IAC Archaeology

ARCHAEOLOGICAL ASSESSMENT
AT
LISDARAN
CAVAN,
COUNTY CAVAN

ON BEHALF OF: LISDARAN DEVELOPMENTS LTD

ITM: 641200, 806300

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ABSTRACT

This assessment has been prepared on behalf of Lisdaran Developments Ltd, to study the impact, if any, on the archaeological and historical resource of the proposed residential development at Lisdaran, Cavan, County Cavan (Figure 1; ITM 641200, 806300). It was carried out by Matt Brooks and Jonny Small of IAC Archaeology.

The proposed development area comprises open pastureland and extends within the zone of notification for two recorded monuments in Lisdaran townland: ringforts (CV020-057 and CV020-058). This assessment is informed by the results of test trenching (2007) and geophysical survey (2024). Testing revealed three previously unrecorded areas of archaeological significance, of which two are contained within the footprint of the proposed development area. Prehistoric activity represented by a burnt mound remains and a saddle quern are designated as 'Area 3' and 'Area 4'. Further to the west 150m outside the proposed development boundary, a wooden trackway and polished stone axehead of Neolithic date ('Area 1'). Geophysical survey mapped the enclosing ditch for site CV020-057 and yielded potential evidence for internal structures and features. A range of other features including possible burnt spreads and a possible early field system were indicated, adding to the testing data.

The recorded ringfort (CV020-057) will be preserved *in situ* within a proposed open green space, designated as 'Rath Park'.

- A minimum 10m construction exclusion buffer zone will be established from the known enclosure with a temporary fence installed prior to construction to prevent inadvertent direct or indirect negative impact from construction-related activity, such as passage of machinery.
- Any paths or landscaping within 'Rath Park' will adhere to a 'no-dig' construction approach to preserve underlying archaeological remains.
- A conservation management plan for CV020-057 will be prepared in line with the Construction Management Plan

A proposed foul drainage pipeline connecting with the existing Cavan Wastewater Treatment Plant extends across the zone of notification for ringfort CV020-058, c. 5m south of the upstanding remains of the monument. Groundworks associated with the service trench may have a direct negative impact on any features or deposits associated with the ringfort that have the potential to survive beneath the current ground level within the footprint of the pipeline corridor.

- It is recommended that a program of targeting testing be carried out within the footprint of the proposed foul drainage connection footprint to investigate the potential for remains associated with ringfort CV020-058. This should be carried out prior to construction by a suitably qualified archaeologist under licence to the National Monuments Service. Further mitigation may be required depending on the results of this assessment, such as such as preservation *in situ* or by record, following consultation and agreement with National Monuments Service.

- A non-ground intrusive temporary fence (e.g. heras fencing) should be established along the northern perimeter of the works corridor to protect the upstanding remains of the ringfort CV020-057 from inadvertent direct or indirect negative impact from construction-related activity, such as passage of machinery.

At least two additional archaeological areas have been identified within the proposed development area, comprising remains of prehistoric activity ('Area 3' and 'Area 4'). These extend across the fields to the east of the recorded ringfort CV020-057, and further north adjacent to the road corridor. An exact extent for the archaeological features is not currently known but an indicative area was illustrated in 2007. Ground works associated with the proposed development, such as site investigations, topsoil stripping and excavation, will have a direct negative impact on these remains, and associated features. While it is acknowledged that preservation *in situ* is the preferred mitigation for archaeology, the scattered and ephemeral nature of the remains identified as 'Area 3' and 'Area 4' means that it is not feasible to do this as part of the proposed development.

- It is recommended that the archaeological areas 'Area 3' and 'Area 4' be stripped of topsoil under archaeological supervision and any features therein be subject to preservation by record (archaeological excavation). This should be undertaken by a suitably qualified archaeologist under licence to the National Monuments Service.

Furthermore, the geophysical survey has indicated the potential for other small-scale archaeological remains to extend beyond the areas identified in 2007. If present, groundworks associated with the proposed development (such as site investigations, topsoil stripping or excavation) will have a direct negative impact on any such remains.

- It is recommended that archaeological monitoring be undertaken for all ground works (e.g. site investigations, topsoil stripping, etc.). This work should be undertaken by a suitably qualified archaeologist under licence to, and in consultation with the National Monuments Service. If any features of archaeological potential are discovered during the course of the works further archaeological mitigation may be required, such as preservation *in situ* or by record, following consultation and agreement with National Monuments Service.

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1 INTRODUCTION

1.1 GENERAL

The following report details an archaeological assessment undertaken in advance of a proposed residential development at Lisdaran, Cavan, County Cavan (Figure 1; ITM 641200, 806300). This assessment has been carried out to ascertain the potential impact of the proposed development on the archaeological and historical resource that may exist within the area. It was undertaken by Matt Brooks and Jonny Small of IAC Archaeology (IAC), on behalf of Lisdaran Developments Ltd.

The archaeological assessment involved a detailed study of the archaeological and historical background of the proposed development site and the surrounding area. This included information from the Record of Monuments and Places of County Cavan, the topographical files within the National Museum and all available cartographic and documentary sources for the area. A field inspection has also been carried out with the aim to identify any previously unrecorded features of archaeological or historical interest.

1.2 THE DEVELOPMENT

The development will consist of the provision of a total of 109no. residential units along with provision of a crèche. Particulars of the development comprise as follows (Figure 2a). Ringfort CV020-057 will be preserved *in situ* within a public park, 'Rath Park' (Figure 2b). Proposed foul water drainage will connect with the existing Cavan Wastewater Treatment Plant extends across the zone of notification for ringfort CV020-058 (Figure 2c).

The application details the proposed development as the below.

(a) Site excavation works to facilitate the proposed development to include excavation and general site preparation works.
(b) The provision of a total of 65no. residential dwellings which will consist of 23no. 2 bed units, 26no. 3 bed units and 16no. 4 bed units. The dwelling types range from detached units to terrace units and are 2storey.
(c) The provision of a total of 44no. duplex apartment units consisting of 8no.1 bed units, 18no. 2bed units and 18no. 3 bed units. The duplex units range in height from 2storey to 3storey.
(d) Provision of a two storey creche with associated parking, bicycle and bin storage.
(e) Provision of associated car parking at surface level via a combination of in-curtilage parking for dwellings and via on-street parking for the creche and duplex apartment units.
(f) Provision of electric vehicle charge points with associated site infrastructure ducting to provide charge points for residents throughout the site.
(g) Provision of associated bicycle, bin and bulky items storage facilities for duplex apartment units.
(h) Upgrading the existing access point from Loreto Road with associated works to include for provision of a right turning lane, provide for internal access roads, footpaths and associated site works.

(i) Provision of internal access roads and footpaths and associated works to include for regrading of site levels as required along with connections onto the Greenway.
(j) Provision of residential communal open space and public open space areas to include formal play areas along with all hard and soft landscape works with public lighting, planting and boundary treatments to include boundary walls, railings & fencing.
(k) Internal site works and attenuation systems which will include for provision of hydrocarbon and silt interceptors prior to discharge.
(l) All ancillary site development/construction works to facilitate foul, water and service networks for connection to the existing foul via a rising main and provision of a foul pumping station, water connections and ESB network connections along with provision of an ESB substation.

