion a distinctive type of earth and timber fortification was constructed—the motte and bailey. Mottes were raised mounds of earth topped with a wooden or stone tower while the bailey was an enclosure, surrounded by an earthen ditch with a timber palisade, used to house ancillary structures, horses and livestock. There are six motte and baileys recorded in County Dublin (www.archaeology.ie).

A motte and bailey (RMP DU012-034) is located approximately 630m east of the Northern Area in Sainthelens townland (figure 7). Located in level pasture, it is a flat-topped elongated mound with a flat-bottomed ditch enclosing the north side. There are indications of an intervening berm 2m in width. The ditch stops abruptly in the south where the ground is uneven, indicating the possible presence of a bailey (www.archaeology.ie).

In certain areas of Ireland Anglo-Norman settlers constructed square or rectangular enclosures, now termed moated sites. Their main defensive feature was a wide, often water-filled, fosse with an internal bank. As in the case of ringforts, these enclosures protected a house and outbuildings usually made of wood. They appear to have been

constructed in the latter part of the 13th century though little precise information is available. There are six moated sites recorded in County Dublin (www.archaeology.ie).

More substantial stone castles followed the motte and bailey and moated sites in the 13th and 14th centuries. Tower houses are regarded as late types of castle and were erected from the 14th to early 17th centuries. Their primary function was defensive, with narrow windows and a tower often surrounded by a high stone wall (bawn). An Act of Parliament of 1429 gave a subsidy of £10 to “*liege*” men to build castles of a minimum size of 20ft in length, 16ft in breadth and 40ft in height (6m x 5m x 12m). By 1449 so many of these £10 castles had been built that a limit had to be placed on the number of grants being made available. The later tower houses were often smaller, with less bulky walls and no vaulting. There are 61 tower houses recorded in County Dublin (www.archaeology.ie).

Malahide Castle (RMP DU012-030) is located approximately 560m north west of the Northern Area in Malahide Demesne townland (figure 7). It is associated with the Talbot family who were granted these lands by Henry II in 1174 (www.archaeology.ie). The Late Medieval core of the castle is largely masked by a re-build dating to c. 1760, which involved the construction of a long symmetrical wing with corner towers that enclosed the earlier castle. The castle was re-roofed and renovated in the 19th century.

The 14th century throughout north west Europe is generally regarded as having been a time of crisis, and Ireland was no exception. Although the Irish economy had been growing in the late 13th century, it was not growing quickly enough to support the rapidly expanding population, especially when Edward I was using the trade of Irish goods to finance his campaigns in Scotland and Wales. When the Great European Famine of 1315-1317 arrived in Ireland, brought about by lengthy periods of severe weather and climate change, its effects were exacerbated by the Bruce Invasion of 1315-1318. Manorial records which date to the early 14th century show that there was a noticeable decline in agricultural production. This economic instability and decline was further worsened with the onset of the Bubonic Plague in 1348.

Before the Tudors came to the throne the kings of England were also the kings of western France and so, during the 14th and 15th centuries, the various lords who ruled in Ireland were largely left to themselves. The Tudor conquest however brought a much greater interest in the affairs of Ireland. They wanted to put a stop to the raids of the Gaelic Irish on areas under English rule. To do this, they ruthlessly put down any rebellions and even quashed inter-tribal feuds. English settlers were then brought in to

settle their lands. The first of these plantations occurred in the mid-16th century in what is now Laois and Offaly. After the Desmond rising in Munster in 1585 came another plantation, and parts of south western Tipperary were planted at that time.

From 1593 until 1603 there was a countrywide war between the Gaelic Irish, who were supported by the French, and the Elizabethan English. The Irish were finally defeated and with the “*Flight of the Earls*” from Rathmullan, County Donegal in 1607, Ulster, which had previously been independent of English rule, was planted.

Austin Cooper writing in 1780 described Malahide as a “*very small Vile*” with a few cabins and a large strand at low tide (cited in Little 1948, 1-2). The Demesne was noted as having been recently “*modernised and improved*” (*ibid.*), suggesting expansion to its present limits, and the construction of Back Road may have already been completed. The incumbent Talbot at that time, Col. Richard Talbot, appears to have been an improving landlord, and is credited with the advance of industry in Malahide in the later 18th century (*ibid.*, 13). This was primarily based on the manufacture of cotton, although it was short-lived as by the end of the century the market for cotton had collapsed, resulting in the abandonment of plans to expand the industry and to link Malahide and Swords via canal (*ibid.*; Lewis 1837, Vol. II, 234).

By the early 19th century silk manufacture was still carried on in the town, while the harbour continued to export meal and flour and import coal (*ibid.*). Malahide was also a fishing town and particularly noted for its oysters, with which it supplied the city of Dublin (*ibid.*). Lewis described the town as pleasing, with “*many handsome cottages*”, although he noted a large number of these were only occupied seasonally as holiday homes (*ibid.*). Notwithstanding the arrival of the railway to Malahide in 1844 (Little 1948, 3), the town appears to have gone into decline in the later 19th century, and an account from 1912 describes it as “*a decayed watering-place which had attained an ephemeral popularity about sixty years ago*” (Joyce 1912, 280).

2.2 Toponyms

Townland names are important in understanding the archaeology, geology, land-use, ownership and cultural heritage of an area.

Broomfield means “*field of the broom*”.

Kinsaley translates from the Irish *Cionn Sáile* as “*head of the salt water or brine*”.

Malahide translates from *Mullach Íde* as “*Íde’s summit or hilltop*”.

2.3 Topographical Files of the National Museum of Ireland

The discovery of a stone axe-head is recorded in the Topographical Files from a field beside a house at Kinsaley Lane, which is to the west of the proposed development area. No additional information is available, as the axe was retained by the finder and does not form part of the Museum’s collections.

No other artefacts from Kinsaley townland are recorded in the Topographical Files.

A large quantity of flint artefacts was recovered from freshly ploughed fields in Broomfield townland in the 1960s. These appear as four separate collections from the years 1964, 1966 and 1968. NMI Ref. 1964:29-30 consists of 16 waste flakes, one blade and three cores, along with flint nodules, pebbles and a probable gunflint. These were recovered from an orchard in the northern part of the townland, most likely in the area of Ivy Grange, to the east of the railway line.

NMI Ref. 1966:42 is a fragment of a flint side-scraper, noted as a surface find. It was further noted that in the same area the sawn tooth of a sperm whale and a fragment of tortoiseshell were also recovered, although these were considered to be of relatively modern origin and were therefore not retained by the Museum.

There are two collections recorded from 1968. NMI Ref. 1968:151-171 includes two stone axeheads, along with 72 flint and chert artefacts and a small number of miscellaneous finds of uncertain date. The flint and chert artefacts included scrapers, blades, flakes and cores, while some 58 were later noted as “*waste flakes, cores and chips of flint*” (Lucas 1971), suggesting flint-working had occurred in the vicinity. These artefacts, along with those presented to the National Museum in 1964 and 1966, are part of a more extensive collection of flint artefacts from the Malahide area recovered by the antiquarian Noel Flanagan. It is likely the Broomfield finds were recovered from lands close to his home, in the north of the townland. Indeed, the provenance for most of these finds is recorded at the northern end of the townland, while two flint flakes (NMI Ref. 1968: 159-160) were found in the north west of the townland, to the west of the railway line.

The second collection acquired by the National Museum in 1968 (NMI Ref. 1968:174-184) consists of 91 flint artefacts recovered as surface finds within Broomfield townland. As with the first collection, a large number of these artefacts are considered to be waste material from flint-working, along with flint cores, flakes and scrapers. No find-spots within Broomfield townland were recorded for the second collection.

A number of finds have also been recovered from test trenches excavated within Malahide Demesne, including a polished stone axehead (NMI Ref. 2012:17), Medieval pottery (NMI Ref. 2012:19), a clay pipe stem (NMI Ref. 2012:20) and associated animal bone (NMI Refs. 2012:18 and 2012:21).

2.4 Cartographic Analysis

Ordnance Survey Map First Edition 1:10,560 1844 (figure 8)

Northern Area

The First Edition 1:10,560 Ordnance Survey map records the Northern Area as part of six fields, with part of the western and southern ends being shown as townland and parish boundaries. Research suggests that:

“hoards and single finds of Bronze Age weapons, shields, horns, cauldrons and gold personal objects can all be shown to occur on boundaries” (Kelly 2006, 28).

The “*Dublin and Drogheda Railway in Progress*” is recorded as forming the eastern boundary of the proposed area of land take. The eastern-most area of land take is recorded as part of Broomfield House demesne, which is noted in the National Inventory of Architectural Heritage (www.buildingsofireland.ie) as having “*virtually no recognizable features*”.

Southern Area

The Southern Area is recorded as part of three fields, with a generally east/west oriented path extending across the proposed development area towards Kinsaley Lane.

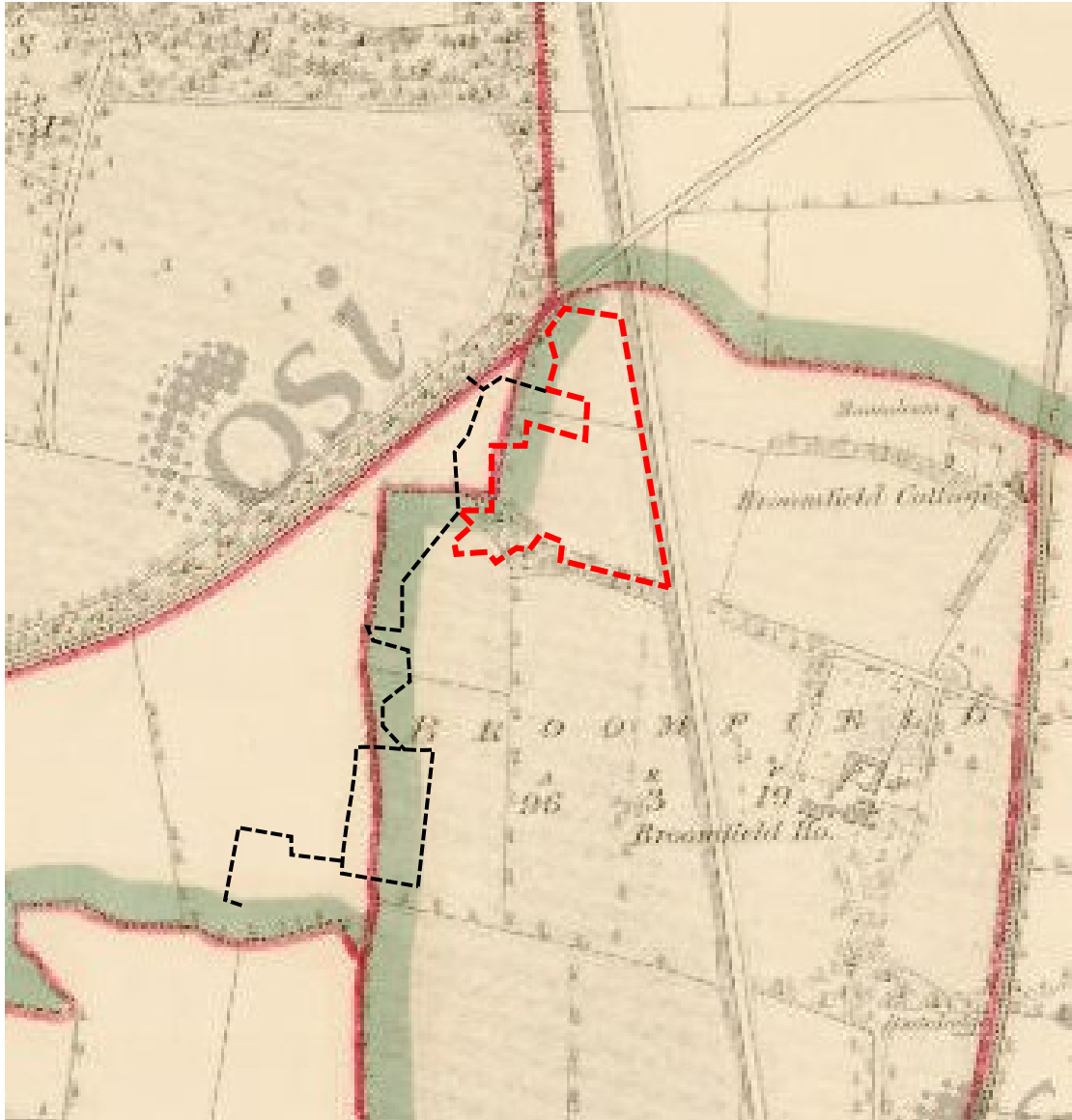


Figure 8: First Edition Ordnance Survey map 1:10,560 (1844), showing the Northern Area of the proposed development outlined in red

There are no archaeological or architectural features recorded on the First Edition 1:10,560 Ordnance Survey map within the area of proposed land take.

