

Geophysical Survey Report

Proposed Residential Development at Forest Road, Swords, Co. Dublin

Detection Device Number: 25R0166

Donald Murphy
May 2025
Report Status: Final


ACSU Ref: 24198



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PROJECT DETAILS

Project Proposed Residential Development at Forest Road, Swords, Co. Dublin

Report Type Geophysical Survey Report

Licence No. 25R0166

Townland(s) Forrest Great

RMP/SMR No. N/A

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VERSION CONTROL

Revision	Date	Description	Status	Author	Reviewed	Approved
1.0	19.05.2025	Geophysical survey results	Final	D.M	L.C	D.M

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NON-TECHNICAL SUMMARY

This report details the results of a Geophysical Survey carried out at Forest Road, Swords, Co. Dublin (ITM 716555, 745222). The site is positioned along Forest Road and consisted of an agricultural field, south of Ridgewood residential estate. The geophysical survey was carried out at the pre-planning phase at the request of the client and based on the recommendations made in an Archaeological Impact Assessment by Magda Lyne of Archaeological Consultancy Services Unit (ACSU) Ltd (Lyne 2024). The site was not subject to archaeological investigations prior.

The site contains no monuments listed in the Record of Monuments and Places (RMP) or the Sites and Monuments Record (SMR). The nearest site is a Ring Ditch (DU011-119), identified as a cropmark and registered in an adjacent field, approximately 110m southwest of the site. The site does not contain any Protected Structures, as listed in the Fingal County Development Plan 2023–2029, nor any structures listed in the National Inventory of Architectural Heritage (NIAH).

The geophysical survey was conducted by Donald Murphy, Robert Breen and Jeanne Rochford of Archaeological Consultancy Services Unit Ltd. (ACSU) under licence 25R0166 issued by the Department of Housing, Local Government and Heritage. A full, detailed gradiometer survey was undertaken throughout the application area using a SENSYS MAGNETO MXV3 8-sensor fluxgate gradiometer cart system.


The survey identified a potential archaeological feature along the eastern portion of the field, consisting of a circular anomaly that may represent a ring ditch (**M1**). Potential spread/pit remains of archaeological significance have also been recorded throughout the survey area. An archaeological interpretation for responses in these areas is highly tentative, and a natural soil or geological origin or recent land use for these anomalies should be considered. A sample of these responses should be assessed through test trenching.

It is recommended that the anomalies identified be targeted during a future test trenching programme. Features exposed shall be sufficiently sectioned in order to assess their depth and nature. This must be carried out by a licence-eligible archaeologist prior to any groundworks taking place. Once test trenching is complete, further mitigation might include preservation *in situ* (avoidance), excavation (preservation by record), and/or monitoring. The Department of Housing, Local Government, and Heritage shall be consulted in this regard.

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1. INTRODUCTION

This report details the results of a Geophysical Survey carried out within the townland of Forest Road, Swords, Co. Dublin (ITM 716555, 745222; Figures 1-2). The proposed geophysical survey was carried out at the pre-planning phase at the request of the client and based on the recommendations made in an Archaeological Impact Assessment by Magda Lyne of Archaeological Consultancy Services Unit (ACSU) Ltd (Lyne 2024). The site consisted of one agricultural field, measuring c. 4.2 hectares.


The site contains no monuments listed in the Record of Monuments and Places (RMP) or the Sites and Monuments Record (SMR). The nearest site is a Ring Ditch (DU011-119), identified as a cropmark and registered in an adjacent field, approximately 110m southwest of the site. The site does not contain any Protected Structures, as listed in the Fingal County Development Plan 2023–2029, nor any structures listed in the National Inventory of Architectural Heritage (NIAH).

2. METHODOLOGY

The detailed magnetic survey was carried out using a SENSYS MAGNETO® MXV3 modular carrier that is configured to host 8 Sensys FGM650/3 sensors spaced at 0.5m intervals with a total survey width of 4m. The non-magnetic cart system is towed behind a quad bike, and readings are recorded at 200Hz. Data is captured every 20mm with a position accuracy of ± 1 cm using a Trimble R10 RTK GNSS receiver mounted on the cart at a height of 1.5m. All data is recorded with SENSYS software MonMX v.5.01 on a Panasonic FZ-G1 TOUGHPAD tablet computer in .cfg format.

Data is collected along parallel survey transects using the digital display system in Monmx, which provides a live stream of visual data. This allows for an accurate systematic survey without the need to establish pre-determined grids. Magnetic data is exported from the MonMX software in ASCII format and is imported to DW Consulting's TerraSurveyor64 v4.1.12.1 for processing. The data is initially de-striped (zero median traverse) and then clipped to a range of -1.5nT – +3nT. A TIF file is produced by TerraSurveyor software along with a corresponding world file (.TFW), which allows for automatic georeferencing when using CAD software. Raster images are georeferenced in ProgeCAD 2018 before being interpreted in AutoCAD LT 2025. Graphical interpretations that indicate anomalies identified are numbered so that they can be referenced in the survey results section of the geophysical survey report.

All work was carried out in accordance with the *IAI Code of Professional Conduct* (Institute of Archaeologists of Ireland 2006) and in accordance with the *EAC Guidelines for the use of Geophysics in Archaeology* (Schmidt

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et al. 2016), as well as English Heritage's *Geophysical Survey In Archaeological Field Evaluation* (David et al. 2008).

3. SURVEY OBJECTIVES

The survey aimed to establish the presence of any potentially existing but previously unknown monuments and any other archaeological features within the site and to inform a future programme of test trenching.