A Natura Impact Statement (NIS) has been prepared and accompanies this application.

2 METHODOLOGY

A study area, defined as 250m from the boundary of the proposed development area, was assessed to inform this report. Research was undertaken in three phases. The first phase comprised a paper survey of all available archaeological, historical and cartographic sources. The second phase involved a field inspection of the site. A geophysical survey comprises the third phase of investigation to inform this report.

2.1 PAPER SURVEY

- Record of Monuments and Places for County Cavan;
- Sites and Monuments Record for County Cavan;
- National Monuments in State Care Database;
- Preservation Orders List;
- Topographical files of the National Museum of Ireland;
- Cartographic and written sources relating to the study area;
- Cavan County Development Plan (2022-2028);
- Aerial photographs;
- Excavations Bulletin (1970–2025).

Record of Monuments and Places (RMP) is a list of archaeological sites known to the National Monuments Section, which are afforded legal protection under Section 12 of the 1994 National Monuments Act and are published as a record.

Sites and Monuments Record (SMR) holds documentary evidence and field inspections of all known archaeological sites and monuments. Some information is also held about archaeological sites and monuments whose precise location is not known e.g. only a site type and townland are recorded. These are known to the National Monuments Section as 'un-located sites' and cannot be afforded legal protection due to lack of locational information. As a result, these are omitted from the Record of Monuments and Places. SMR sites are also listed on a website maintained by the Department of Housing, Local Government and Heritage (DoHLGH) – www.archaeology.ie.

National Monuments in State Care Database is a list of all the National Monuments in State guardianship or ownership. Each is assigned a National Monument number whether in guardianship or ownership and has a brief description of the remains of each Monument.

The Minister for the DoHLGH may acquire national monuments by agreement or by compulsory order. The state or local authority may assume guardianship of any national monument (other than dwellings). The owners of national monuments (other than dwellings) may also appoint the Minister or the local authority as guardian of that monument if the state or local authority agrees. Once the site is in ownership or guardianship of the state, it may not be interfered with without the written consent of the Minister.

Preservation Orders List contains information on Preservation Orders and/or Temporary Preservation Orders, which have been assigned to a site or sites. Sites deemed to be in danger of injury or destruction can be allocated Preservation Orders under the 1930 Act. Preservation Orders make any interference with the site illegal. Temporary Preservation Orders can be attached under the 1954 Act. These perform the same function as a Preservation Order but have a time limit of six months, after which the situation must be reviewed. Work may only be undertaken on or in the vicinity of sites under Preservation Orders with the written consent, and at the discretion, of the Minister.

The topographical files of the National Museum of Ireland are the national archive of all known finds recorded by the National Museum. This archive relates primarily to artefacts but also includes references to monuments and unique records of previous excavations. The find spots of artefacts are important sources of information on the discovery of sites of archaeological significance.

Cartographic sources are important in tracing land use development within the development area as well as providing important topographical information on areas of archaeological potential and the development of buildings. Cartographic analysis of all relevant maps has been made to identify any topographical anomalies or structures that no longer remain within the landscape.

Documentary sources were consulted to gain background information on the archaeological, architectural and cultural heritage landscape of the proposed development area.

Development Plans contain a catalogue of all the Protected Structures and archaeological sites within the county. The Cavan County Development Plan (2022-2028) was consulted to obtain information on cultural heritage sites in and within the immediate vicinity of the proposed development area.

Aerial photographic coverage is an important source of information regarding the precise location of sites and their extent. It also provides initial information on the terrain and its likely potential for archaeology. A number of sources were consulted including aerial photographs held by the Ordnance Survey and Google Earth.

Excavations Bulletin is a summary publication that has been produced every year since 1970. This summarises every archaeological excavation that has taken place in Ireland during that year up until 2010 and since 1987 has been edited by Isabel Bennett. This information is vital when examining the archaeological content of any area, which may not have been recorded under the SMR and RMP files. This information is also available online (www.excavations.ie) from 1970–2025.

2.2 FIELD INSPECTION

Field inspection is necessary to determine the extent and nature of archaeological and historical remains and can also lead to the identification of previously unrecorded or suspected sites and portable finds through topographical observation and local information.

The archaeological field inspection entailed -

- Walking the proposed development and its immediate environs.
- Noting and recording the terrain type and land usage.
- Noting and recording the presence of features of archaeological or historical significance.
- Verifying the extent and condition of any recorded sites.
- Visually investigating any suspect landscape anomalies to determine the possibility of their being anthropogenic in origin.

2.3 GEOPHYSICAL SURVEY

Geophysical survey is used to create 'maps' of subsurface archaeological features. Features are the non-portable part of the archaeological record, whether standing structures or traces of human activities left in the soil. Geophysical instruments can detect buried features when their electrical or magnetic properties contrast measurably with their surroundings. In some cases, individual artefacts, especially metal, may be detected as well. Readings, which are taken in a systematic pattern, become a dataset that can be rendered as image maps. Survey results can be used to guide excavation and to give archaeologists insight into the pattern of non-excavated parts of the site. Unlike other archaeological methods, the geophysical survey is not invasive or destructive.

A geophysical survey was undertaken to inform this assessment in October 2024 within the proposed development area in Lisdaran townland (Dowling 2024, Licence No. 24R0501; Figure 6). A summary of the geophysical report is presented in Section 3.8 and the full text is included in Appendix 5.

3 RESULTS OF ARCHAEOLOGICAL ASSESSMENT

3.1 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

The proposed development area is located in the townland of Lisdaran, parish of Urney, barony of Loughtee Upper, County Cavan. The site comprises greenfield to the immediate north of Cavan General Hospital and parts of Loreto Road to the immediate south of a stream that connects with the River Cavan c. 70m to the east.

There is one recorded monument within the proposed development area consisting of a ringfort (CV020-057) marked as a 'Fort' on the Ordnance Survey map of 1837 (Figure 1). A further ringfort (CV020-058) is situated c. 5m north of the proposed development area, whereby a proposed foul water pipeline crosses the zone of notification for the monument. In addition testing carried out within the proposed development area in 2007 (see Section 3.2 below) revealed evidence for prehistoric activity dating to the Neolithic and Bronze Age.

3.1.1 Prehistoric Period

Mesolithic Period (c. 8000–4000 BC)

Recent discoveries may suggest the possibility of a human presence in the southwest of Ireland as early as the Upper Palaeolithic (Dowd and Carden 2016), however; the Mesolithic period is the earliest time for which there is clear evidence for prehistoric human colonisation of the island of Ireland. During this period people hunted, foraged and gathered food and appear to have led a primarily mobile lifestyle. The presence of Mesolithic communities is most commonly evidenced by scatters of worked flint material, a by-product of the production of flint implements.

There is no archaeological evidence of Mesolithic activity within the immediate environs of the proposed development area. The wider receiving environment is likely to have been visited by Mesolithic communities who used the River Cavan (flowing c. 70m to the east) as a routeway and as a food and materials resource.