Ordnance Survey Map First Edition 1:2,500 1863 (figure 9)

Northern Area

Broomfield House demesne is not recorded within the proposed development area on the First Edition 1:2,500 map. There are no other differences within the Northern Area between First Edition 1:10,560 map and the First Edition 1:2,500 map.

Southern Area

The generally east/west oriented path extending across the Southern Area shown on the First Edition 1:10,560 map is not recorded on the First Edition 1:2,500 map. Neither is a previously extant north/south field boundary recorded. The southern field boundary is recorded as a drain on the First Edition 1:2,500 map.

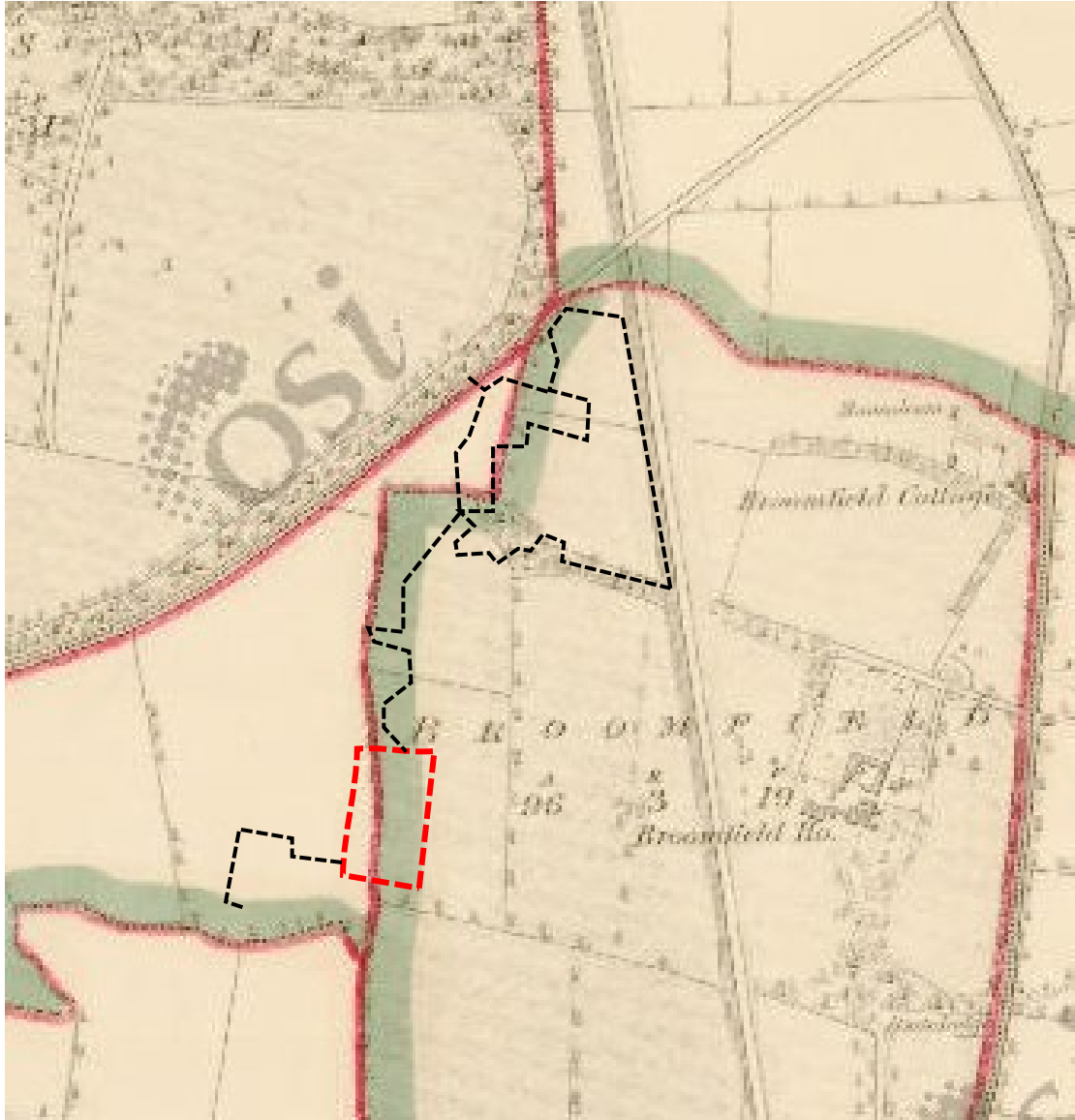


Figure 9: First Edition Ordnance Survey map 1:2,500 (1863), showing the Southern Area of the proposed development outlined in red

There are no archaeological or architectural features recorded on the First Edition 1:2,500 Ordnance Survey map within the area of proposed land take.

Ordnance Survey Map Third Edition 1:10,560 1906 (figure 10)

There are no differences recorded within either the Northern Area or Southern Area between the First Edition 1:2,500 map and the Third Edition 1:10,560 map.

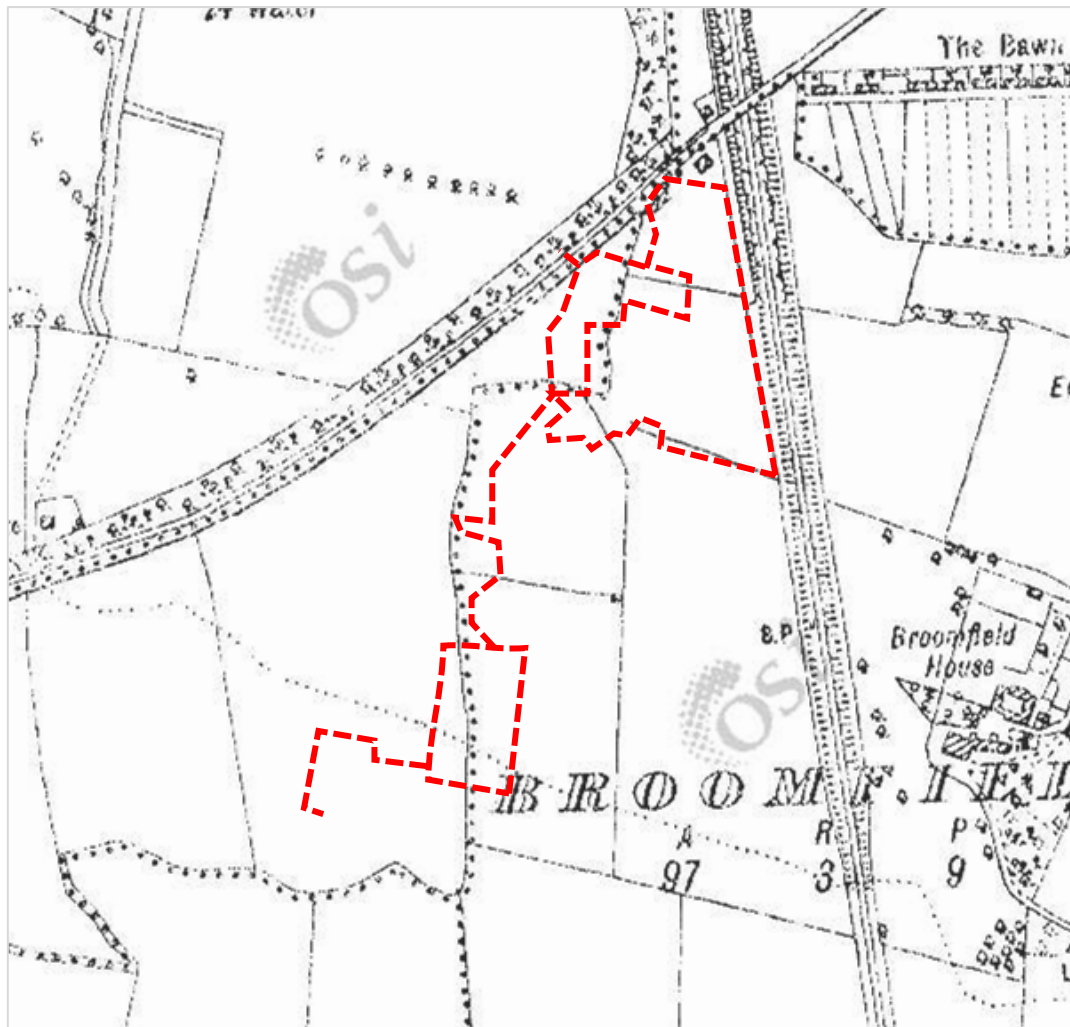


Figure 10: Third Edition Ordnance Survey map 1:10,560 (1906), showing the subject lands

There are no archaeological or architectural features recorded on the Third Edition 1:10,560 Ordnance Survey map within the area of proposed land take.

2.5 Aerial Photographs

Aerial photographs held by Ordnance Survey Ireland (www.map.geohive.ie) were consulted to look for the presence of archaeological or architectural remains within the proposed development area.

The 1995, 2000 and 2005 photographs, along with more recent aerial photography (www.bing.com/maps), record a similar landscape to that which was noted during the walkover survey (see **Field Inspection Results** below).

There was no evidence of any archaeological, architectural or cultural heritage features recorded on aerial photographs within any areas of proposed land take.

2.6 Summary of Previous Fieldwork in the Study Area

Reference to Summary Accounts of Archaeological Excavations in Ireland (www.excavations.ie) revealed that nine fieldwork programmes have been carried out in Broomfield, Kinsaley and Malahide townlands.

Test trenching (Licence Number 08E0529) was carried out in 2008 along the line of the Malahide Distributor Road. At Kinsaley, a 90m long trench and five offsets measuring 10m–13m were excavated on the summit of a hill and on its north-facing slope. A shallow pit, 1.33m x 0.8m, with a charcoal-rich fill was uncovered at the top of the hill. Another similarly sized pit was uncovered 27m further south where three field drains, at least two of which were Post-Medieval in date, were also uncovered. An *ex situ* sherd of prehistoric pottery was recovered towards the base of the hill.

Test trenching and monitoring were carried out by the writer (Licence Number 14E0009) towards the southern end of Kinsaley townland, as part of a Grant of Planning for a housing development. Testing revealed a possible small pit containing a sherd of Medieval pottery. No additional archaeological features or artefacts were revealed.

Test trenching was carried out by the writer (Licence Number 14E0165) in a field located immediately south west of the Northern Area and immediately north of the Southern Area. The excavation of 17 test trenches throughout the development area revealed 13 features of archaeological significance. An enclosure ditch (RMP DU012-071) was revealed to vary from 3.1m to 3.65m in width and from 1.1m to 1.3m in depth. In addition to the ditch, nine archaeological features in the form of spreads, linear features, a pit and a post-hole were revealed within the enclosure. No artefacts or environmental evidence were revealed by the hand-testing of these features. Subsequent monitoring of this area (Licence Number 18E0090) revealed the remains of a possible hearth.

Test trenching was carried out by the writer in 2014 (Licence Number 14E0162) in a field located immediately west of the Northern Area (see **Site-Specific Archaeological Fieldwork** below, pp. 32 - 33). Subsequent monitoring (Licence Number 17E0227) revealed four archaeological features in the middle/northern half of

the development area. A radiocarbon determination for one of the features placed activity in the Late Neolithic/Early Bronze Age.

Test trenching was carried out in 2019 (Licence Number 19E0464) in an area straddling the townland boundary between Kinsaley and Broomfield, *i.e.* centered on a point approximately 70m south of the Northern Area. The excavation of nine trenches with a cumulative length of 810m failed to reveal any archaeological features or artefacts.

A ditched circular enclosure was excavated in Broomfield townland in 1985 (1985:23), and was noted as being one of three barely visible enclosures situated just below the south-facing brow of a low east/west ridge. Excavation revealed a flat circular area, 14m in diameter, enclosed by a ditch 0.90m - 1.0m deep, with a slight internal bank (0.10m – 0.15m high x 1m - 1.5m wide) and 16 pits. Fifteen of the pits were contemporary with the enclosure, while one was earlier and sealed beneath the internal bank. This contained three sherds of Beaker pottery, charcoal and burnt earth. Around the entire circumference of the base of the ditch a line of 2" tile drains (*c.* 1800 - 1850) had been inserted, and a sod drain had been dug across the interior of the enclosure. The evidence points to the enclosure being the remains of a ploughed-out tree ring which had been erected in the 18th/19th century in an area of Early Bronze Age activity.