4. SOILS, GEOLOGY AND TOPOGRAPHY

The survey area consisted of a single agricultural field, located west of the L2025 Forest Road, southwest of Swords Village, Co. Dublin. Directly north of the site is a large residential area known as 'Ridgewood'. To the east of the site is the 'Forrest Little Golf Club' on the adjacent side of Forrest Road, and Dublin Airport is located to the south of the site. The northern boundary of the site consists of a wet ditch that is the townland boundary between Forrest Great and Rathingle. The site has an elevation of 53-59m Ordnance Datum (OD).


The underlying geology consists of argillaceous bioclastic limestone and shale and is part of the Malahide Formation. The bedrock geology in the northern part of the site is overlaid by till derived chiefly from limestone, and the southern portion of the site consists of mineral, poorly drained soils. (Geological Survey Ireland).

5. ARCHAEOLOGICAL ASSESSMENT

5.1 Archaeological & Historical Background

The site is located in the towland of Forrest Great, in the Barony of Nethercross and the Civil Parish of Swords. Forrest Great from Irish *An Fharaois Mhór* was recorded in the 13th century as *Werhewell in the manor of Swords* and the 15th century as Little Farrow, an abbreviation of the name noted frequently in historical sources in the 16th, 17th and 18th centuries.

The site is located to the southwest of the zone of archaeological potential associated with the historic town of Swords (DU011-035-), and the nearest monument to the site is a Ring-Ditch (DU011-119), identified as a cropmark and registered in an adjacent field, c. 110m to the southwest of the site.

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SWORDS


Swords is a large town located 13 km north of Dublin City Centre, off the N1 road to Belfast. Swords, which derive from Sord meaning pure, is said to relate to the water of the holy well on Well Road (DU011:034/013). This is perhaps a pre-Christian well, but it is said to have been blessed by St. Colmcille (d. AD 597). Although Colmcille is the most widely credited, there are divided opinions about the identity of the person responsible for Sword's foundation. Nevertheless, the town's history began in the Early Christian period when it became a monastic settlement whose first abbot is said to have been St. Fionnan Lobhar. A church named after St. Fionnan survived in Swords until the close of the Middle Ages (Bradley and King 1988).

Swords is first mentioned in the annals when, in the year AD 965, the bishop of Swords and Lusk, Ailill Mac Manach, died. In AD 994, the monastery of Swords was burned by Maelseachlainn and suffered a similar fate several more times between AD 1020 and 1166. In AD 1035, Swords was raided by the king of Meath in revenge for an attack carried out by the Dublin Norse on Ardbracan. This suggests that Swords at that time was part of the Scandinavian kingdom of Dyfflinarskiri. It seems likely that Dublin Vikings (Ostmen) were living in Swords up to the arrival of the Anglo-Normans in the second half of the twelfth century. As late as 1326, there is a reference to "sixteen foreign burgesses" in the manor of Swords, and there is evidence that these particular 'foreigners' were of Scandinavian origin. Swords, it seems, was a Viking settlement as well as a monastic one (Bradley and King 1988).

By the late twelfth century, the lands attached to Swords monastery were part of the see lands of Dublin and were confirmed to Dublin's archbishop, Laurence O'Toole, in 1179. The archbishops had established a borough at Swords by the end of the twelfth century, making it one of the earliest. Borough status conferred upon the citizens of Swords privileges such as the right of self-government and gave them trade protection from outside merchants. In 1193, the borough was granted the right to hold an eight-day fair centred on the feast of its founding saint, Colmcille (Bradley and King 1988).

The standard building plot of towns and villages in the Middle Ages was known as a burgage. In most towns, the burgage was a narrow, deep plot of land with a house at one end fronting the street, with a space behind used as a garden. Another grant of 1181–1212 confirmed the burgesses (townspeople) of Swords in their burgages and allowed them privileged liberties and free customs in Dublin (Bradley and King 1988).

Swords was one of the largest boroughs established by the archbishops of Dublin, with an extent of the manor taken in 1326 recording more than 120 burgesses. The borough was also one of their most enduring, continuing to function into the sixteenth century. In 1578, the town was granted a new charter by Queen

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Elizabeth I that established Swords as a parliamentary borough with the right to return two members to parliament (Bradley and King 1988).

The zone of archaeological potential for Swords was determined by Bradley and King in their Urban Archaeology Survey for County Dublin. This zone is based on the location of the medieval borough and the early monastic settlement. The medieval town was mainly arranged along a single linear street, Main Street, which was referred to as High Street in medieval times. The focus of settlement, as today, was the gates of the archbishops' palace. A fourteenth-century document refers to another street in Swords called Le Camerothe, which Bradley and King suggest could relate either to Seatown Road or to Well Road. In 1395, a weekly market was confirmed to the archbishops of Dublin to be held in Swords. This is likely to have been a confirmation of a grant issued during the reign of King John (1199–1216). The marketplace was located on Main Street and is still apparent today, where the street was widened to accommodate it (Bradley and King 1988).

Historical documents, such as Archbishop Alen's register, include numerous references to individual burgage plots and properties in medieval Swords. A number of the houses of this period seem to have even survived into the nineteenth century, as D'Alton, writing in 1838, referred to the "ancient aspect" of some of the inns. Swords also possessed a number of mills, the first reference to which dates back to 1191. The extent of the manor of 1326 referred to them as watermills and valued them at 100 shillings (Bradley and King 1988).

D'Alton also mentioned that Swords was one of the walled towns of County Dublin in 1578, though there is no trace of town defences in existence today. However, the course of these walls can be suggested. The long, linear boundary delimiting the properties on the eastern side of Main Street appears to be an obvious line. The location of the southern boundary is unclear, but on the west, the boundary was probably formed by the Ward River, a stream known in medieval times as Reynen. The parish church was probably outside the defences but could have been protected by the Early Christian enclosure. The Early Christian monastery had been established on the prominent ridge of high ground overlooking Main Street from the west. It was bound on the east and south by the stream and the monastic enclosure and is still preserved today by the curving line of Brackenstown Road, Church Road and Rathbeale Road (Bradley and King 1988).