Neolithic Period (c. 4000–2500 BC)

During this period communities became less mobile and their economy became based on the rearing of stock and cereal cultivation. The transition to the Neolithic was marked by major social change. Communities had expanded and moved further inland to more permanent settlements. This afforded the development of agriculture which demanded an altering of the physical landscape. Forests were rapidly cleared and field boundaries were constructed. Pottery was also being produced, possibly for the first time. The advent of the Neolithic period also provided the megalithic tomb. There are four types of tomb in Ireland, namely the Court Cairn, Portal, Passage and Wedge; of which the latter style straddles the Neolithic to Bronze Age transition.

While recent years have seen a large increase in the number of identified Neolithic settlement and habitation sites, there is no archaeological evidence to substantiate Neolithic settlement within the immediate environs of the proposed development

area. Two polished stone axeheads were discovered in Cavan Town (NMI 1933:5075) c. 1.3km southeast of the development area and at Urney (NMI 1938:17), which may date to this period and shows the presence of a transient population.

Bronze Age (c. 2500–800 BC)

This period is marked by the use of metal for the first time. As with the transition from Mesolithic to Neolithic, the transition into the early Bronze Age was accompanied by changes in society. Megaliths were replaced in favour of individual, subterranean cist or pit burials that were either in isolation or in small cemeteries. These burials contained inhumed or cremated remains and were often, but not always, accompanied by a pottery vessel. A Bronze Age ring ditch is recorded c. 1.7m southeast of the proposed development area (CV020-087), which has subsequently been subject to archaeological excavation (Bennett 2003:0072, Licence No. 03E0385).

Over 7,000 burnt mounds or *fulacht fia* sites have been recorded in the country and c. 1,500 examples excavated, making them the most common prehistoric monument in Ireland (Waddell 2022, 164). Although burnt mounds of shattered stone occur as a result of various activities that have been practiced from the Mesolithic to the present day, the Bronze Age has long been believed to have seen the peak of this activity. Dating evidence from a growing number of burnt mounds, suggests activities resulting in burnt mounds were being carried over a span of 3,500 years in Ireland (Hawkes 2018). They are typically located in areas where there is a readily available water source, often in proximity to a river or stream or in places with a high-water table. In the field burnt mounds may be identified as charcoal-rich mounds or spreads of heat shattered stones, however, in many cases, the sites have been disturbed by later agricultural activity and are no longer visible on the field surface. Nevertheless, even disturbed spreads of burnt mound material often preserve the underlying associated features, such as troughs, pits and gullies, intact. Archaeological investigations undertaken within the proposed development area in 2007 (see Section 3.2 below) have indicated the presence of burnt mound remains across the application site. Further archaeological investigations undertaken in connection with the eastern access route recorded four burnt mound sites, a possible ditch, charcoal spread and three areas of burning (O' Donovan 2010, Licence No. 10E0433; Bennett 2011:053, Licence Nos. 11E0024 and 11E0027).

A range of bronze weapons such as two flat axeheads (NMI 1933:5076-77), a looped and socketed axehead (NMI 1933:5079) and a bronze palstave (NMI 1933:5078) have also been found near Cavan Town and indicate settlement in the region from the early to the late Bronze Age.

Iron Age (c. 800 BC–AD 500)

There is increasing evidence for Iron Age settlement and activity in recent years as a result of development-led excavations as well as projects such as Late Iron Age and Roman Ireland (Cahill Wilson 2014). Yet this period is distinguishable from the rather rich remains of the preceding Bronze Age and subsequent early medieval period, by a relative paucity within the current archaeological record. The Iron Age in Ireland 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 late Bronze Age or Iron Age. It is likely that there was significant continuity in the Iron Age, with earlier monuments re-used in many cases. There are no known monuments in the vicinity of the proposed development area that would suggest an active presence of Iron Age communities in this area.

3.1.2 Early Medieval Period (AD 500–1100)

The early medieval period is depicted in the surviving sources as an almost entirely rural based society. Territorial divisions were based on the *túath*, or petty kingdom, with Byrne (1973) estimating that there may have been at least 150 kings in Ireland at any given time. This period, with a new religious culture and evolving technologies, saw significant woodland clearance and the expansion of grassland. A new type of plough and the horizontal mill were two innovations that improved agriculture and allowed for the population to increase. Consequently, from c. AD 500 onwards, the landscape became well settled, as evidenced by the profuse distribution of ringforts, a dispersed distribution of enclosed settlements, normally associated with various grades of well-to-do farming and aristocratic classes in early medieval Ireland (Stout and Stout 1997, 20). County Cavan emerged in the early medieval period as part of a territory known as *Breifne* (Cavan, Leitrim and Longford). The topography of this region was characterised by drumlins, lakes and woodlands.

The ringfort or rath is considered to be the most common indicator of settlement during the early medieval period (Stout 1997). One of the most recent studies of early medieval settlement enclosures has suggested that there is potential for at least 60,000 such sites to have existed on the island (O'Sullivan et al. 2014, 49). Ringforts were often constructed to protect rural farmsteads and are usually defined as a broadly circular enclosure delineated by a bank and ditch. Ringforts can be divided into three broad categories – univallate sites, with one bank or ditch; multivallate sites with as many as four levels of enclosing features and platform or raised ringforts, where the interior of the ringfort has been built up. These enclosed sites were intimately connected to the division of land and the status of the occupant.

County Cavan boasts a particularly high density of ringforts as they tend to take advantage of the high and consequently well-drained positions on the drumlins. A ringfort (CV020-057) is located within the proposed development area marked as a 'Fort' on the Ordnance Survey map of 1837 (Figure 4). Remains comprise a circular area (diam. 27.1m) raised to between 0.5m and 0.9m above external ground level. The enclosing elements have been levelled and the original entrance is not recognisable. The southeast corner of the proposed development area traverses the zone of notification for recorded ringfort CV020-058, also in Lisdaran townland. The pipeline footprint lies c. 5m south of the upstanding enclosure remains, which are heavily overgrown at present. This comprises a raised sub-circular area (int. diam. 26.8m) enclosed by two earthen banks with intervening fosse. A further ringfort CV020-035 is situated c. 185m to the northeast.

3.1.3 Medieval Period (AD 1100–1600)

The piecemeal conquest by the Anglo-Normans of Ireland, which commenced in AD 1169, had a fundamental impact on the Irish landscape. Their presence was strongest in the East of the Country, and it was mainly in this region that land was carved up and granted to the newly arrived lords who participated. The main success of the Anglo-Norman occupation was the welding of scattered territories into a cohesive unit through the introduction of the English form of shire government. The rural landscape became a network of manorial centres; these units would generally contain a castle (motte and bailey), a manorial house and a number of dwellings, with extensive surrounding acreage. During the 14th to 16th centuries, tower houses were the typical residence of the Irish gentry and were a common feature in the Irish landscape.