Reference to Summary Accounts of Archaeological Excavations in Ireland (www.excavations.ie) revealed that a number of fieldwork programmes have been carried out in townlands surrounding the proposed development area.

A landscape feature was excavated in 1980 in Auburn townland (1980-84:0093), but no further information is provided in the Summary Accounts of Archaeological Excavations in Ireland.

Monitoring of engineering pits in Malahide Demesne in 2004 (Licence Number 04E1528) in the grounds of Malahide Castle in the area of the Barbican Tower failed to reveal any archaeological features or artefacts.

Monitoring in 2006 (Licence Number 06E0661) of topsoil stripping associated with the construction of a pavilion and car park within the demesne of Malahide Castle failed to reveal any features of archaeological significance.

Limited hand excavation at Malahide Castle in 2011 (Licence Numbers C451 and E4381) following a geophysical survey (Licence Number 10R070) revealed a series of linear ditches, curvilinear slot-trenches and pits producing evidence of possible structural remains, domestic occupation and agricultural/landscaping activity. The majority of the linear features were identified as drainage gullies and field boundaries of Post-Medieval date. Other features consisted of two curvilinear slots or gullies, a metalled surface and 10 widely dispersed pits, of varying form, containing charcoal-stained soils, Medieval pottery and possible prehistoric lithic material.

Various fieldwork exercises in Malahide dating from 1999 onwards have revealed worked flint from two fieldwalking programmes, Medieval pottery and Post-Medieval structural remains.

2.7 Site-Specific Archaeological Fieldwork

Geophysical Survey

A geophysical survey (Licence 18R0101) was carried out by Joanna Leigh within the proposed development area in June 2018. The survey was undertaken to locate and identify any potential archaeological responses within the area of land take.

Due to ground conditions it was not possible to carry out the geophysical survey in Fields 1, 2, 4, 7, 8 and 10.

In summary, the geophysical survey in the Northern Area revealed the presence of a probable plough-damaged enclosure measuring approximately 40m north east/south west x 35m in the north west corner of Field 5 (figure 11). Isolated responses within and in the vicinity of the possible enclosure may represent small pit-type features, although the geophysical survey report noted that this interpretation is speculative (Leigh 2018, 4).

A possible small plectrum-shaped enclosure measuring approximately 35m north/south x 25m east/west was noted in the eastern end of Field 5 (figure 11). Elsewhere in Field 5, four small separate faint curvilinear trends were noted towards the southern and eastern ends of the field (each referred to as “4” on figure 11). Although it is possible these isolated anomalies represent plough-damaged short ditch-type features, the geophysical survey report (*ibid.*) noted that such an interpretation is cautious as no clear archaeological pattern is discernible.

Linear responses were noted towards the middle of Field 3 (referred to as “6” on figure 11). The geophysical survey report (*ibid.*) noted that while they may be the remains of modern field divisions, it is possible that archaeological ditch-type features are represented in these areas.

A circular trend with a 5m diameter (referred to as “8” on figure 11) was detected towards the southern end of Field 3. This feature is interpreted in the geophysical survey report (*ibid.*) as being of possible archaeological potential.

In the Southern Area linear trends suggest probable former field divisions in Field 9, however isolated responses with a magnetic signature similar to archaeological features were also detected in this area (figure 12). No clear archaeological pattern was discernible however, and the geophysical survey report (*ibid.*, 5) noted the responses may equally represent more deeply buried ferrous debris.

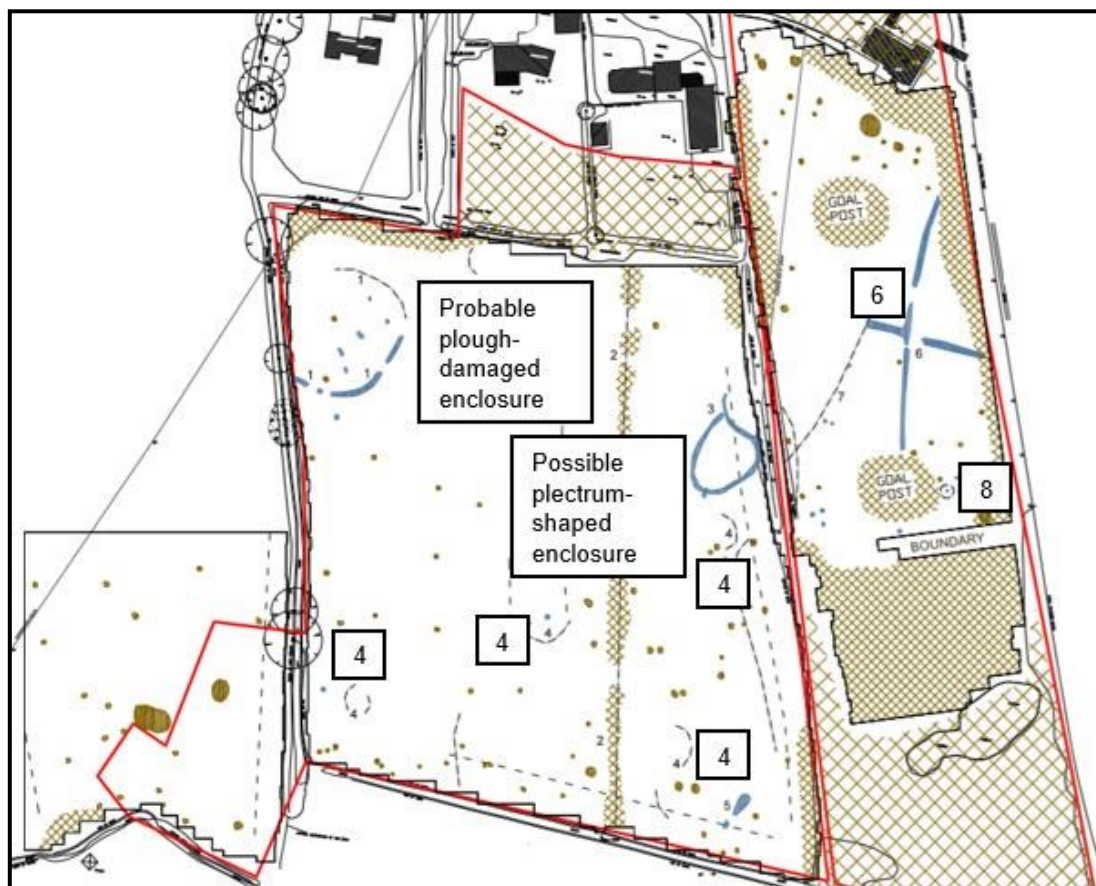


Figure 11: Results of the geophysical survey in the Northern Area

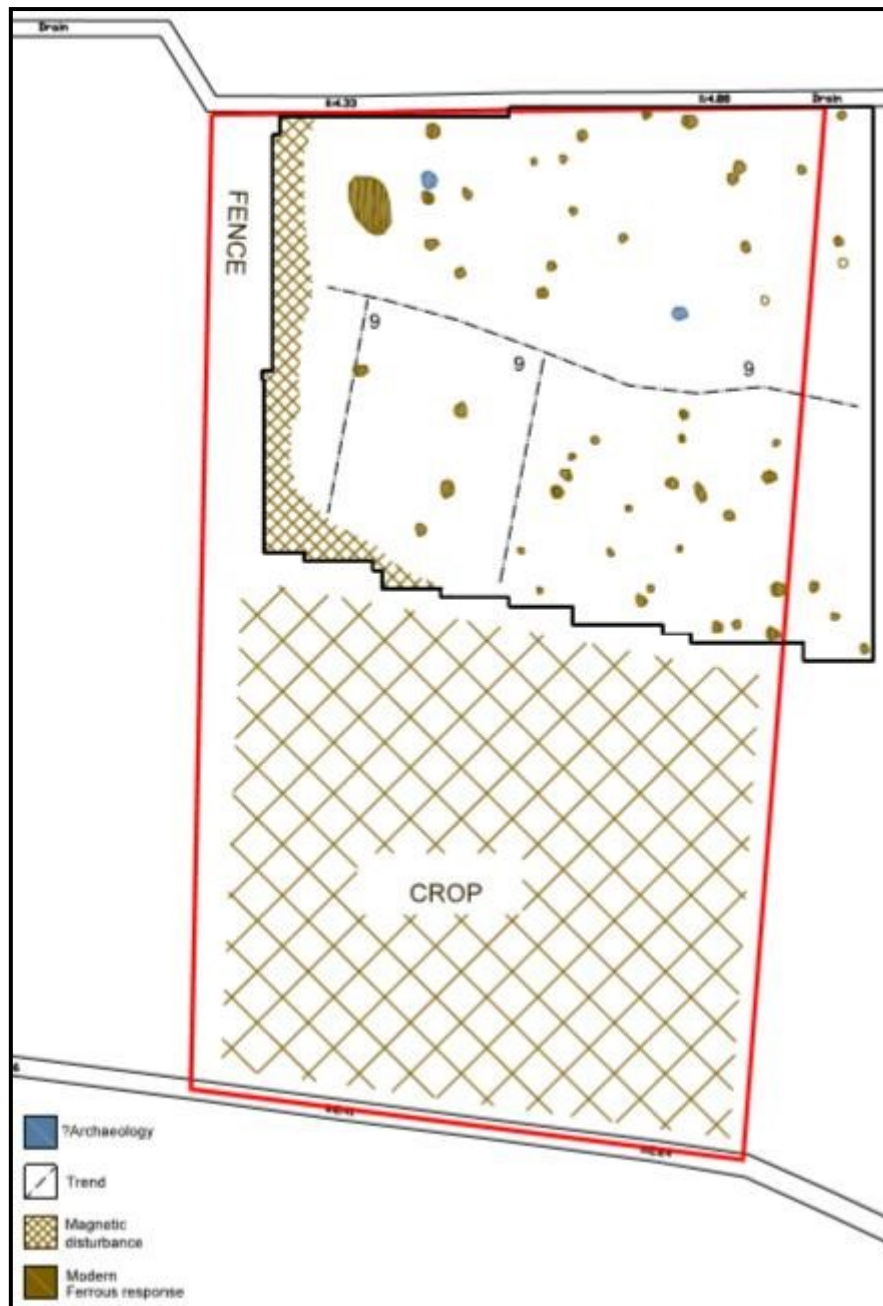


Figure 12: Results of the geophysical survey in the Southern Area

Previous Archaeological Test Trenching

Test trenching (Licence No: 14E0162) was carried out by the writer between 3rd and 6th June 2014 in a field located immediately west of the Northern Area (Nelis 2014). The excavation of 13 test trenches revealed four features of archaeological significance. Two of these features relate to the probable plough-damaged enclosure revealed in the geophysical survey within the current development area.

The probable plough-damaged enclosure ditch revealed in the geophysical survey within the current development area was revealed towards the southern end of Trench 12. It measured 1.75m wide north/south and extended beyond the trench to both the east and west. A 0.40m wide hand-dug section revealed it to have a maximum depth of 0.60m. No artefacts or environmental evidence were revealed in the hand-dug section.

A sub-circular pit was revealed 0.17m north of the east/west oriented ditch in Trench 12, *i.e.* within the probable plough-damaged enclosure. It measured 0.98m east/west x 0.85m north/south x 0.25m deep, and extended beyond the trench to the west. It was revealed in the test trench as an obvious feature with burning, and with small amounts of animal bone on the surface. It was preserved *in situ*, and no artefacts or environmental evidence were revealed in the hand-dug section.

An east/west oriented feature was revealed at the northern end of Trench 8, which is located outside the current development area. It measured 1.5m north/south x 0.30m deep maximum, and extended beyond the trench to the east and west. This feature has been preserved *in situ*.

A 0.38m north/south x 0.35m east/west x 8cm deep feature was recorded at the western end of Trench 10, which is located a short distance to the north and west of the current development area. It was revealed directly under topsoil as a charcoal surface. This feature was fully excavated at the time of test trenching.

Four archaeological features were identified and excavated in the middle/northern half of the development area during monitoring carried out in 2017 (Licence No: 17E0227; Nelis 2019). A radiocarbon determination for one of the features placed activity in the Late Neolithic/Early Bronze Age.

3 ARCHAEOLOGICAL TEST TRENCHING

3.1 General

Test trenching was carried out by Dermot Nelis and Colm Flynn (Licensed archaeologists) between 18th March and 1st July 2020, and in total took 18 days to complete. It required the use of one machine fitted with a 1.8m wide flat bucket under constant archaeological supervision.