Swords Castle was one of the principal residences of the archbishops of Dublin, and references to a constable of the castle during the time of Archbishop John Comyn suggest that it was built around 1200. Some writers have suggested that Swords was abandoned around 1324 in favour of Tallaght, but there is no evidence for the construction of a castle at the latter location around this time. Architectural evidence suggests that Swords

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Castle was still occupied in the fifteenth and sixteenth centuries when it was being sublet to members of the Fitzsimon and Barnewall families (Bradley and King 1988).

Ring-ditches and barrows

Towards the end of the Neolithic and the beginning of the Bronze Age, features known as ‘barrows’ emerged. These can be defined as earthen or earth/stone construction mounds with a surrounding ditch or ditches, sometimes with a low external bank, typically less than 30 metres in diameter and most commonly associated with cremation burials (O’Sullivan and Downey 2012). The example in Forrest Great was recorded as a cropmark (DU011-119). Historic Environment Viewer records 189 monuments classed as ring-ditches in County Dublin. Three such monuments were recorded within 1 km or less of the site (DU011-162, DU011-114, and DU011-047), and all, including DU011-119, have no surface impression and were identified via aerial imagery.

In 2002, in advance of the gas pipeline works from North Dublin to Limerick, ring-ditches/barrows were excavated at Flemingtown, Co. Meath, Dalystown 1, Co. Westmeath, Knockuregare, Co. Limerick and Rath, Co. Dublin (Grogan et al. 2007). All of these sites had substantial ditches, the largest having an external diameter of 38.75m. The excavations provide evidence that this type of funerary site was prevalent throughout the Bronze Age (2450–800 BC) and highlight the significance of liminal space for death and burial, as expressed in the form of ceremonial enclosures. McGarry (2009) states that, of all the barrows excavated in Ireland, about half have produced the remains of a single person, most commonly found under the mound and central to the barrow. Almost all sites, however, produce cremated human remains spread throughout the fill of the barrow ditches; as can be seen at sites such as Ballybeen, Co. Antrim (Mallory 1984) and Ballydribbeen, Co. Kerry (Dunne 2003). Another interesting feature of barrows is the presence or absence of an ‘entrance’ or break in the ditch, which provides a causeway into the monument. Entrances are present in a number of ring-ditches and ring-barrows, and although the entrance may be orientated in any direction, there is a clear preference for them facing either east or south-east. It must be noted, however, that there are also many instances where entrances are not present, such as Donacarney, Co. Meath (Stirland 2017).

5.2 Previous Archaeological Investigations

Listed below are the nearest previous archaeological investigations undertaken in the environs of the site (see Figure 2), which further demonstrate the overall archaeological potential of the site and its surrounding

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townlands (Table 1). The following information was taken from the *Database of Irish Excavation Reports* (www.excavations.ie), and associated reports were accessed through the National Monuments Service's (NMS) Virtual Reading Room.


The site was not subject to archaeological investigations previously. However, assessments in the area were carried out, resulting in archaeological remains being exposed and subsequently excavated. These include a burnt mound, a bivallate enclosure and archaeological complex (09E0466; Hession 2009) identified to the southeast of the site during test trenching in relation to the Metro North light rail project and prehistoric activity and early medieval settlement (15E0334; McGlade 2016) to the northwest of the site identified during test trenching in relation to Ridgewood development to the north of the site.

Table 1: Previous archaeological investigations within the environs of the site

Excavation.ie reference	Licence No.	Site-Type	Investigation Type
2016:052 - Rathingle, Swords, Dublin	15E0334	Prehistoric activity and early medieval settlement	Testing Monitoring Excavation
2009:337 - FOSTERSTOWN SOUTH, Dublin	09E0466	Burnt mound, bivallate enclosure, archaeological complex	Geophysical Survey Testing
1996:141 - OLD VICARAGE, Swords, Dublin	95E0035	No archaeology found	Testing

5.3 Recorded Monuments

The *Record of Monuments and Places* (RMP) and *Sites and Monuments Record* (SMR) are compiled and updated by the National Monuments Service and the National Historic Properties Service. The RMP is comprised of manuals that list all known archaeological sites and monuments in a county with accompanying maps (based on Ordnance Survey (OS) six-inch maps) locating these sites. All sites included in the RMP are protected under the National Monuments Acts (1930–2004). The SMR consists of all records stored in the Archaeological Survey of Ireland national database and is presented in the Historic Environment Viewer. The last published RMP for County Dublin is dated 1998, and as such, many of the sites listed in the SMR are scheduled for inclusion in the next revision of the RMP.


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The site contains no monuments listed in the *Record of Monuments and Places* (RMP) and/or the *Sites and Monuments Record* (SMR). The nearest monument is a Ring Ditch (DU011-119), identified as a cropmark and registered in an adjacent field, approximately 110m southwest of the site.

Below (Table 2) is a list of the recorded monuments located in the environs of the site (Figure 2). These descriptions are derived from the National Monuments Service Archaeological Survey Database (<https://heritagedata.maps.arcgis.com/apps/webappviewer/>).