Cavan town (CV020-055) located c. 1km to the southeast of the development area was founded by the ruling Gaelic family of *Ó Raghallaigh*, or O'Reilly c. 1300 when a castle (CV020-055004) and Franciscan friary (CV020-055002) were built in proximity. Its name, *Cabhan* in Gaelic, means a hollow place. The Franciscan friary was founded between 1300 and 1330 by Gilla-Isu Roe O'Reilly. It was burnt in 1405, again in 1451 through the carelessness of an inebriated friar, by the English in 1468, and finally by an enraged woman of the O'Reilly family in 1576 (Gwynn and Hadcock 1970). The Annals of the Four Masters refer to the burning of the town in 1427, 1429 and 1468 by raiders from the Pale. The McBrady family, based in the town during the 16th century, also had branches in Navan and Drogheda. The anglicisation of the O'Reilly lordship as the 16th century advanced facilitated the development of the town, and in 1598 a government force was established (Davies 1948).

Following the Dissolution, Davies (1948, 118) speculated that the site of a church (CV020-050002) c. 510m northeast of the development area may have been a refuge for a band of friars. He further suggested that although the townland was not church land, there may have been an early establishment at this location. Friars Well (CV020-050001) is located within proximity of the church, which has since been infilled.

3.1.4 Post-Medieval Period (AD 1600–1800)

The ending of the Williamite Wars saw the beginning of a comparative politically calm era, which allowed the country's landowners the security to experiment with the latest styles of architecture without the need to refer to defensive matters. Initially, constraints on available resources resulted in mansions of a relatively modest scale and relatively plain appearance. However, as the Irish aristocracy's sense of security grew over the following decades, their greater access to wealth helped foster a shift towards more ostentatious buildings.

The plantation of County Cavan began in the early 17th century following the accession of James I. Previous to this the area had already been enclosed as a borough, as was also enacted at Belturbet and Tullaghrahan (Davies 1948, 99). Although Cavan was neither as large nor as prosperous as Belturbet, it had been the seat of the O'Reilly chiefs and was thus marked out as the county town and granted borough status, with 500 acres of land held by the corporation. The right to hold a weekly market was granted to John Binglie in 1603 (Davies 1948, 100). The town continued to grow and in

1611 a 'vicus novus' or 'new street', perhaps identifiable with High Street, featured in incorporation deeds. The Charter of James I was the governing charter of the borough until 1840 when the town corporation was dissolved (Smyth 1979, 359).

The 18th and 19th centuries witnessed a more pacified Ireland and the political climate settled; this saw a dramatic rise in the establishment of large residential houses around the country. Often these occupied areas are on the outskirts of towns. This was largely due to the fact that after the turbulence of the preceding centuries, the success of the Protestant cause and the effective removal of any political opposition, the country was at peace. The large country house was only a small part of the overall estate of a large landowner and provided a base to manage large areas of land that could be dispersed nationally. During the latter part of the 18th century, the establishment of a parkland context (or demesnes) for large houses was the fashion. Although the creation of a parkland landscape involved working with nature, rather than against it, considerable construction effort went into its creation. Major topographical features like rivers and mountains were desirable features for inclusion in, and as a setting, for the large house and parkland.

The demesne of Drumkeen House is located c. 88m to the north of the development area built c. 1750 as a two-storey country house. In 1814 'Dromkeen' was the home of Robert Sanderson and then Colonel Alexander Saunderson. In 1930, the house and surrounding lands were bought by the Loreto nuns and renovated into a convent (www.landedestates.ie). Lisdaran House (unlabelled on the first edition Ordnance Survey map) was located c. 103m to the east of the development area, north of a recorded ringfort (CV020-058). In the mid-19th century, John Moore was a resident leased to him by Lord Farnham (www.landedestates.ie).

3.2 SUMMARY OF PREVIOUS ARCHAEOLOGICAL FIELDWORK

A review of the Excavations Bulletin (1970–2024) has revealed that one previous archaeological investigation has been carried out within the proposed development area. Several investigations have taken place with 250m and are summarised below.

Testing was carried out as part of a pre-planning assessment in 2007 (Bennett 2007:129, Licence No. 07E1005) within the development area located within proximity of the ringfort (CV020-057). It was noted that the ringfort was surrounded by a 30m buffer zone. A total of 64 trenches were excavated revealing a wooden trackway in Trenches 35-36 in an area of bog in Field 5. A polished stone axehead was recovered from the surface of the trackway, dating to the Neolithic period. A second area of prehistoric activity was identified in Field 3. Two pits, which may be the remains of troughs and a burnt-stone spread were identified. A saddle quernstone indicating Neolithic or Bronze Age activity was recovered from the topsoil in Field 7. A thin spread of burnt stone was also identified in this field representing a second area of *fulacht fia* activity. In total 17 features were identified, representing three areas of archaeological interest and 11 possible archaeological features.

Monitoring of topsoil stripping and trench excavations for the Cavan Sewerage Scheme within the area of ringfort CV020-058 (Bennett 2014:605, Licence No. 14E0145). No

archaeology was found during the monitoring of trench excavations. Within proximity of the ringfort, an east-west linear feature was uncovered in the area between the monument and the river revealing waste flint and fragments of burnt bone (Bennett 2014:604, Licence No. 14E0134). Monitoring of topsoil stripping within the area of the ringfort revealed three additional features including a small sub-circular hearth/firespot, a curving linear feature and an irregularly shaped hearth/firespot.

Archaeological monitoring was recommended as a condition of planning for the construction of a new wastewater treatment plant in Lisdaran c. 133m to the northeast (Bennett 2020:040, Licence No. 14E0222). No archaeological features or finds were encountered during the course of this work. Further excavations at Carrickane c. 250m to the northwest (Bennett 2001:035, Licence No. 01E1110 and Bennett 2005:109, Licence No. 05E0135) also failed to reveal anything of archaeological significance.

3.3 CARTOGRAPHIC ANALYSIS

William Petty, Down Survey: Barony of Loughtee in County Cavan, c. 1655

The Down Survey depicts the proposed development area within the barony of Loughtee to the south of 'Bellturbett' within open land. At this time Cavan is not yet shown, although, the Earn Flu (Cavan River) is depicted.

William Petty, Hiberniae Delineatio: Atlas of Ireland, 1685

This map shows the position of Cavan town with the proposed development area situated between Cavan and Anagh. Cavan contains an unlabelled structure and Erne Flu, which passes through it.

Charles Coote, Statistical Survey of the County of Cavan, 1802

On this map, the proposed development area is within the open lands of Loughtee between the settlement at Cavan and Butlersbridge and is surrounded by a number of bogs. The Erne River and the site of a lough are shown within proximity of the site.

First Edition Ordnance Survey Map, 1837, scale 1:10,560

This is the first accurate historic mapping coverage of the area containing the proposed development, which is within seven fields within the townland of Lisdaran (Figure 4). Part of the sites also contains a woodland and a roadway. The site of a 'Fort' (CV020-057) is depicted within the development area's southern extent with a further 'Fort' (CV020-058) illustrated within the southeast corner. North of this fort lies several buildings, presumably Lisdaran House. The northern boundary defines the townland between Lisdaran and Carrickmane, which is also the parish boundary between Annagelliff and Urney. These boundaries follow the route of a stream that connects with the Cavan River to the east. A quarry and demesne landscape associated with Drumkeen House is shown to the north. A further Fort (CV020-005) is also annotated within Carrickmane.