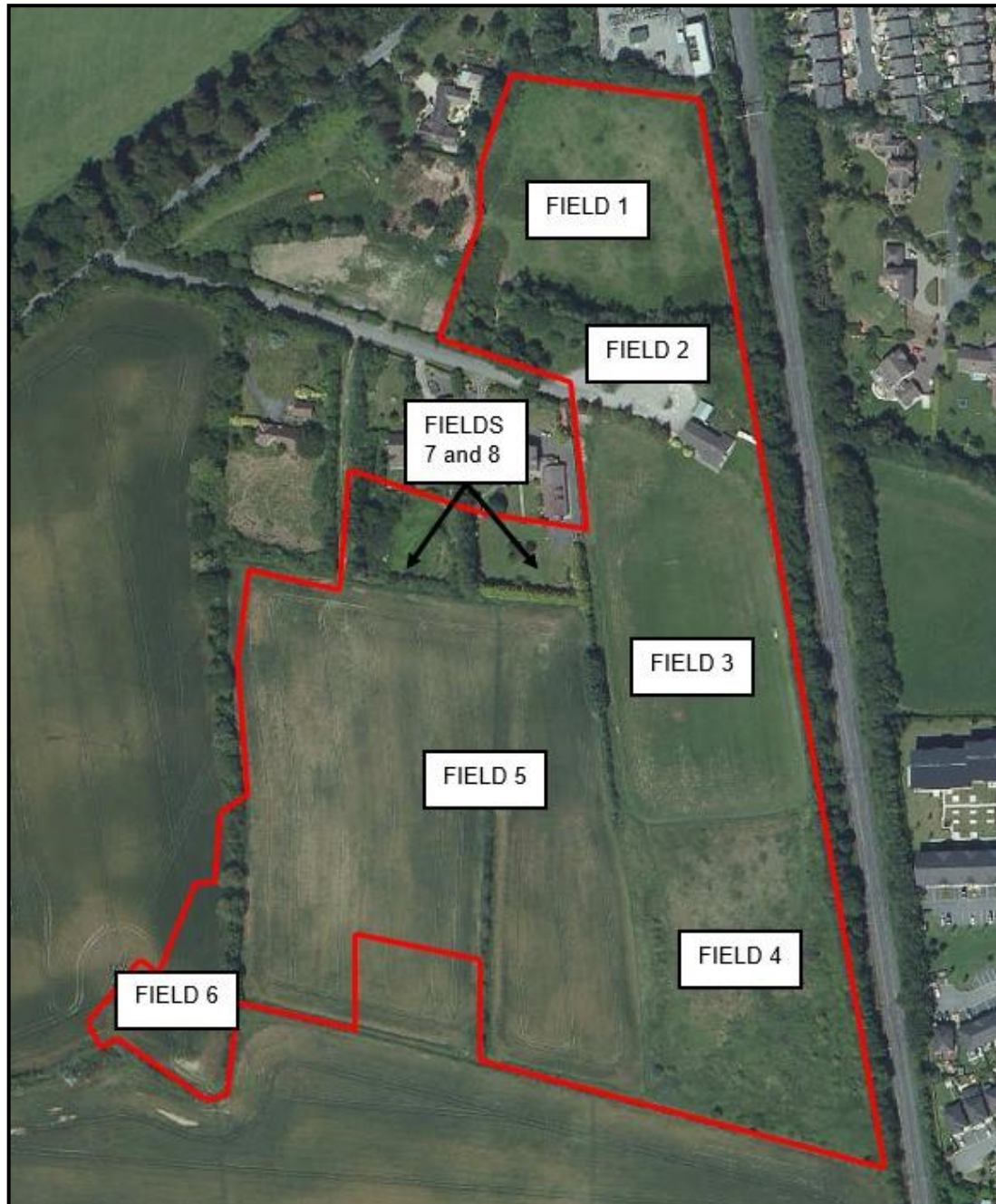


Figure 13: Fields 1 – 8 in the Northern Area



Figure 14: Fields 9 and 10 in the Southern Area

Excavation of the test trenches aimed to determine, as far as is reasonably possible, the location, extent, date, character, condition, significance and quality of any surviving archaeological remains liable to be threatened by the proposed development. Test trenching also sought to clarify the nature and extent of existing disturbance and intrusions and assess the degree of archaeological survival in order to formulate further mitigation strategies designed to avoid, reduce or offset any adverse impacts associated with the proposed development.

A detailed visual inspection for the purpose of artefact retrieval was undertaken of all excavated soils after they had been safely removed from the test trenches.

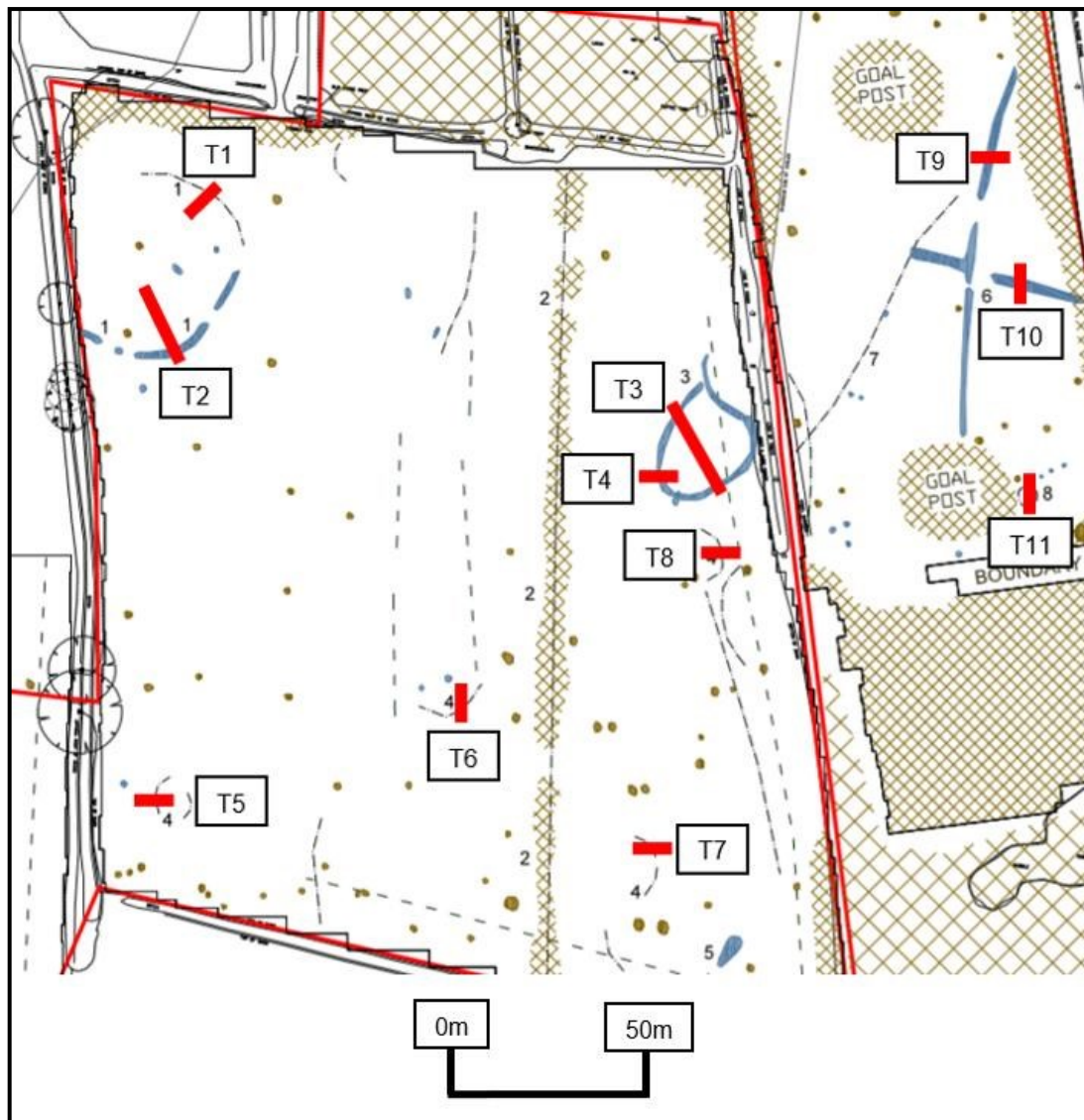


Figure 15: Location of Geophysical Test Trenches 1 – 11 assessing anomalies in the Northern Area

3.2 Results of Test Trenching

Test trenching revealed four separate archaeological features in two fields (Fields 1 and 5, figure 13).

The location of Geophysical Test Trenches 1 - 11 were surveyed by the geophysicist in advance of test trenching.

Field 1 (plates 1 - 4)

Test Trenches 1 – 6

Six no. test trenches were excavated in Field 1 (figure 16). Test Trenches 1 – 5 were oriented east/west and were spaced 20m apart, while Test Trench 6 was oriented north west/south east and was located to the east of an overhead powerline.

Test trenching showed topsoil (**Context 1 [C1]**) to be on average 0.20m – 0.30m deep sealing 0.30m of subsoil (**C5**) which directly sealed geologically deposited strata (**C2**).

Topsoil (**C1**) was recorded as a friable mid brown silty clay with occasional 3cm – 5cm stone inclusions evenly distributed.

Subsoil (**C5**) was recorded as a compact light brown slightly silty clay with occasional 3cm – 5cm stone inclusions evenly distributed and very occasional small red brick and modern pottery fragments evenly distributed.

Natural geology (**C2**) was noted as a compact mid brown clay with moderate 5cm – 10cm stone inclusions evenly distributed.



Figure 16: Location of Test Trenches 1 – 6 in Field 1



Plate 1: Field 1 mid-excavation of Test Trench 1 looking west

Plate 2: Field 1 Test Trench 5 looking east





Plate 3: Field 1 Test Trench 6 looking south

One archaeological feature was revealed in Field 1. This feature is a pit, and was identified at the western end of Test Trench 2 (ITM 722397 745066). The pit (**C3**) is orientated roughly north west/south east and measured 1.5m long x 1.1m wide. The fill (**C4**) of **C3** was a friable charcoal-stained dark brown fine silt. Pit **C3** was fully preserved *in situ*, and no artefacts were revealed in association with **C3**.

No additional archaeological features or artefacts were revealed in Field 1.

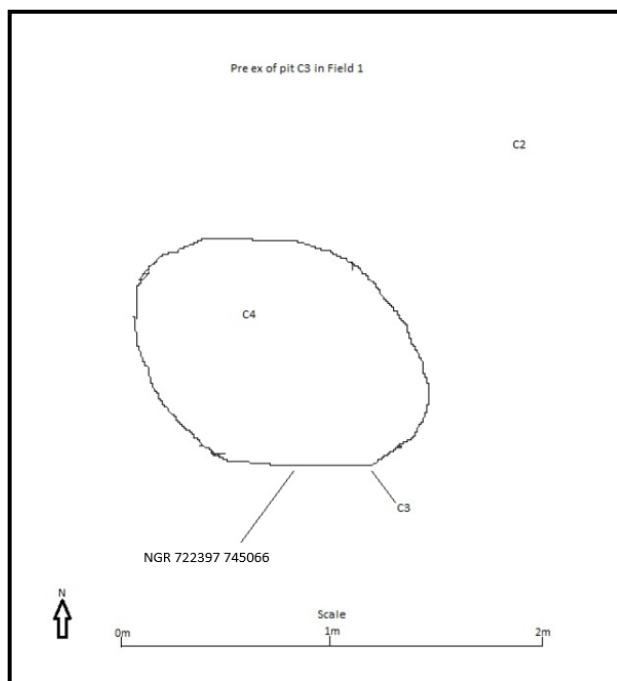


Figure 17: Plan of pit **C3** in Test Trench 2 Field 1



Plate 4: Field 1 Detail of pit **C3** in Test Trench 2 looking north

Field 2

The site visit revealed Field 2 to be overgrown, and contained large piles of rubble along with a large concrete hardstand. In addition, an overhead powerline extends across the middle of Field 2. As such it was agreed in the Method Statement that test trenches would not be excavated in Field 2.

Field 3 (plates 5 - 8)

Test Trenches 1 – 5 were excavated across Field 3 in areas outside the location of geophysical anomalies (figure 18). Geophysical Test Trenches 9 – 11 were excavated to assess the extent, character and condition of linear responses noted towards the middle and southern end of Field 3 (figure 15).