Table 2: Recorded Monuments in the environs of the site

DU011-119----	Ring-ditch	FORREST GREAT
<p>A circular ring-ditch visible as a crop mark on an aerial photograph (SMR file; pers. comm. T. Condit). The site is located in a relatively low-lying field within a gently undulating landscape. No visible remains at ground level.</p> <p>Compiled by: David O'Connor</p> <p>ITM Coordinates: 716208, 745254</p> <p>Latitude and Longitude: 53.444541, -6.250687</p>		
DU011-163----	Enclosure	RATHINGLE
<p>First identified by Leo Swan and provided to the ASI by the Discovery Programme (copyright of the images vested in the National Museum of Ireland), this bivallate crop-mark enclosure was identified in oblique aerial photographs (LS_AS_35CT_00022_34m, LS_AS_35CT_00022_35m, LS_AS_67BWN_00001_05, LS_AS_67BWN_00001_07, LS_AS_67BWN_00001_11). The crop-mark consists of a central circular area (approximate diam. 20m N-S) enclosed by a fosse with an outer oval enclosure (approximate diam. 50m E-W). Faint traces of an earlier small sub-rectangular crop-mark enclosure can be seen beyond the NE quadrant truncated by the outer ditch. The enclosure is situated S of the ring-ditch of DU0110-162----</p> <p>Compiled by: Margaret Keane</p> <p>ITM Coordinates: 716176, 745754</p> <p>Latitude and Longitude: 53.449039, -6.250984</p>		
DU011-114---	Ring-ditch	FOSTERSTOWN SOUTH

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A circular ring-ditch visible as a crop mark on an aerial photograph. To the southeast a sub-circular enclosure is also visible within the same field (DU011-113----) (SMR file; pers. comm. T. Condit). The site is located on low-lying land that rises steeply to the south. No visible remains at ground level.

Compiled by: David O'Connor

ITM Coordinates: 717035, 745052

Latitude and Longitude: 53.442544, -6.238320

DU011-162----

Ring-ditch

RATHINGLE

First identified by Leo Swan and provided to the ASI by the Discovery Programme (copyright of the images vested in the National Museum of Ireland) the ring-ditch was identified in oblique aerial photographs (LS_AS_678BWN-00001_07, LS_AS_678BWN-00001_11). The cropmark consists of a small circular ring-ditch (approximate diam. 12m N-S) lying just to the N of the bivalent crop-mark enclosure of DU0110-163----

Compiled by: Margaret Keane

ITM Coordinates: 716186, 745830

Latitude and Longitude: 53.449720, -6.250806

DU011-044----

House - 16th/17th century

FORREST GREAT


The Civil survey (1654-6) mentions a fair stone house at the Great Forrest held by Lord Ranelagh (Simington 1945, 113). This is probably the building shown on the 1840 OS 6-inch map. as 'Forrest House in ruins'. In the 1992 report there were foundations of this building present at the rear of a large farmhouse. Now a yard. No visible remains.

Compiled by: Geraldine Stout

Six-Inch Latest Edition: 'Great Forrest'

ITM Coordinates: 715745, 744780

Latitude and Longitude: 53.440385, -6.257828

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5.4 Record of Protected Structures and National Inventory of Architectural Heritage

The National Inventory of Architectural Heritage (NIAH) identifies, records, and evaluates the post-1700 architecture of Ireland in order to protect and conserve our built heritage. It is under the administration of the Department of Housing, Local Government and Heritage. It also forms the basis of a list for structures that should be included in the Record of Protected Structures (RPS) compiled by local authorities.

A Protected Structure is a structure that a planning authority think is of special interest from an architectural, historical, archaeological, artistic, cultural, scientific, social, or technical point of view. The structure is recognised as important and is protected from harm under legislation. Every local authority in Ireland must keep an RPS in their development plans.

The site contains no buildings or features that are Protected Structures, as listed in the Fingal County Development Plan 2023–2029, nor any sites listed in the NIAH (Figure 2). The nearest site is a World War II Pillbox (RPS ID 952) located c. 0.5km to the south of the site, in the grounds of Forrest Little Golf Course. Described as a *mid-20th-century (built circa 1941), flat-roofed, square-plan concrete WWII pillbox/machine-gun post to defend Collinstown Aerodrome (now Dublin Airport). Currently used as pumphouse for golf course.*


5.5 Finds listed within the Topographical Files of the National Museum of Ireland

The Topographical Files of the National Museum of Ireland list all artefacts in the care of or known to the museum. Such a record can provide evidence for human settlement or activity in the absence of other physical remains or documentary references.

A number of finds are listed in the environs of the site, including a polished basalt axe head (NMI Reg. No. 1959:13) from Fosterstown North and a retouched flint flake (NMI Reg. No. 2004:117) retrieved from Windmill Lands.

5.6 Cartographic Evidence

A review of available historic mapping for the area was carried out to include the Down Survey Map of County Dublin, Barony of Nethercross (1656), An Actual Survey of the County of Dublin by John Rocque (1760) and Ordnance Survey (OS) of Ireland (now Tailte Éireann) 6-inch (1836) and 25-inch (1906) maps (Figures 3–4).

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Potential archaeological or cultural heritage features are often marked on such maps, providing a useful resource for identifying sites, particularly when they no longer have any above-ground remains.

The 1656 map labelled the area of the site as 'Unforfeited' with no more detail given. On the 1760 map, the site is shown as a part of a field adjacent to an established road lined by trees; that road is roughly within the footprint of the current Forest Road.

On the Ordnance Survey maps, the site is depicted as agricultural land with no buildings illustrated, and the northern boundary is a wet ditch and a townland boundary. The site is shown as a portion of two fields on the 1836 map (Figure 3), and by the 1906 map (Figure 4), this field boundary was removed.

No monuments or features of archaeological significance were noted on the examined mapping.