Ordnance Survey Map, 1871, scale 1:1,0561

There is very little change to the area of the proposed development by the time of this map.

Ordnance Survey Map, 1911, scale:2,500

By the time of this map, there are minimal changes from the previous mapping within the development area, which is still within multiple fields, a roadway and woodland (Figure 4). The recorded 'Fort' (CV020-057) is no longer annotated, although 'Fort' CV020-058 is still illustrated as extant to the southeast. Bound to the development area's east now lies the Great Northern Railway (Cavan Branch), which was formed in 1876 and closed in the 1950s.

3.4 DEVELOPMENT PLAN

The Cavan County Development Plan (2022-2028) recognises the statutory protection afforded to all Record of Monuments and Places (RMP) sites under the National Monuments Legislation (1930–2014). The development plan lists a number of aims and objectives in relation to archaeological heritage (Appendix 2).

There is one recorded monument within the proposed development area consisting of a ringfort-*rath* (CV020-057) marked as a 'Fort' on the Ordnance Survey map of 1837. Remains comprise a circular area (diam. 27.1m) raised to between 0.5m and 0.9m above external ground level. The enclosing elements have been levelled and the original entrance is not recognisable. There are a further three recorded monuments within 250m (Table 1; Figure 1; Appendix 2).

TABLE 1: Recorded archaeological sites in proximity to the study area

RMP NO.	LOCATION	CLASSIFICATION	DISTANCE *
CV020-057	Lisdaran	Ringfort - rath	Within the development area
CV020-058	Lisdaran	Ringfort - rath	c. 32m east
CV020-035	Drumlark	Ringfort - unclassified	c. 185m northeast
CV020-036	Drumlark	Enclosure	c. 250m northeast

*Note: distance is to the nearest boundary of the proposed development area

3.5 TOPOGRAPHICAL FILES OF THE NATIONAL MUSEUM OF IRELAND

Information on artefact finds from the study area in County Cavan has been recorded by the National Museum of Ireland since the late 18th century. Location information relating to these finds is important in establishing prehistoric and historic activity in the study area. There are no finds recorded within the proposed development area or the 250m study area.

3.6 AERIAL PHOTOGRAPHIC ANALYSIS

Inspection of the aerial photographic coverage of the proposed development area held by the Ordnance Survey (1995–2013), Google Earth (2005–2024) and Apple Maps revealed that the proposed development area remained largely unchanged from 1995 to the present day. The site comprises greenfield and elements of Loreto Road with the recorded ringfort (CV020-057) shown in coverage from 2006-2012 (OSI) and 2019

(Google Earth, February). A trackway was shown on coverage from 2013-2018 (OSI) leading from Loreto Road and through the development area but has since been removed. No previously unrecorded archaeological sites were identified during the aerial photographic analysis.

3.7 FIELD INSPECTION

The field inspection sought to assess the site, its previous and current land use, the topography and any additional information relevant to the report. During the course of the field investigation the proposed development site and its surrounding environs were inspected (Figure 1).

The proposed development site comprises four fields to the south of the L1513 local road, as well as a narrow linear area immediately to the south of the L1513. This section comprises a hedgerow. An unnamed road extends to the south of the L1513 and passes down the western side of the proposed development site (Plate 1).

Field 1 is located to the east of the unnamed road, and consists of a U-shaped pasture field which surrounds a wooded area at the northern side of a hill. A c. 45m section of the hill has been scarped on its northwest side (Plate 2). To the west of the wooded area Field 1 has a western aspect and slopes moderately (Plate 3). To the east of the wooded area Field 1 has an eastern aspect and slopes moderately (Plate 4). The section of Field 1 to the north of the wooded area is flat (Plate 5), and bounded by a ditch (c. 5m wide and 3m deep). A c. 18m section of this ditch is located within the proposed development site (Plate 6). The ditch continues to the west and is culverted, passing through the proposed development site. There is evidence of modern interventions within Field 1, with several manhole covers and a pumping station present to the north of the wooded area (Plate 7). Additionally, spoil and stone are deposited at the edge of the wooded area, which are likely the result of field clearances. No features of archaeological significance were identified in Field 1.

Field 2 is located to the south of Field 1, and comprises a large pasture field (Plate 8). The north, east and south boundaries of Field 2 comprise hedgerows containing mature trees. The western boundary is marked by a track. A removed north-south field boundary, visible on recent aerial photographs, was identified within Field 2, marked by a shallow linear depression. Field 2 has a western aspect and slopes moderately. A ringfort (CV020-057) is located in the east of Field 2, at the top of a hill (Plates 9–10). The ringfort comprises a circular area (27m diameter), raised to 0.5m–0.9m above the external ground level. The enclosing bank is present on the western side of the monument, although has been levelled elsewhere. Further internal and external possible archaeological features were identified by geophysical survey, although no surface expression was identified during the field inspection.

Field 3 is located to the east of Field 2. It comprises a large pasture field with an eastern aspect, moderately sloping (Plate 11). The field is bounded by hedgerows containing mature trees. Possible archaeological features were identified by geophysical survey, although no surface expression was identified during the site inspection. Two removed field boundaries were located within Field 4. The northern boundary ran from

northeast to southwest, before turning to the northwest (Plate 12). The southern boundary was northeast–southwest in orientation. Both boundaries are depicted on the 1911 OS map.

A narrow linear section of the proposed development site extends to the east of Field 3, across an historic railway line and through the Zone of Notification of a ringfort (CV020-058), located in a pasture field (Plate 13). These areas where outside the landholding boundary and were not accessed during the site inspection.

Field 4 is located to the north of Fields 2 and 3. This field mainly comprises the top of a hill, although slopes down steeply at the eastern and western sides. Possible archaeological features were identified by geophysical survey, although no surface expression was identified during the site inspection (Plate 14).

No previously unidentified features of archaeological significance were recorded during the site inspection.

3.8 GEOPHYSICAL SURVEY

A geophysical survey was undertaken to inform this assessment in October 2024 within the proposed development area in Lisdaran townland (Dowling 2024, Licence No. 24R0501; Figure 6, Appendix 5). The survey mapped the boundary of ringfort-*rath* CV020-057 and yielded potential evidence for internal structures and features. A range of other features of potential archaeological interest was identified in the wider area of the ringfort-*rath* and include possible burnt spreads and what may be an early field system/s. Features associated with agriculture in recent centuries were also revealed.

4 CONCLUSIONS

This archaeological assessment was commissioned to assess the potential for the survival of archaeological features in advance of the proposed residential development at Lisdaran, Cavan, County Cavan.

There is one recorded monument contained entirely within the proposed development area, consisting of a ringfort (CV020-057) marked as a 'Fort' on the Ordnance Survey map of 1837. Remains comprise a circular area (diam. 27.1m) raised to between 0.5m and 0.9m above external ground level, confirmed by the geophysical survey. The enclosing elements have been levelled and the original entrance is not recognisable. A further ringfort (CV020-058) lies only c. 5m north of the proposed development area in the southeast corner of the application site. These remains comprise substantial extant double banks.