Test Trenches 1 – 5

Five no. test trenches (excluding the three geophysical test trenches discussed below) with a combined length of 650m were excavated in Field 3. Test Trenches 2 – 5 were spaced 20m apart and Test Trench 1 was excavated in the north west corner away from an overhead powerline.

Test trenching showed topsoil (**C1**) to be on average 0.20m – 0.30m deep sealing 0.30m of subsoil (**C5**) which directly sealed geologically deposited strata (**C2**).

Topsoil (**C1**) was recorded as a friable mid brown silty clay with occasional 3cm – 5cm stone inclusions evenly distributed.

Subsoil (**C5**) was recorded as a compact light brown slightly silty clay with occasional 3cm – 5cm stone inclusions evenly distributed and very occasional small red brick and modern pottery fragments evenly distributed.

Natural geology (**C2**) was noted as a compact mid brown clay with moderate 5cm – 10cm stone inclusions evenly distributed.

Numerous modern east/west stone drains were noted in Field 3, and these were 0.20m wide and filled with small subrounded stone. Numerous north/south oriented v-shaped drains were also recorded in Field 3, and these on average measured 5cm wide x 5cm – 10cm deep. These v-shaped drains truncated the east/west oriented drains, and it is suggested they relate to drainage of the former rugby pitch that was located in Field 3. No archaeological features or artefacts were revealed in Field 3.



Figure 18: Location of Test Trenches 1 – 5 in Field 3



Plate 5: Field 3 Test Trench 2 looking south

Plate 6: Field 3 Test Trench 4 looking north



Geophysical Test Trenches 9 – 11

Three trenches (Geophysical Test Trenches 9, 10 and 11, figure 19) were excavated to assess the extent, character and condition of linear responses noted towards the middle and southern end of Field 3 in the geophysical survey. Geophysical Test Trenches 9, 10 and 11 each measured 10m in length.

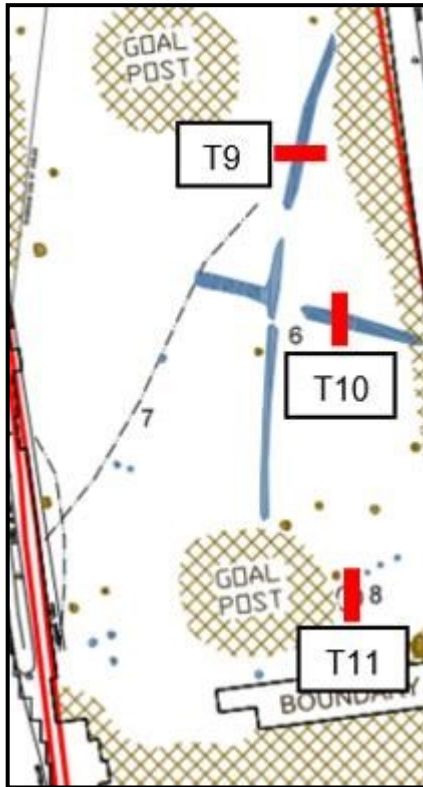


Figure 19: Location of Geophysical Test Trenches 9 – 11 in Field 3

Geophysical Test Trench 9

Geophysical Test Trench 9 revealed topsoil (C1) sealing subsoil (C5) sealing natural (C2) as was recorded throughout Field 3. The anomaly was recorded in the middle of Geophysical Test Trench 9, and consisted of a 0.50m wide x 0.30m deep north/south oriented linear feature filled with a friable mid brown clay with occasional small stone inclusions and occasional small shell and mortar fragments (C16). This feature is recorded in the same location as a north/south field boundary as shown on the First Edition Ordnance Survey map (1844), and is therefore interpreted as the below-ground remains of this relict linear landscape feature. The same field boundary was recorded in Field 3 Trench 4, where hand-testing revealed the presence of red brick.



Plate 7: Field 3 Geophysical Test Trench 9 looking west

Geophysical Test Trench 10

Geophysical Test Trench 10 revealed topsoil (C1) sealing subsoil (C5) sealing natural (C2) as was recorded throughout Field 3. The anomaly recorded in Geophysical Test Trench 10 consisted of a 1.5m wide x 1.5m deep east/west oriented linear feature filled by a friable mid to dark brown silty clay which contained red brick and mortar fragments (C17). The bottom of the feature contained a large piece of red brick, and was noted as being very wet and filled with stone. This feature is interpreted as being a large localised drain or a possible soakaway. This feature was also recorded in Field 3 Test Trench 4.

Geophysical Test Trench 11

Geophysical Test Trench 11 revealed topsoil (C1) sealing subsoil (C5) sealing natural (C2) as was recorded throughout Field 3. No potential archaeological features were noted in Geophysical Test Trench 11, although natural geology was recorded as more stony in the location of the geophysical anomaly.



Plate 8: Field 3 Geophysical Test Trench 11 looking south

Field 4 (plates 9 - 11)

Due to previous extensive ground disturbance and subsequent infilling, it was not possible to excavate all four test trenches in Field 4 as was outlined in the Method Statement.

Fieldwork involved the excavation of two 50m long north west/south east oriented test trenches in the northern end of Field 4, along with the excavation of 14 test pits throughout Field 4 (figure 20). Test pits on average measured 3m long x 1.5m wide, and were all excavated to the level of undisturbed geologically deposited strata (**C2**).

All fieldwork in Field 4 revealed approximately 0.20m of friable mid brown silty clay with occasional 3cm – 5cm stone inclusions evenly distributed (**C1**).

Made ground (**C18**) was revealed directly under topsoil (**C1**) throughout Field 4, and took the form of demolition rubble consisting of metal, large pieces of concrete, red brick, plastic bags, *etc.* Made ground was 0.40m deep at the northern end of Field 4, but at a point approximately 20m from the northern end it became progressively deeper and extended to on average 1m to 1.2m deep.

Natural geology (**C2**) was noted as a compact mid brown clay with moderate 5cm – 10cm stone inclusions evenly distributed.

No archaeological features or artefacts were revealed in Field 4.



Figure 20: Location of Test Trenches 1 and 2 and Test Pits 1 - 14 in Field 4



Plate 9: Field 4 mid-excavation of Test Trench 2 looking south

Plate 10: Field 4 test pit looking north





Plate 11: Field 4 test pit looking south

Field 5 (plates 12 - 27)

Ten no. test trenches (excluding the eight geophysical test trenches discussed below) were excavated in Field 5 (figure 21). On average trenches were spaced 20m apart. Test Trench 1, which was to measure 40m in length, was not excavated in the north west corner of Field 5 as an overhead power line which previously existed in this area had been removed by the time of testing. Test Trench 2 was lengthened by 40m and extended to the northern limit of Field 5, and fully compensated for Trench 1. Gaps were left towards the northern end of Trenches 2 and 3 in the location of the possible enclosure as revealed through the geophysical survey (see below). It was not possible to excavate the full extent of Test Trenches 2 – 8 at the southern end of Field 5 as a large east/west oriented spoil heap had been placed in that location. As compensation, an east/west test trench (Test Trench 12) measuring 125m in length was excavated immediately north of the spoil heap (this test trench was an additional trench and was not outlined in the Method Statement). It was not possible to excavate Test Trench 10 at the southern end of Field 5 due to the presence of an overhead cable.

Test trenching showed topsoil (**C1**) to be on average 0.20m – 0.30m deep sealing 0.30m of subsoil (**C19**) which directly sealed geologically deposited strata (**C2**).

Topsoil (**C1**) was recorded as a friable mid brown silty clay with occasional 3cm – 5cm stone inclusions evenly distributed.

Subsoil (**C19**) was recorded as a compact dark brown silty clay with moderate 5cm – 10cm stone inclusions.

Natural geology (**C2**) was noted as a compact mid brown clay with moderate 5cm – 10cm stone inclusions evenly distributed.

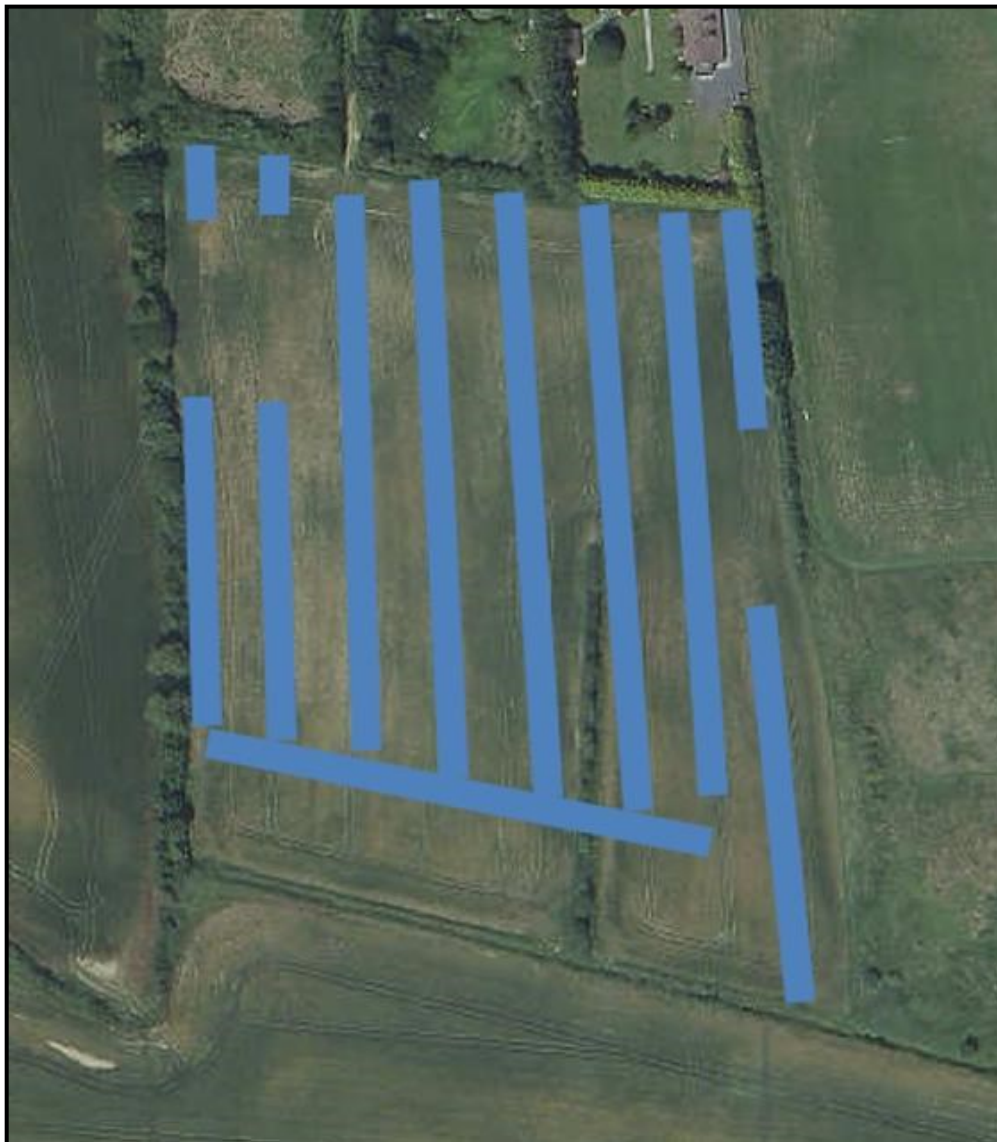


Figure 21: Location of Test Trenches 2 – 11 in Field 5



Plate 12: Field 5 Test Trench 3 looking south

Plate 13: Field 5 Test Trench 4 looking south





Plate 14: Field 5 Test Trench 6 looking south

Plate 15: Field 5 Test Trench 7 looking south





Plate 16: Field 5 Test Trench 12 looking west

One archaeological feature was revealed in Field 5 outside the location of the geophysical features (see below). A hearth/burnt pit (**C6**) was identified at the very northern end of Test Trench 7 (ITM 722363 744855), close to the boundary with Field 8 (figure 22). This feature appears to have been disturbed by ploughing activity. The hearth/burnt pit (**C6**) was irregular in plan and measured 1.25m east/west x 0.6m north/south. It was revealed as a spread of oxidized reddened silt with charcoal (**C7**). No diagnostic artefacts were recovered from **C6**, and this feature has been fully preserved *in situ*.