5.7 Aerial Photography


A review of available aerial photography for the area was also undertaken as part of this assessment. Aerial photographs dating between 1995 and 2018 from the Tailte Éireann were assessed, along with Google Earth imagery dating between 2006 and 2024. Unrecorded archaeological sites can often be identified in aerial photographs as cropmarks or differential growth in a field, particularly during periods of drought, such as those experienced in the summer of 2018.

By the time of the 1995 aerial, the eastern portion of the site had undergone some groundworks, with access and a structure in place. These were removed by the time of the 2002 aerial, but the footprint and the location of the access are still visible. The site appears to be grassed and overgrown in places, as shown in the 2024 aerial imagery.

Nothing of cultural heritage significance was identified within the site on the examined aerial imagery.

6. METHOD OF DATA INTERPRETATION

As outlined above, a detailed gradiometer survey that allows the detection of potential archaeological responses was conducted. The SENSYS MAGNETO MXV3 8-sensor fluxgate is a specifically designed gradiometer for use in archaeological prospection. Extremely sensitive, these instruments can detect variations in soil magnetism between 0.25nT and 10,000nT affording diverse applications throughout various archaeological, soil morphological and geological conditions. The survey was geo-referenced through the MonMX software with a Trimble R10 RTK GNSS receiver accurate to $\pm 1\text{cm}$. The results were interpreted by

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examining the raw data as greyscale images that were produced in DW Consulting's TerraSurveyor64 software. Greyscale images are exported as TIFF files along with a corresponding World file (.TFW) which are then imported to progeCAD 2018 for georeferencing and AutoCAD LT 2025 for interpreting. Processed raw data in the form of greyscale images are presented in Figure 5, and an interpretation is included in Figures 6 and 7.

7. SURVEY RESULTS

The geophysical survey was conducted in May 2025 by Donald Murphy, Robert Breen and Jeanne Rochford of ACSU under licence 25R0166 (Figures 6-8). The anomalies identified are listed in Table 3 below.

Table 3: Geophysical survey results

Anomaly No.	Form/Nature of Anomaly	Possible Source(s) of Anomaly	Description
M1	?Archaeology	Possible ring ditch	Positive circular anomaly that may represent a ring ditch with a diameter of c. 7m, along the eastern portion of the survey area.
-	?Archaeology	Small to medium anomalies: pits, posts, spreads, kilns, cut features	A series of positive anomalies occur sporadically across the survey area. These might represent cut features such as pits, postholes, spreads, kilns, or other types of archaeological features. May also be natural in origin.
-	Magnetic disturbance	Modern disturbance	Increased dipolar responses occurred throughout the survey area, which are likely associated with modern ground disturbances.
-	Magnetic disturbance/ increased magnetism	Modern disturbance	Increased magnetic disturbance occurring along field boundaries, associated with metal fencing.
-	Modern anomalies	Modern disturbance	Increased dipolar responses occur towards the eastern portion of the survey area. A concrete pad and building rubble in the field correspond with this anomaly.
-	Modern	Modern disturbance	A series of dipolar circular anomalies occur in the

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Anomaly No.	Form/Nature of Anomaly	Possible Source(s) of Anomaly	Description
	anomalies		southeast portion of the survey area; these appear to correspond with areas of disturbance visible on aerial imagery and may be associated with the golf club.
-	Ferrous	Magnetic disturbance from modern debris	Bipolar anomalies sporadically occurring that are associated with magnetic interference from modern ferrous material, either in the topsoil or the surface of the survey area.

8. IMPACT ASSESSMENT

The purpose of this assessment was to determine whether the site contained any evidence of previously unrecorded areas or features of historical, built, or archaeological significance, and to assess the potential impacts that the proposed development may have on such features.


A geophysical survey of the site was carried out under licence 25R0166. The site consisted of a single agricultural field and measured c. 4.2 ha. The proposed development site contains no monuments listed in the *Record of Monuments and Places* (RMP) and/or the *Sites and Monuments Record* (SMR). One feature of archaeological potential was detected as a result of the geophysical survey that may represent a ring ditch (M1) and scatters of other anomalies, which also represent potential archaeology (?Archaeology).

The proposed development of this site has the potential to impact this feature as well as features of archaeological potential identified at the following locations, if not adequately mitigated:

- A positive circular anomaly (**M1**) in the eastern portion of the field that may represent a ring ditch.
- Scatters of positive anomalies that may represent potential archaeological cut features throughout the survey area.

9. CONCLUSIONS & RECOMMENDATIONS


The geophysical survey within the townland of Forest Road, Swords, Co. Dublin (ITM 716555, 745222) was carried out to assess the site's archaeological potential at a pre-planning stage at the request of the client and

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based on the recommendations made in an Archaeological Impact Assessment by Magda Lyne of Archaeological Consultancy Services Unit (ACSU) Ltd (Lyne 2024).

The survey identified a potential archaeological feature along the eastern portion of the field, consisting of a circular anomaly that may represent a ring ditch (**M1**). Potential spread or pit remains of archaeological significance have also been recorded throughout the survey area. An archaeological interpretation for responses in these areas is highly tentative, and a natural soil or geological origin or recent land use for these anomalies should be considered. A sample of these responses should be assessed through test trenching.

It is recommended that any anomalies identified be targeted during a future test trenching programme. Features exposed should be sufficiently sectioned in order to assess their depth and nature. This must be carried out by a licence-eligible archaeologist prior to any groundworks taking place. Once test trenching is complete, further mitigation might include preservation *in situ* (avoidance), excavation (preservation by record), and/or monitoring. The Department of Housing, Local Government, and Heritage shall be consulted in this regard.