Previous testing carried out within the proposed development area in 2007 revealed a wooden trackway and polished stone axehead of Neolithic date 150m west of the proposed development area. Two further areas of prehistoric activity were identified within the current proposed development area comprising a pit, the remains of troughs and burnt stone spreads. A saddle quernstone indicating Neolithic or Bronze Age activity was recovered from the topsoil and evidence of *fulacht fia* activity.

Geophysical survey undertaken in 2024 mapped the boundary of ringfort CV020-057 and yielded potential evidence for internal structures and features. A range of other features of potential archaeological interest was identified in the wider area of the ringfort and include possible burnt spreads and what may be an early field system/s. Features associated with agriculture in recent centuries were also revealed.

Cartographic analysis has revealed the proposed development was situated within the open land of Loughtee within proximity of the Earn Flu (Cavan River) and north of Cavan. The surrounding land was largely made up of bogs and loughs. Ordnance Survey mapping placed the development area within multiple fields, woodland and parts of a roadway within the townland of Lisdaran. The site of a Fort (CV020-057) was noted within the development area's southern extent. In the early 20th century, the recorded Fort (CV020-057) was no longer visible and the Great Northern Railway (Cavan Branch) was constructed to the immediate east.

Inspection of the aerial photographic coverage of the proposed development area failed to reveal any unrecorded sites of archaeological potential. The site comprises greenfield and elements of Loreto Road with the recorded ringfort (CV020-057) shown in coverage from 2006-2012 and 2019. A trackway was shown on coverage from 2013-2018 leading from Loreto Road and through the development area but has since been removed.

No additional archaeological constraints were identified during field inspection.

5 IMPACT ASSESSMENT AND MITIGATION STRATEGY

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, topsoil stripping; disturbance by vehicles working in unsuitable conditions; and burial of sites, limiting access for future archaeological investigation. Upstanding archaeology can be affected adversely by direct damage or destruction arising from development, from inadvertent damage arising from vibration, undermining etc. and also by indirect impacts to a building's visual setting, view or curtilage.

5.1 IMPACT ASSESSMENT

Ringfort CV020-057

- Recorded ringfort (CV020-057) will be preserved *in situ* within a proposed open green space within the application site boundary, designated as 'Rath Park'. Notwithstanding this, it is possible that passage of heavy machinery and/or minor landscaping works (such as pathways) may have a direct or indirect negative impact on the subsurface archaeological remains associated with this monument. This would be caused by disturbance of soft ground by tracked machines, site investigations, or topsoil stripping, etc.

Ringfort CV020-058

- A proposed foul drainage pipeline connecting with the existing Cavan Wastewater Treatment Plant extends across the zone of notification for ringfort CV020-058, c. 5m south of the upstanding remains of the monument. Groundworks associated with the service trench may have a direct negative impact on any features or deposits associated with the ringfort that have the potential to survive beneath the current ground level within the footprint of the pipeline corridor.

Previously unrecorded Archaeological Areas

- At least two additional archaeological areas have been identified within the proposed development area, comprising remains of prehistoric activity ('Area 3' and 'Area 4'). These extend across the fields to the east of the recorded ringfort CV020-057, and further north adjacent to the road corridor. An exact extent for the archaeological features is not currently known but an indicative area was illustrated in 2007 and extended in 2024. Ground works associated with the proposed development, such as site investigations, topsoil stripping and excavation, will have a direct negative impact on these remains, and associated features.

- Furthermore, the geophysical survey has indicated the potential for other small-scale archaeological remains to extend beyond the areas identified in 2007. If present, groundworks associated with the proposed development (such as site

investigations, topsoil stripping or excavation) will have a direct negative impact on any such remains.

5.2 MITIGATION

Ringfort CV020-057

- A minimum 10m construction exclusion buffer zone will be established from the known enclosure with a temporary fence installed prior to construction to prevent inadvertent direct or indirect negative impact from construction-related activity, such as passage of machinery.

- Any paths or landscaping within 'Rath Park' will adhere to a 'no-dig' construction approach to preserve underlying archaeological remains.

- A conservation management plan for CV020-057 will be prepared in line with the Construction Management Plan

Ringfort CV020-058

- It is recommended that a program of targeting testing be carried out within the footprint of the proposed foul drainage connection footprint to investigate the potential for remains associated with ringfort CV020-058. This should be carried out prior to construction by a suitably qualified archaeologist under licence to the National Monuments Service. Further mitigation may be required depending on the results of this assessment, such as such as preservation in situ or by record, following consultation and agreement with National Monuments Service.

- A non-ground intrusive temporary fence (e.g. heras fencing) should be established along the northern perimeter of the works corridor to protect the upstanding remains of the ringfort CV020-057 from inadvertent direct or indirect negative impact from construction-related activity, such as passage of machinery.

Previously unrecorded Archaeological Areas

- While it is acknowledged that preservation *in situ* is the preferred mitigation for archaeology, the scattered and ephemeral nature of the remains identified as 'Area 3' and 'Area 4' means that it is not feasible to do this as part of the proposed development. It is recommended that the archaeological areas 'Area 3' and 'Area 4' be stripped of topsoil under archaeological supervision and any features therein be subject to preservation by record (archaeological excavation). This should be undertaken by a suitably qualified archaeologist under licence to the National Monuments Service.

- It is recommended that archaeological monitoring be undertaken for all ground works (e.g. site investigations, topsoil stripping, etc.). This work should be undertaken by a suitably qualified archaeologist under licence to, and in

consultation with the National Monuments Service. If any features of archaeological potential are discovered during the course of the works further archaeological mitigation may be required, such as preservation in situ or by record, following consultation and agreement with National Monuments Service.

It is the developer's responsibility to ensure full provision is made available for the resolution of any archaeological remains, both on site and during the post excavation process, should that be deemed the appropriate manner in which to proceed.

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

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www.excavations.ie – Summary of archaeological excavation from 1970–2024.
www.archaeology.ie – DoHLGH website listing all SMR/RMP sites.
www.heritagemaps.ie – The Heritage Council web-based spatial data viewer which focuses on the built, cultural and natural heritage.
www.geohive.ie – Ordnance Survey Ireland National Townland and Historical Map Viewer (including Aerial imagery 1995, 2000, 2005 and 2013).
www.googleearth.com – Satellite imagery (2005–2024).
www.apple.com/maps/ – Satellite imagery (2024).
www.landedestates.ie – Irish Landed Estates project in the provinces of Connacht, Munster and part of Ulster, c. 1700-1914.