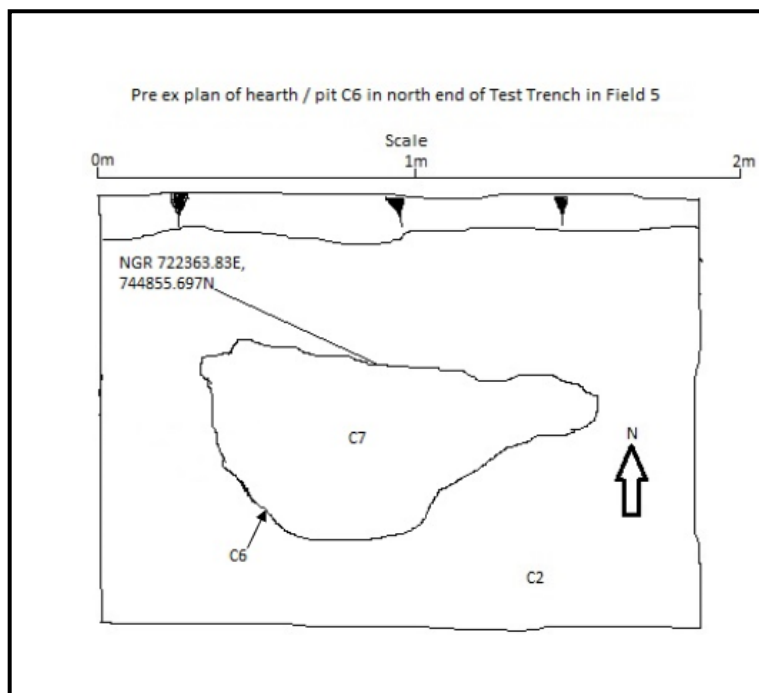


Figure 22: Plan of hearth/burnt pit **C6** in Test Trench 7 Field 5



Plate 17: Field 5 Detail of hearth/burnt pit **C6** in Test Trench 7 looking north

Geophysical Test Trenches 1 – 8

Eight trenches (Geophysical Test Trenches 1 - 8, figure 15) were excavated to assess the extent, character and condition of linear responses noted in Field 5 during the geophysical survey.

Geophysical Test Trenches 1 and 2, (figure 23) were excavated to further assess the extent, character and condition of a probable plough-damaged enclosure located in the north west corner of Field 5. Both trenches extended from within the probable enclosure and across the probable ditch, while also assessing internal isolated geophysical responses. Trench 1 measured 10m in length and assessed the ditch in the northern end of the possible enclosure. Trench 2 measured 20m in length and assessed the ditch in the south east corner of the possible enclosure.

Excavation of Geophysical Test Trenches 1 and 2 revealed 0.20m of loose dark brown topsoil with occasional small stone inclusions (**C1**) sealing 0.30m of compact dark brown silty clay subsoil with moderate 5cm – 10cm stone inclusions (**C19**). This in turn sealed natural (**C2**) which was recorded as a compact mid brown silty clay with frequent 5cm – 10cm and moderate 10cm – 20cm stone inclusions evenly distributed.

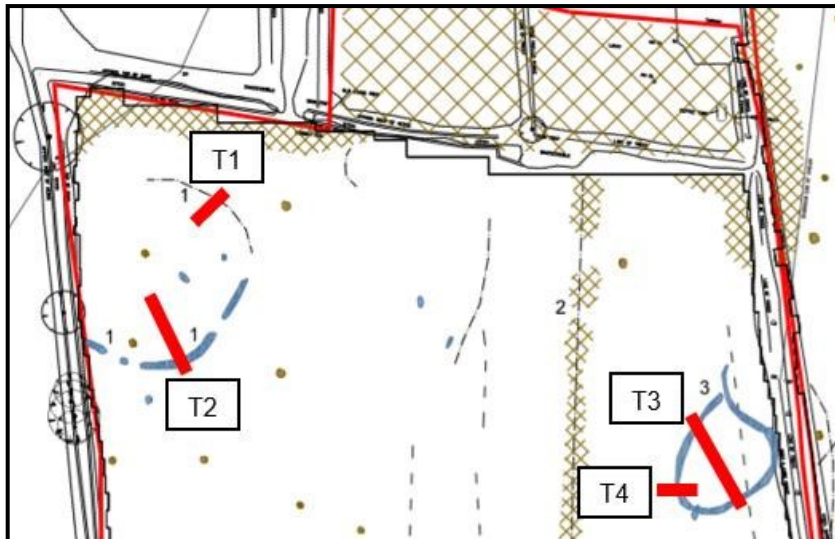


Figure 23: Location of Geophysical Test Trenches 1 – 4 in Field 5

Geophysical Test Trench 1

Pre-test trenching, the anomaly in Geophysical Test Trench 1 was interpreted as possibly representing a badly plough-damaged enclosure ditch. Test trenching did not reveal any archaeological features associated with this geophysical anomaly, and it is suggested the ditch may have been removed through repeated ploughing in this location.

No archaeological features or artefacts were identified in Geophysical Test Trench 1.



Plate 18: Field 5 Geophysical Test Trench 1 looking south west

Geophysical Test Trench 2

An archaeological feature (**C14**) was identified 3.5m from the south eastern end of Geophysical Test Trench 2, in the location of the geophysical anomaly. It took the form of a probable ditch with gently regular curving sides and a slightly rounded base. It measured approximately 1.1m wide north/south x approximately 0.3m deep, and continued beyond the trench to the north east and south west. The single fill (**C15**) was a loose mid brown silty clay with occasional small stone inclusions evenly distributed. No artefacts were recovered from **C15**, and no additional archaeological features were identified in Geophysical Test Trench 2.

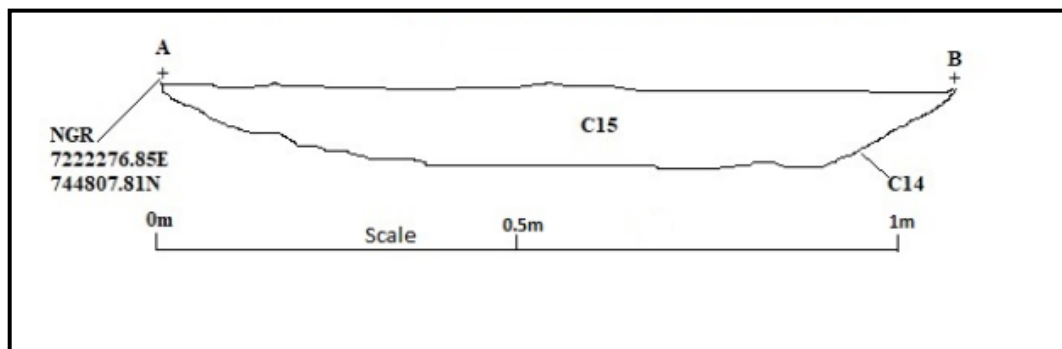


Figure 24: Section of probable ditch **C14** in Geophysical Test Trench 2 Field 5



Plate 19: Field 5 Geophysical Test Trench 2 looking north west, showing ditch **C14**



Plate 20: Field 5 Geophysical Test Trench 2 looking south east, showing section across ditch **C14**

Geophysical Test Trenches 3 and 4 (figure 23) were excavated to assess the extent, character and condition of a possible small enclosure located in the eastern end of Field 5. Trench 3 extended across the possible enclosure in a north west/south east direction, thus assessing the potential ditch in two locations as well as any potential internal features. Trench 4 was excavated in an east/west direction and assessed the possible ditch in the south west corner of the possible enclosure. Trench 3 measured 25m in length and Trench 4 measured 10m in length.

Excavation of Geophysical Test Trenches 3 and 4 revealed 0.20m of loose dark brown topsoil with occasional small stone inclusions (**C1**) sealing 0.30m of compact dark brown silty clay subsoil with moderate 5cm – 10cm stone inclusions (**C19**). This in turn sealed natural (**C2**) which was recorded as a compact mid brown silty clay with frequent 5cm – 10cm and moderate 10cm – 20cm stone inclusions evenly distributed.

Geophysical Test Trench 3

An archaeological feature (**C8**) was identified at the north western end of Geophysical Test Trench 3, in the location of the geophysical anomaly. This feature continued

beyond the trench in a north east/south west direction. The archaeological feature (**C8**) consisted of a narrow linear cut that was orientated north east/south west, and measured 0.25m wide x 0.2m deep. It was V-shaped in profile, and the single fill (**C9**) was a greyish brown stony silt. Angular stones and cobbles were present in **C9**, and these resembled packing material. A small amount of animal bone was recovered from a hand-excavated section through **C9**.

Pre-test trenching, the anomaly in the south east corner of Geophysical Test Trench 3 was interpreted as possibly part of a plough-damaged enclosure ditch. Test trenching did not reveal any archaeological features associated with this geophysical anomaly, and it is suggested the ditch may have been removed through repeated ploughing in this location.

No additional archaeological features or artefacts were identified in Geophysical Test Trench 3.