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11. APPENDIX 1 – SUMMARY TECHNICAL INFORMATION & GLOSSARY OF TERMS


Detailed magnetometer Surveys offer an effective and efficient way of surveying large areas for anomalies associated with past human activity by mapping and visualising spatial variations in the local magnetic field. Anomalies of archaeological interest can be identified as they emit contrasting magnetic properties to those of the surrounding soil. This allows for the identification of various archaeological features such as kilns, hearths and burnt mounds as they result in strong magnetic responses. Magnetometer surveys also help to identify ditches and pits that usually contain a multitude of deposits of varying magnetic properties that stand out in contrast to the consistency of the surrounding undisturbed soil. This allows for the identification of sites such as enclosures, ring-ditches and field systems that have been over time, ploughed out of the visible landscape.

Survey results take the form of processed greyscale images and interpretation figures that can be georeferenced over satellite imagery or development plans for a full assessment of the archaeological impact of any given project.

A constant high quality of data is assured by experienced field staff operating in accordance with EAC *Guidelines for the use of Geophysics in Archaeology* (Schmidt et al. 2015) and English Heritage's *Geophysical Survey In Archaeological Field Evaluation* (David et al. 2008).

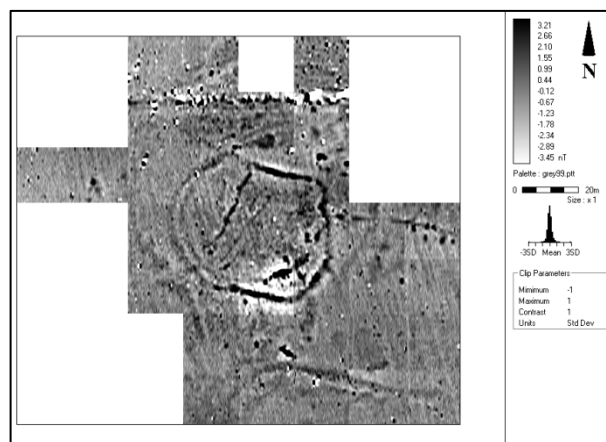


SENSYS MAGNETO® MXV3 modular carrier with 8 SENSYS FGM650/3 sensors spaced at 0.5m intervals

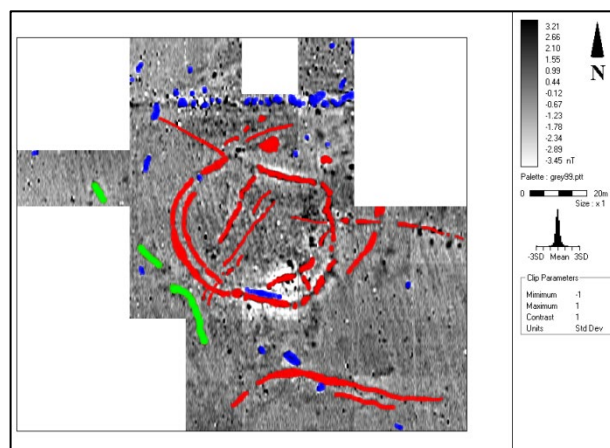
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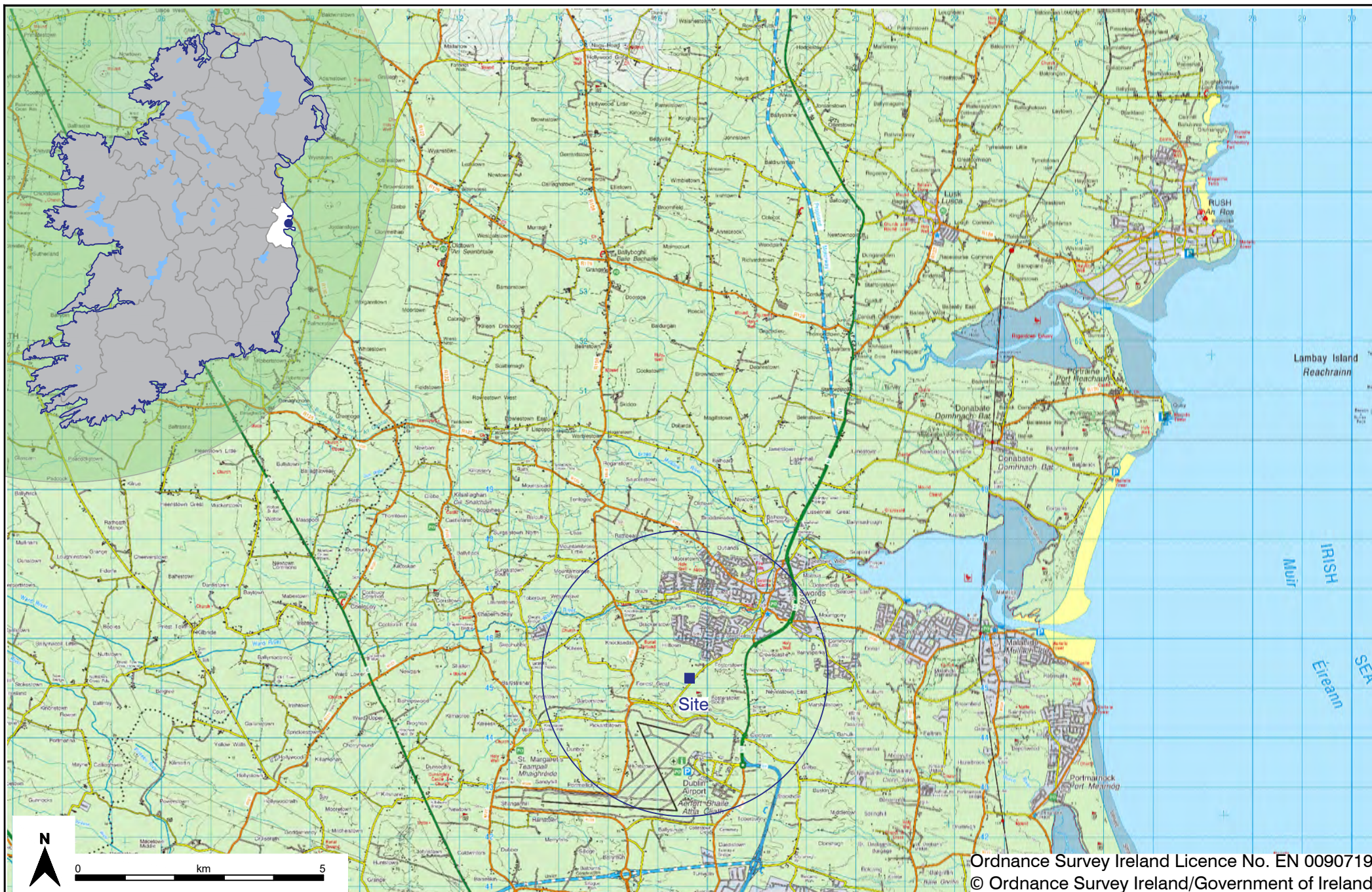
Data Display Formats