APPENDICES

APPENDIX 1 SMR/RMP SITES WITHIN THE STUDY AREA

SMR NO.	CV020-057
RMP STATUS	Yes
TOWNLAND	Lisdaran
PARISH	Urney
BARONY	Loughtee Upper
I.T.M.	641132, 806231
CLASSIFICATION	Ringfort - rath
DIST. FROM DEVELOPMENT	Within the development area
DESCRIPTION	Marked 'Fort' on OS 1836 and 1876 eds. Situated just S of the summit of a drumlin hill. Remains comprise a circular area (diam. 27.1m) raised to between 0.5m and 0.9m above external ground level. Enclosing elements have been levelled. Original entrance not recognisable.
REFERENCE	www.archaeology.ie/ SMR file

SMR NO.	CV020-058
RMP STATUS	Yes
TOWNLAND	Lisdaran
PARISH	Urney
BARONY	Loughtee Upper
I.T.M.	641502, 806181
CLASSIFICATION	Ringfort - rath
DIST. FROM DEVELOPMENT	c. 32m east
DESCRIPTION	Raised almost circular area (int. diam. 26.8m) enclosed by two earthen banks with intervening fosse. Outer bank identifiable only from NNE-E-S. Original entrance may have been at ENE.
REFERENCE	www.archaeology.ie/ SMR file

SMR NO.	CV020-035
RMP STATUS	Yes
TOWNLAND	Drumlark
PARISH	Annagelliff
BARONY	Loughtee Upper
I.T.M.	641330, 806766
CLASSIFICATION	Ringfort - unclassified
DIST. FROM DEVELOPMENT	c. 185m northeast
DESCRIPTION	-

REFERENCE	www.archaeology.ie/ SMR file

SMR NO.	CV020-036
RMP STATUS	Yes
TOWNLAND	Drumlark
PARISH	Annagelliff
BARONY	Loughtee Upper
I.T.M.	641383, 806801
CLASSIFICATION	Enclosure
DIST. FROM DEVELOPMENT	c. 250m northeast
DESCRIPTION	The only indication of the presence of a site here is a kink in the field boundary from NNW-N-SE. Not marked on OS 1836 or 1876 eds. and not known locally as an antiquity. Site has been levelled.
REFERENCE	www.archaeology.ie/ SMR file

APPENDIX 2 LEGISLATION PROTECTING THE ARCHAEOLOGICAL RESOURCE

PROTECTION OF CULTURAL HERITAGE

The cultural heritage in Ireland is safeguarded through national and international policy designed to secure the protection of the cultural heritage resource to the fullest possible extent (Department of Arts, Heritage, Gaeltacht and the Islands 1999, 35). This is undertaken in accordance with the provisions of the *European Convention on the Protection of the Archaeological Heritage* (Valletta Convention), ratified by Ireland in 1997.

THE ARCHAEOLOGICAL RESOURCE

The *National Monuments Act 1930 to 2014* and relevant provisions of the *National Cultural Institutions Act 1997* are the primary means of ensuring the satisfactory protection of archaeological remains, which includes all man-made structures of whatever form or date except buildings habitually used for ecclesiastical purposes. A National Monument is described as 'a monument or the remains of a monument the preservation of which is a matter of national importance by reason of the historical, architectural, traditional, artistic or archaeological interest attaching thereto' (National Monuments Act 1930 Section 2). A number of mechanisms under the National Monuments Act are applied to secure the protection of archaeological monuments. These include the Register of Historic Monuments, the Record of Monuments and Places, and the placing of Preservation Orders and Temporary Preservation Orders on endangered sites.

OWNERSHIP AND GUARDIANSHIP OF NATIONAL MONUMENTS

The Minister may acquire national monuments by agreement or by compulsory order. The state or local authority may assume guardianship of any national monument (other than dwellings). The owners of national monuments (other than dwellings) may also appoint the Minister or the local authority as guardian of that monument if the state or local authority agrees. Once the site is in ownership or guardianship of the state, it may not be interfered with without the written consent of the Minister.

REGISTER OF HISTORIC MONUMENTS

Section 5 of the 1987 Act requires the Minister to establish and maintain a Register of Historic Monuments. Historic monuments and archaeological areas present on the register are afforded statutory protection under the 1987 Act. Any interference with sites recorded on the register is illegal without the permission of the Minister. Two months' notice in writing is required prior to any work being undertaken on or in the vicinity of a registered monument. The register also includes sites under Preservation Orders and Temporary Preservation Orders. All registered monuments are included in the Record of Monuments and Places.

PRESERVATION ORDERS AND TEMPORARY PRESERVATION ORDERS

Sites deemed to be in danger of injury or destruction can be allocated Preservation Orders under the 1930 Act. Preservation Orders make any interference with the site illegal. Temporary Preservation Orders can be attached under the 1954 Act. These perform the same function as a Preservation Order but have a time limit of six months,

after which the situation must be reviewed. Work may only be undertaken on or in the vicinity of sites under Preservation Orders with the written consent, and at the discretion, of the Minister.

RECORD OF MONUMENTS AND PLACES

Section 12(1) of the 1994 Act requires the Minister for Arts, Heritage, Gaeltacht and the Islands (now the Minister for the Department of Housing, Local Government and Heritage) to establish and maintain a record of monuments and places where the Minister believes that such monuments exist. The record comprises a list of monuments and relevant places and a map/s showing each monument and relevant place in respect of each county in the state. All sites recorded on the Record of Monuments and Places receive statutory protection under the National Monuments Act 1994. All recorded monuments on the proposed development site are represented on the accompanying maps.

Section 12(3) of the 1994 Act provides that 'where the owner or occupier (other than the Minister for Arts, Heritage, Gaeltacht and the Islands) of a monument or place included in the Record, or any other person, proposes to carry out, or to cause or permit the carrying out of, any work at or in relation to such a monument or place, he or she shall give notice in writing to the Minister of Arts, Heritage, Gaeltacht and the Islands to carry out work and shall not, except in case of urgent necessity and with the consent of the Minister, commence the work until two months after giving of notice'.

Under the National Monuments (Amendment) Act 2004, anyone who demolishes or in any way interferes with a recorded site is liable to a fine not exceeding €3,000 or imprisonment for up to 6 months. On summary conviction and on conviction of indictment, a fine not exceeding €10,000 or imprisonment for up to 5 years is the penalty. In addition, they are liable for costs for the repair of the damage caused.

In addition to this, under the *European Communities (Environmental Impact Assessment) Regulations 1989,* Environmental Impact Statements (EIS) are required for various classes and sizes of development project to assess the impact the proposed development will have on the existing environment, which includes the cultural, archaeological and built heritage resources. These document's recommendations are typically incorporated into the conditions under which the proposed development must proceed, and thus offer an additional layer of protection for monuments which have not been listed on the RMP.

THE PLANNING AND DEVELOPMENT ACT 2000

Under planning legislation, each local authority is obliged to draw up a Development Plan setting out their aims and policies with regard to the growth of the area over a five-year period. They cover a range of issues including archaeology and built heritage, setting out their policies and objectives with regard to the protection and enhancement of both. These policies can vary from county to county. The Planning and Development Act 2000 recognises that proper planning and sustainable development includes the protection of the archaeological heritage. Conditions relating to archaeology may be attached to individual planning permissions.

Cavan County Development Plan 2022-2028

Archaeological Heritage Development Objectives It is a development objective of Cavan County Council to:

AH 1
Archaeological Heritage Development Objectives It is a development objective of Cavan County Council to: Protect and safeguard the county's archaeological resource and ensure the sympathetic enhancement of archaeological heritage. Applications will be referred to the Department of Housing, Local Government and Heritage by the Planning Authority in its capacity of being charged with the implementation of the National Monuments Acts.