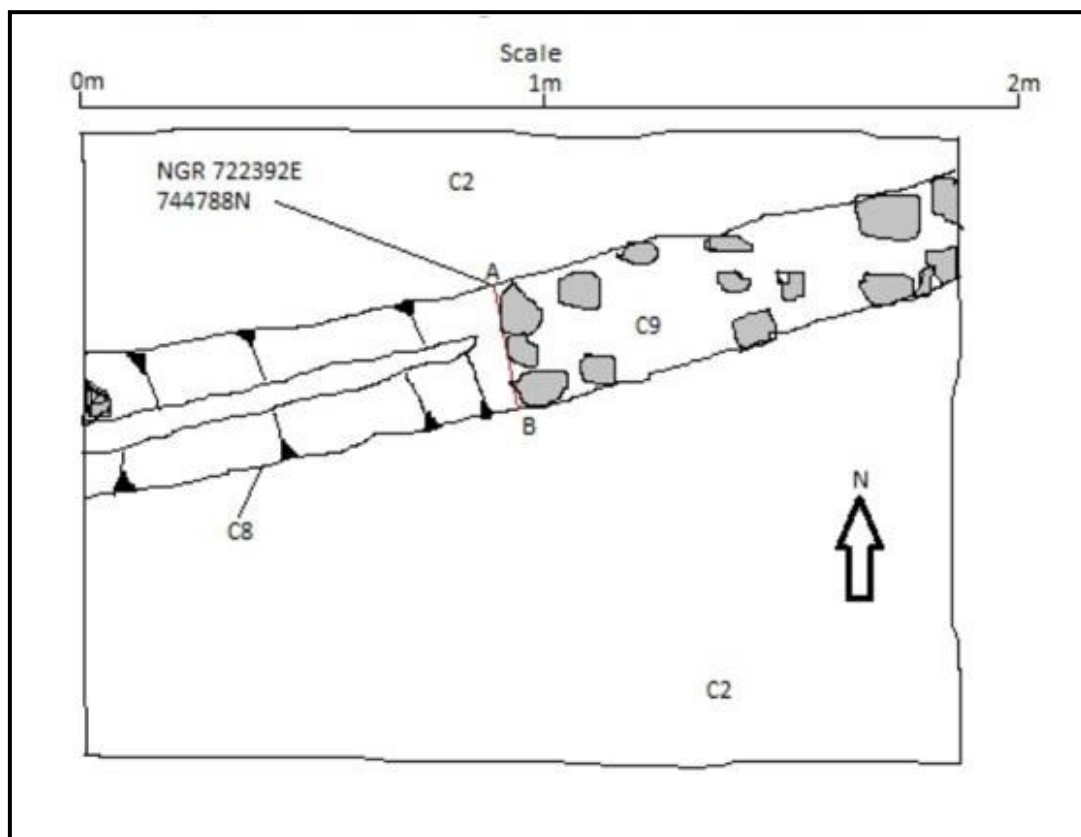


Figure 25: Plan of linear feature **C8** in Geophysical Test Trench 3 Field 5

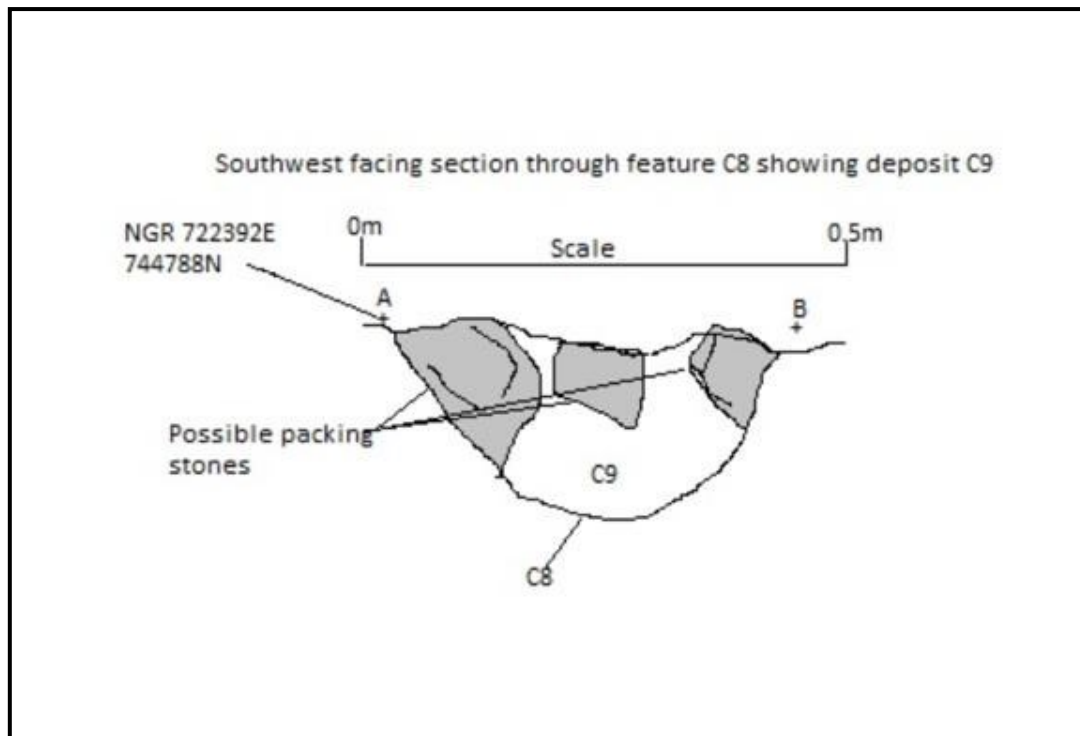


Figure 26: Section of linear feature **C8** in Geophysical Test Trench 3 Field 5



Plate 21: Field 5 Geophysical Test Trench 3 looking north west, showing linear feature **C8**



Plate 22: Field 5 Geophysical Test Trench 3 looking north west, showing section across linear feature **C8**

Geophysical Test Trench 4

Geophysical Test Trench 4 was oriented east/west, and was located a short distance to the west of Geophysical Test Trench 3. A roughly north/south oriented linear feature (**C10**) was noted in the middle of the trench in the location of the geophysical anomaly. **C10** took the form of a possible shallow ditch which measured 1.3m wide x 0.2m deep. The single fill (**C11**) consisted of a friable grey brown stony silt which contained occasional small animal bone fragments and two sherds of 18th/19th century glazed red earthenware.

No additional archaeological features or artefacts were identified in Geophysical Test Trench 4.



Plate 23: Field 5 Geophysical Test Trench 4 looking east, showing linear feature **C10**

Geophysical Test Trenches 5 - 8 (figure 27) were excavated to assess the extent, character and condition of four separate faint curvilinear trends noted towards the southern and eastern end of Field 5 in the geophysical survey. Trenches 5 – 8 each measured 10m in length.

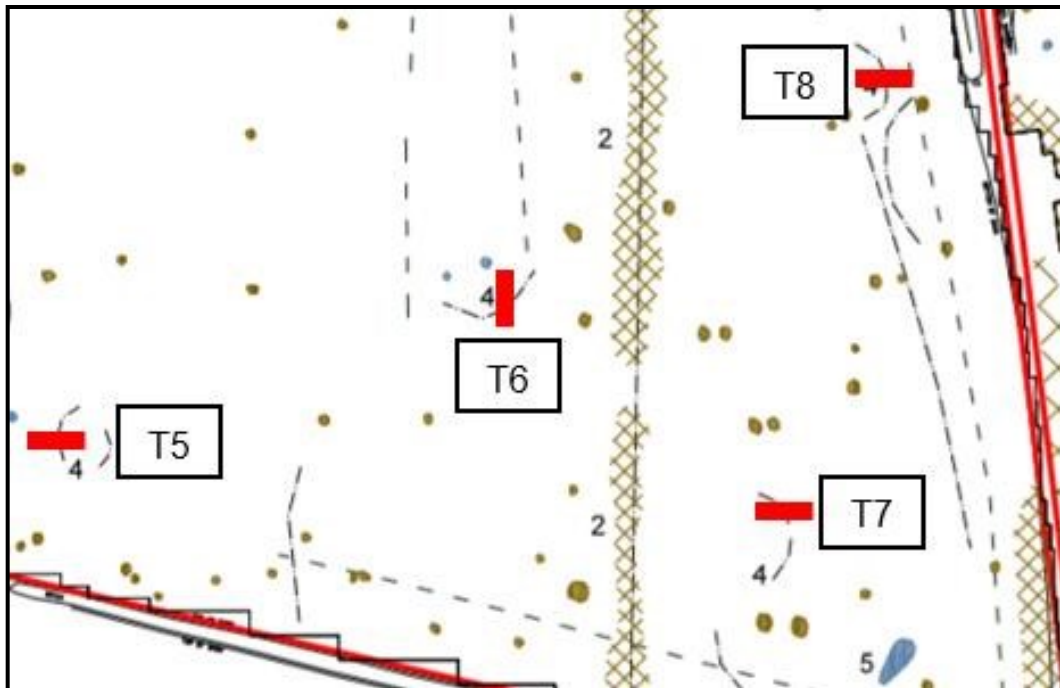


Figure 27: Location of Geophysical Test Trenches 5 – 8 in Field 5

Geophysical Test Trench 5

Geophysical Test Trench 5 revealed 0.20m of loose dark brown topsoil with occasional small stone inclusions (**C1**) sealing 0.30m of compact dark brown silty clay subsoil with moderate 5cm – 10cm stone inclusions (**C19**). This in turn sealed natural (**C2**) which was recorded as a compact mid brown silty clay with frequent 5cm – 10cm and moderate 10cm – 20cm stone inclusions evenly distributed.

A hand excavated section revealed the geophysical anomaly recorded in Geophysical Test Trench 5 (**C12**) to contain a sherd of modern pottery, two fragments of red brick and modern glass.

No archaeological features were noted in Geophysical Test Trench 5.



Plate 24: Field 5 Geophysical Test Trench 5 looking east

Geophysical Test Trench 6

Geophysical Test Trench 6 revealed 0.20m of loose dark brown topsoil with occasional small stone inclusions (**C1**) sealing 0.30m of compact dark brown silty clay subsoil with moderate 5cm – 10cm stone inclusions (**C19**). This in turn sealed natural (**C2**) which was recorded as a compact mid brown silty clay with frequent 5cm – 10cm and moderate 10cm – 20cm stone inclusions evenly distributed.

The anomaly in Geophysical Test Trench 6 was noted as a faint curvilinear trend in the geophysical survey report (Leigh 2018, 4). Test trenching did not reveal any archaeological features in the location of the geophysical anomaly, and it is suggested it may be the result of a slight change in natural geology.

No archaeological features were noted in Geophysical Test Trench 6.



Plate 25: Field 5 Geophysical Test Trench 6 looking north

Geophysical Test Trench 7

Geophysical Test Trench 7 revealed 0.20m of loose dark brown topsoil with occasional small stone inclusions (**C1**) sealing 0.40m of compact sticky dark grey clay with occasional small red brick fragments (**C13**). This in turn sealed natural (**C2**) which was recorded as a compact mid brown silty clay with frequent 5cm – 10cm and moderate 10cm – 20cm stone inclusions evenly distributed.

The above-mentioned compact sticky dark clay with occasional small red brick fragments (**C13**) was recorded at its maximum extent in the location of the geophysical anomaly.

No archaeological features were noted in Geophysical Test Trench 7.



Plate 26: Field 5 Geophysical Test Trench 7 looking west

Geophysical Test Trench 8

Geophysical Test Trench 8 revealed 0.20m of loose dark brown topsoil with occasional small stone inclusions (**C1**) sealing 0.30m of compact dark brown silty clay subsoil with moderate 5cm – 10cm stone inclusions (**C19**). This in turn sealed natural (**C2**) which was recorded as a compact mid brown silty clay with frequent 5cm – 10cm and moderate 10cm – 20cm stone inclusions evenly distributed.

Two hand excavated sections were dug in the location of the geophysical feature, but these confirmed the anomaly to be a variation in natural geology (**C2**) and of no archaeological significance.

No archaeological features were noted in Geophysical Test Trench 8.



Plate 27: Field 5 Geophysical Test Trench 8 looking west, showing hand tested geophysical anomalies

Field 6

It was stated in the Method Statement that two test trenches would be excavated in Field 6. Field 6 had been previously topsoil stripped however, and was fully monitored under Licence 17E0227. No archaeological features or artefacts were revealed as a result of carrying out monitoring in Field 6.

Field 7 (plates 28 - 29)

Test Trenches 1 – 2

Two no. test trenches with a combined length of 70m were excavated in Field 7 (figure 28). Test Trenches 1 and 2 were spaced 20m apart.

Test trenching showed topsoil (**C1**) to be on average 0.20m – 0.30m deep sealing 0.30m of subsoil (**C5**) which directly sealed geologically deposited strata (**C2**).

Topsoil (**C1**) was recorded as a friable mid brown silty clay with occasional 3cm – 5cm stone inclusions evenly distributed.

Subsoil (**C5**) was recorded as a compact light brown slightly silty clay with occasional 3cm – 5cm stone inclusions evenly distributed and very occasional small red brick and modern pottery fragments evenly distributed.

Natural geology (**C2**) was noted as a compact mid brown clay with moderate 5cm – 10cm stone inclusions evenly distributed.

No archaeological features or artefacts were revealed in Field 7.



Figure 28: Location of Test Trenches 1 and 2 in Field 7 and Test Trenches 1 and 2 in Field 8



Plate 28: Field 7 Test Trench 1 looking east

Plate 29: Field 7 Test Trench 2 looking west



Field 8 (plates 30 - 31)

Two no. test trenches with a combined length of 70m were excavated in Field 8 (figure 28). Test Trenches 1 and 2 were spaced 20m apart.

Test trenching showed topsoil (**C1**) to be on average 0.20m – 0.30m deep sealing 0.30m of subsoil (**C5**) which directly sealed geologically deposited strata (**C2**).

Topsoil (**C1**) was recorded as a friable mid brown silty clay with occasional 3cm – 5cm stone inclusions evenly distributed.

Subsoil (**C5**) was recorded as a compact light brown slightly silty clay with occasional 3cm – 5cm stone inclusions evenly distributed and very occasional small red brick and modern pottery fragments evenly distributed.

Natural geology (**C2**) was noted as a compact mid brown clay with moderate 5cm – 10cm stone inclusions evenly distributed.

Excavation in Field 8 showed the area to have been disturbed in the recent past with patches of modern disturbance, containing red brick, truncating natural. In addition, a north/south oriented field boundary, which is recorded on historic cartographic sources, was recorded at the western end of both test trenches in Field 8.

No archaeological features or artefacts were revealed in Field 8.



Plate 30: Field 8 Test Trench 1 looking west

Plate 31: Field 8 Test Trench 2 looking east



Fields 9 and 10 (plates 32 - 35)

Test Trenches 1 – 8

Prior to the commencement of test trenching the field boundary separating these two fields had been levelled, resulting in the Southern Area appearing as one large field.

Eight no. test trenches with a combined length of 1,490m were excavated in Fields 9 and 10 (figure 29). Test Trenches 1 - 7 were spaced 20m apart and were oriented north/south. It was not possible to excavate the southern half of Test Trenches 1 and 2 as a large spoil heap had been placed in this area. Test Trench 8 was oriented east/west, and was excavated to assess the extent, character and condition of any below-ground remains associated with RMP DU012-071 (enclosure) which is located approximately 60m north of Field 9.

Test trenching showed topsoil (**C1**) to be on average 0.30m deep sealing 0.40m of subsoil (**C19**) which directly sealed geologically deposited strata (**C2**).

Topsoil (**C1**) was recorded as a friable mid brown silty clay with occasional 3cm – 5cm stone inclusions evenly distributed.

Subsoil (**C19**) was recorded as a compact dark brown silty clay with moderate 5cm – 10cm stone inclusions

Natural geology (**C2**) was noted as a compact mid brown clay with moderate 5cm – 10cm stone inclusions evenly distributed. Occasional linear bands of bedrock were recorded in Fields 9 and 10 directly under subsoil (**C19**).