Greyscale: The greyscale format assigns a cell to each datum according to its location on the grid. The display of each data point is conducted at very fine increments, allowing the full range of values to be displayed within the given data set. This display method also enables the identification of discrete responses that may be at the limits of instruments detection.



Interpretation: The greyscale images are used to create interpretation drawings of the various anomalies that represent features of archaeological potential, early field systems, trends, cultivation, modern ferrous interferences and underlying geological changes.





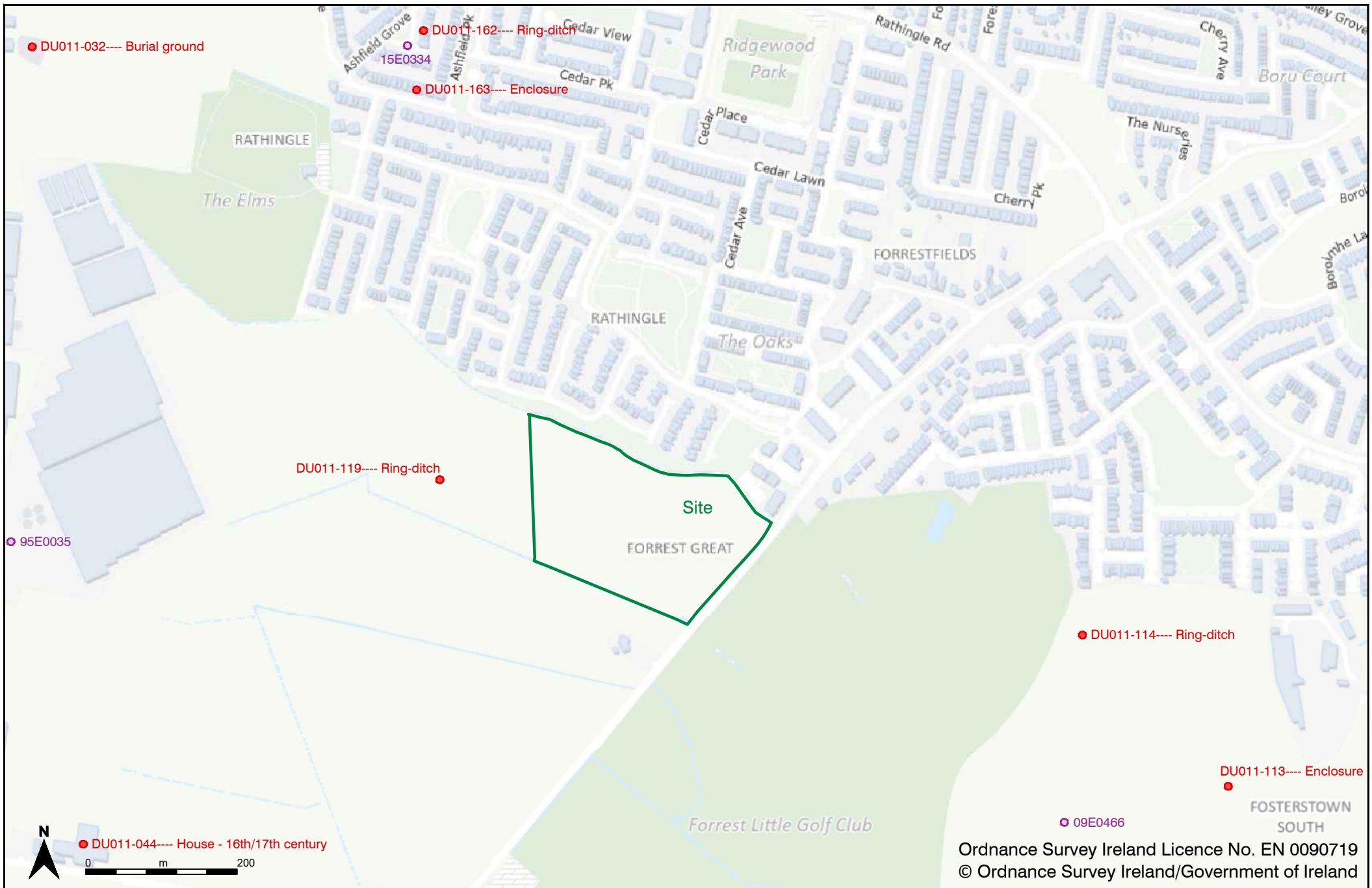
Project Forrest Road, Swords, Co. Dublin

Date May 2025


Drawing No. 24198_C1011

Figure 1 Location of site

Scale 1:100,000 @ A4



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Project Forrestdale Road, Swords, Co. Dublin	Date May 2025	Drawing No. 24198_C1012	 ARCHAEOLOGICAL CONSULTANCY SERVICES UNIT
Figure 2 Location of site, previous archaeological investigations and nearby Sites and Monuments Record sites		Scale 1:6,500 @ A4	



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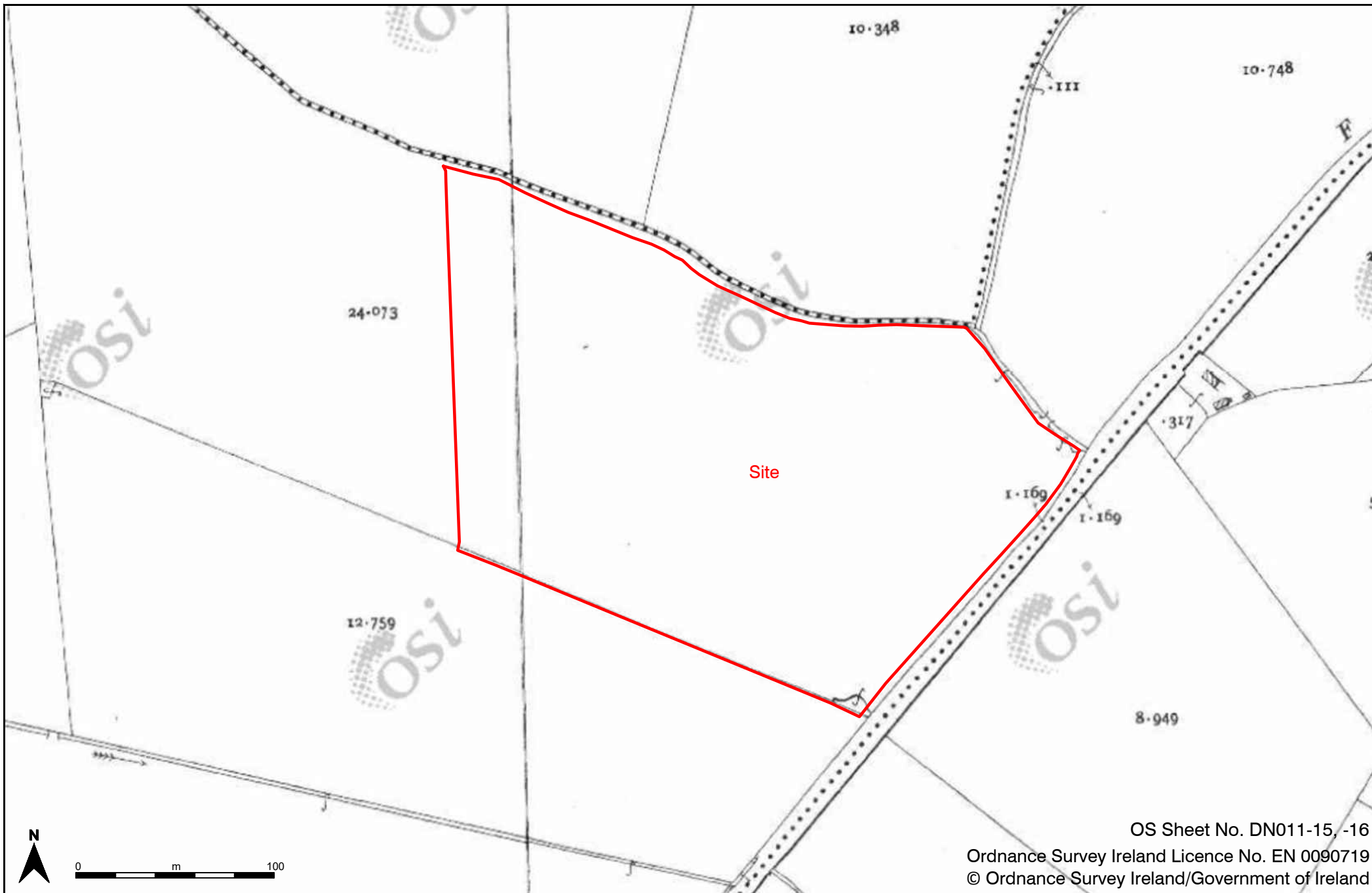
Project Forrest Road, Swords, Co. Dublin

Date May 2025

Drawing No. 24198_C1013

Figure 3 Extract from 1st edition Ordnance Survey (OS) 6-inch map (surveyed 1836 - published 1843), showing location of site

Scale 1:2,500 @ A4



OS Sheet No. DN011-15, -16

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Drawing No. 24198_C1014

Figure 4 Extract from 3rd edition Ordnance Survey (OS) 25-inch map (surveyed 1906 - published 1908), showing location of site

Scale 1:2,500 @ A4





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Figure 5 Aerial view of site

Scale 1:2,500 @ A4





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Date May 2025

Drawing No. 24198_C1016

Figure 6 Aerial view of site, showing geophysical survey results (greyscale images)

Scale 1:2,000 @ A4



- Archaeology
- ? Archaeology
- ⬮ Trend
- ▨ ? Early field system
- ▨ Former boundary
- ▨ Buried service
- ▨ Cultivation
- ▨ Land drain
- ⊕ Natural/underlying geology
- ▨ Magnetic disturbance
- ▨ Modern anomalies
- Ferrous





Project Forrest Road, Swords, Co. Dublin

Date May 2025

Drawing No. 24198_C1018

Figure 8 Detail of site development and geophysical survey interpretation

Scale 1:2,000 @ A4