No archaeological features or artefacts were revealed in Fields 9 and 10.

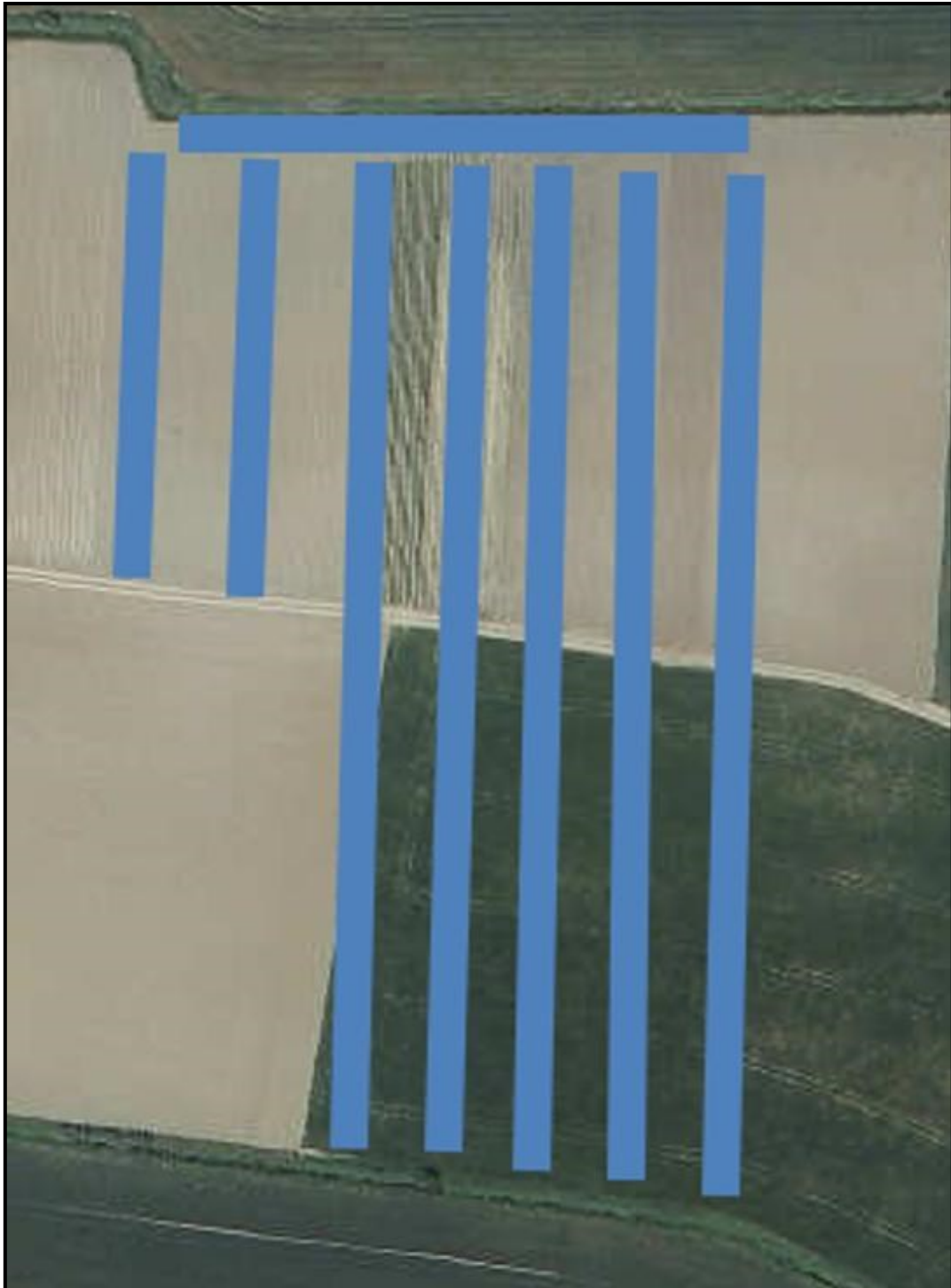


Figure 29: Location of Test Trenches 1 - 8 in Fields 9 and 10



Plate 32: Fields 9 and 10 Test Trench 2 looking south

Plate 33: Fields 9 and 10 Test Trench 3 looking south





Plate 34: Fields 9 and 10 Test Trench 6 looking south

Plate 35: Field 9 Test Trench 8 looking west



3.3 Summary

Archaeological features were identified in Fields 1 and 5 during the test trenching programme.

The shape and fill of pit **C3** in Field 1 are common elements of archaeological features, and are not diagnostic to any particular archaeological period. The presence of this feature suggests that previously unrecorded archaeological remains may exist in the surrounding area.

A hearth/burnt pit (**C6**) was identified at the northern end of Field 5, although this feature appears to have been disturbed by ploughing activity. Hearths/burnt pits are not diagnostic to any particular archaeological period.

The geophysical survey indicated the presence of two previously unrecorded possibly plough-damaged enclosures in Field 5. A possible ditch (**C8**) in the eastern-most enclosure contained animal bone, and stone in the fill may represent packing material. This tentatively suggests that **C8** may have functioned as a slot-trench which supported upright wooden posts. Linear feature **C10** took the form of a possible shallow ditch, and the single fill contained occasional animal bone fragments and two sherds of 18th/19th century glazed red earthenware. **C8** and **C10** were both recorded on the geophysical survey and were interpreted as a possible enclosure ditch. The recovery of 18th/19th century pottery however suggests that interpretation of this feature as an enclosure ditch is tentative, and archaeological excavation would be required to establish its extent, character and condition.

The western-most enclosure is possibly represented by the badly plough-damaged remains of a ditch (**C14**), as revealed in the southern end of Geophysical Test Trench 2. Pre-test trenching, an anomaly in Geophysical Test Trench 1 was also interpreted as possibly representing the badly plough-damaged enclosure ditch. Test trenching did not reveal any archaeological features associated with that geophysical anomaly however, and it is suggested the ditch at the northern end of the western-most enclosure may have been removed through repeated ploughing. It is interesting to note that test trenching carried out in 2014 in the very western end of Field 5 recorded the possible enclosure ditch as measuring 1.75m wide and with a maximum depth of 0.60m. The ditch in this location was located immediately east of a mature north/south field boundary, and it is possible that as the enclosure ditch extends eastwards from the north/south field boundary it has been more greatly impacted on by ploughing.

No environmental evidence was revealed during the test trenching exercise.

With the exception of the features mentioned above, no additional archaeological features or artefacts were revealed as a result of carrying out the test trenching.

With the exception of the hand-excavated sections, all archaeological features have been preserved *in situ*.

4 IMPACT ASSESSMENT AND MITIGATION MEASURES

Impacts can be identified from detailed information about a project, the nature of the area affected and the range of archaeological resources potentially affected. Archaeological sites can be affected adversely in a number of ways: disturbance by excavation and topsoil stripping; disturbance by vehicles working in unsuitable conditions; and burial of sites, limiting access for future archaeological investigation.

4.1 Impact Assessment

The proposed development will be divided into two separate areas, the Northern Area and the Southern Area, and a Strategic Housing Development (SHD) is proposed for these lands. The overall site area measures 12.5 ha.

Archaeological features were identified in Fields 1 and 5 during the test trenching programme.

The shape and fill of the pit in Field 1 are common elements of archaeological features, and are not diagnostic to any particular archaeological period. The presence of this feature suggests that previously unrecorded archaeological remains may exist in the surrounding area.

A hearth/burnt pit was identified at the northern end of Field 5, although this feature appears to have been disturbed by ploughing activity. Hearths/burnt pits are not diagnostic to any particular archaeological period.

The geophysical survey indicated the presence of two previously unrecorded possibly plough-damaged enclosures in Field 5. A possible ditch in the eastern-most enclosure contained animal bone, and stone in the fill may represent packing material. This tentatively suggests that this feature may have functioned as a slot-trench which supported upright wooden posts. A linear feature, also in the eastern-most enclosure, took the form of a possible shallow ditch, and the single fill contained occasional animal bone fragments and two sherds of 18th/19th century glazed red earthenware. The recovery of 18th/19th century pottery however suggests that interpretation of this feature as an enclosure ditch is tentative, and archaeological excavation would be required to establish its extent, character and condition.

The western-most possible enclosure is represented by the badly plough-damaged remains of a probable ditch.

No environmental evidence was revealed during the test trenching exercise.

With the exception of the features mentioned above, no additional archaeological features or artefacts were revealed as a result of carrying out the test trenching.

With the exception of the hand-excavated sections, all archaeological features have been preserved *in situ*.

4.2 Mitigation Measures

Test trenching revealed four possible archaeological features (a pit, a hearth/burnt pit, and two possible enclosure ditches) in two fields (Field 1 and Field 5). It is recommended that all archaeological features revealed during the test trenching programme in Field 1 and Field 5 be fully excavated and recorded well in advance of groundworks commencing on site. Excavation would be carried out under Licence to the Department of Housing, Local Government and Heritage and the National Museum of Ireland.

It is recommended that monitoring of all groundworks be undertaken in Fields 1, 2 and 5. Monitoring would be carried out under Licence to the Department of Housing, Local Government and Heritage and the National Museum of Ireland. Provision would be made for the full excavation and recording of any archaeological features or deposits that may be exposed during monitoring.

It is considered monitoring is not required in Fields 3, 4, 6, 7, 8, 9 and 10 as fieldwork failed to reveal any archaeological features or artefacts in these areas.

Please note that all recommendations are subject to approval by National Monuments Service- Department of Housing, Local Government and Heritage.

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National Monuments Service

www.bing.com/maps

Bing Aerial Photography

www.buildingsofireland.ie

National Inventory of Architectural Heritage

www.excavations.ie

Database of Irish Excavation Reports

www.map.geohive.ie

Ordnance Survey Ireland aerial photographs

APPENDIX 1: LIST OF CONTEXTS

| | |
|------------|---|
| C1 | Topsoil. A friable mid brown silty clay with occasional 3cm – 5cm stone inclusions evenly distributed. |
| C2 | Natural geology. A compact mid brown clay generally with moderate 5cm – 10cm stone inclusions evenly distributed. |
| C3 | Pit orientated roughly north west/south east measuring 1.5m long x 1.1m wide. Filled by C4 . |
| C4 | Fill of C3 . A friable charcoal-stained dark brown fine silt. |
| C5 | Subsoil. A compact light to mid brown slightly silty clay with occasional 3cm – 5cm stone inclusions evenly distributed and very occasional small red brick and modern pottery fragments evenly distributed. |
| C6 | A hearth/burnt pit which was irregular in plan and measured 1.25m east/west x 0.6m north/south. Filled by C7 . |
| C7 | Fill of C6 . An oxidized reddened silt with charcoal. |
| C8 | Possible ditch. A narrow V-shaped linear cut orientated north east/south west and 0.25m wide x 0.2m deep. Filled by C9 . |
| C9 | Fill of C8 . A greyish brown stony silt. Angular stones and cobbles were present in C9 , and these resembled packing material. A small amount of animal bone was recovered from a hand-excavated section. |
| C10 | A possible shallow ditch measuring 1.3m wide x 0.2m deep. Filled by C11 . |
| C11 | Fill of C10 . A friable grey brown stony silt which contained occasional small animal bone fragments and two sherds of 18 th /19 th century glazed red earthenware. |
| C12 | Geophysical anomaly recorded in Geophysical Test Trench 5 containing a sherd of modern pottery, two fragments of red brick and modern glass. |
| C13 | A compact sticky dark grey clay with occasional small red brick fragments in Geophysical Test Trench 7. |
| C14 | A probable ditch with gently regular curving sides and a slightly rounded base. It measured approximately 1.1m wide north/south x approximately 0.3m deep. Filled by C15 . |
| C15 | Fill of C14 . A loose mid brown silty clay with occasional small stone inclusions evenly distributed. |
| C16 | A 0.50m wide x 0.30m deep north/south oriented field boundary filled with a friable mid brown clay with occasional small stone inclusions and occasional small shell and mortar fragments in Geophysical Test Trench 9. |

| | |
|------------|--|
| C17 | A 1.5m wide x 1.5m deep east/west oriented linear feature filled by a friable mid to dark brown silty clay which contained red brick and mortar fragments in Geophysical Test Trench 10. |
| C18 | Made ground in Field 4 consisting of demolition rubble with metal, large pieces of concrete, red brick, plastic bags, <i>etc.</i> |
| C19 | Subsoil. A compact dark brown silty clay with moderate 5cm – 10cm stone inclusions. |