AH 2
Protect and enhance archaeological sites and monuments, their settings and zones of archaeological potential that are listed in the Record of Monuments and Places, in the ownership/ guardianship of the State, or that are the subject of Preservation Orders or have been registered in the Register of Historic Monuments. Ensure the protection of sites which have been identified subsequent to the publication of the Record of Monuments and Places.

AH 3
Development adjacent to or near an archaeological site or monument should not interfere with the character of the site, or its setting. Proposed developments should be sited to ensure minimal impact on the site or monument. Development which has a negative impact on a site or monument will not be permitted

AH 4
Seek to promote best practice for archaeological excavation ensuring that they are undertaken according to best practice as outlined by the National Monuments Service, Department of Housing, Local Government and Heritage, The National Museum and the Institute of Archaeologists of Ireland.

AH 5
Encourage the dissemination of findings from archaeological investigations and excavations through the publication of archaeological reports.

AH 6
Support the growth of cultural tourism within the county, including the potential for niche heritage tourism products by facilitating the development of heritage events and infrastructure such as heritage trails, walkways and cycleways.

AH 7
Seek funding to prepare and implement a Conservation Management Plan for Clough Oughter Castle in consultation with the OPW and the National Monuments Service.

AH 8
Continue to support the development of sustainable heritage based tourism initiatives in the UNESCO Cuilcagh Lakelands Geopark subject to archaeological and ecological assessment.

AH 9
Facilitate appropriate guidance in relation to the protection f the archaeological heritage and implications of a proposed development.

AH 10
Promote public awareness of the rich archaeological heritage of the county.

AH 11
Secure the preservation of sites and features of historical and archaeological interest. The preservation in-situ of archaeological monuments and sites as a preferred option.

AH 12
Where archaeological sites or monuments have to be removed as a result of development, it is essential that they be preserved by record, through archaeological excavation and recording, which is to be undertaken by a suitably qualified professional archaeologist.

AH 13
Support the appropriate management and maintenance of the county's historical burial grounds, in accordance with conservation principles and best practice guidelines. In this regard, seek to continue to support the work of the Historic Graveyards Network.

AH 14
Seek to co-operate with other agencies regarding the impact of climate change on our archaeological heritage

APPENDIX 3 IMPACT ASSESSMENT AND THE CULTURAL HERITAGE RESOURCE

POTENTIAL IMPACTS ON ARCHAEOLOGICAL AND HISTORICAL REMAINS

Impacts are defined as 'the degree of change in an environment resulting from a development' (Environmental Protection Agency 2022). They are described as profound, significant or slight impacts on archaeological remains. They may be negative, positive or neutral, direct, indirect or cumulative, temporary or permanent.

Impacts can be identified from detailed information about a project, the nature of the area affected and the range of archaeological and historical resources potentially affected. Development can affect the archaeological and historical resource of a given landscape in a number of ways.

- Permanent and temporary land-take, associated structures, landscape mounding, and their construction may result in damage to or loss of archaeological remains and deposits, or physical loss to the setting of historic monuments and to the physical coherence of the landscape.

- Archaeological sites can be affected adversely in a number of ways: disturbance by excavation, topsoil stripping and the passage of heavy machinery; disturbance by vehicles working in unsuitable conditions; or burial of sites, limiting accessibility for future archaeological investigation.

- Hydrological changes in groundwater or surface water levels can result from construction activities such as de-watering and spoil disposal, or longer-term changes in drainage patterns. These may desiccate archaeological remains and associated deposits.

- Visual impacts on the historic landscape sometimes arise from construction traffic and facilities, built earthworks and structures, landscape mounding and planting, noise, fences and associated works. These features can impinge directly on historic monuments and historic landscape elements as well as their visual amenity value.

- Landscape measures such as tree planting can damage sub-surface archaeological features, due to topsoil stripping and through the root action of trees and shrubs as they grow.

- Ground consolidation by construction activities or the weight of permanent embankments can cause damage to buried archaeological remains, especially in colluviums or peat deposits.

- Disruption due to construction also offers in general the potential for adversely affecting archaeological remains. This can include machinery, site offices, and service trenches.

Although not widely appreciated, positive impacts can accrue from developments. These can include positive resource management policies, improved maintenance and access to archaeological monuments, and the increased level of knowledge of a site or historic landscape as a result of archaeological assessment and fieldwork.

PREDICTED IMPACTS

The severity of a given level of land-take or visual intrusion varies with the type of monument, site or landscape features and its existing environment. Severity of impact can be judged taking the following into account:

- The proportion of the feature affected and how far physical characteristics fundamental to the understanding of the feature would be lost;
- Consideration of the type, date, survival/condition, fragility/vulnerability, rarity, potential and amenity value of the feature affected;
- Assessment of the levels of noise, visual and hydrological impacts, either in general or site-specific terms, as may be provided by other specialists.

APPENDIX 4 MITIGATION MEASURES AND THE CULTURAL HERITAGE RESOURCE

POTENTIAL MITIGATION STRATEGIES FOR CULTURAL HERITAGE REMAINS

Mitigation is defined as features of the design or other measures of the proposed development that can be adopted to avoid, prevent, reduce or offset negative effects.

The best opportunities for avoiding damage to archaeological remains or intrusion on their setting and amenity arise when the site options for the development are being considered. Damage to the archaeological resource immediately adjacent to developments may be prevented by the selection of appropriate construction methods. Reducing adverse effects can be achieved by good design, for example by screening historic buildings or upstanding archaeological monuments or by burying archaeological sites undisturbed rather than destroying them. Offsetting adverse effects is probably best illustrated by the full investigation and recording of archaeological sites that cannot be preserved *in situ*.

DEFINITION OF MITIGATION STRATEGIES

ARCHAEOLOGICAL RESOURCE

The ideal mitigation for all archaeological sites is preservation *in situ*. This is not always a practical solution, however. Therefore, a series of recommendations are offered to provide ameliorative measures where avoidance and preservation *in situ* are not possible.

Archaeological Test Trenching can be defined as 'a limited programme of intrusive fieldwork which determines the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts within a specified area or site on land, inter-tidal zone or underwater. If such archaeological remains are present field evaluation defines their character, extent, quality and preservation, and enables an assessment of their worth in a local, regional, national or international context as appropriate' (CIfA 2020a).

Full Archaeological Excavation can be defined as 'a programme of controlled, intrusive fieldwork with defined research objectives which examines, records and interprets archaeological deposits, features and structures and, as appropriate, retrieves artefacts, ecofacts and other remains within a specified area or site on land, inter-tidal zone or underwater. The records made and objects gathered during fieldwork are studied and the results of that study published in detail appropriate to the project design' (CIfA 2020b).

Archaeological Monitoring can be defined as 'a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons. This will be within a specified area or site on land, inter-tidal zone or underwater, where there is a possibility that archaeological deposits may be disturbed or destroyed. The programme will result in the preparation of a report and ordered archive (CIfA 2020c).

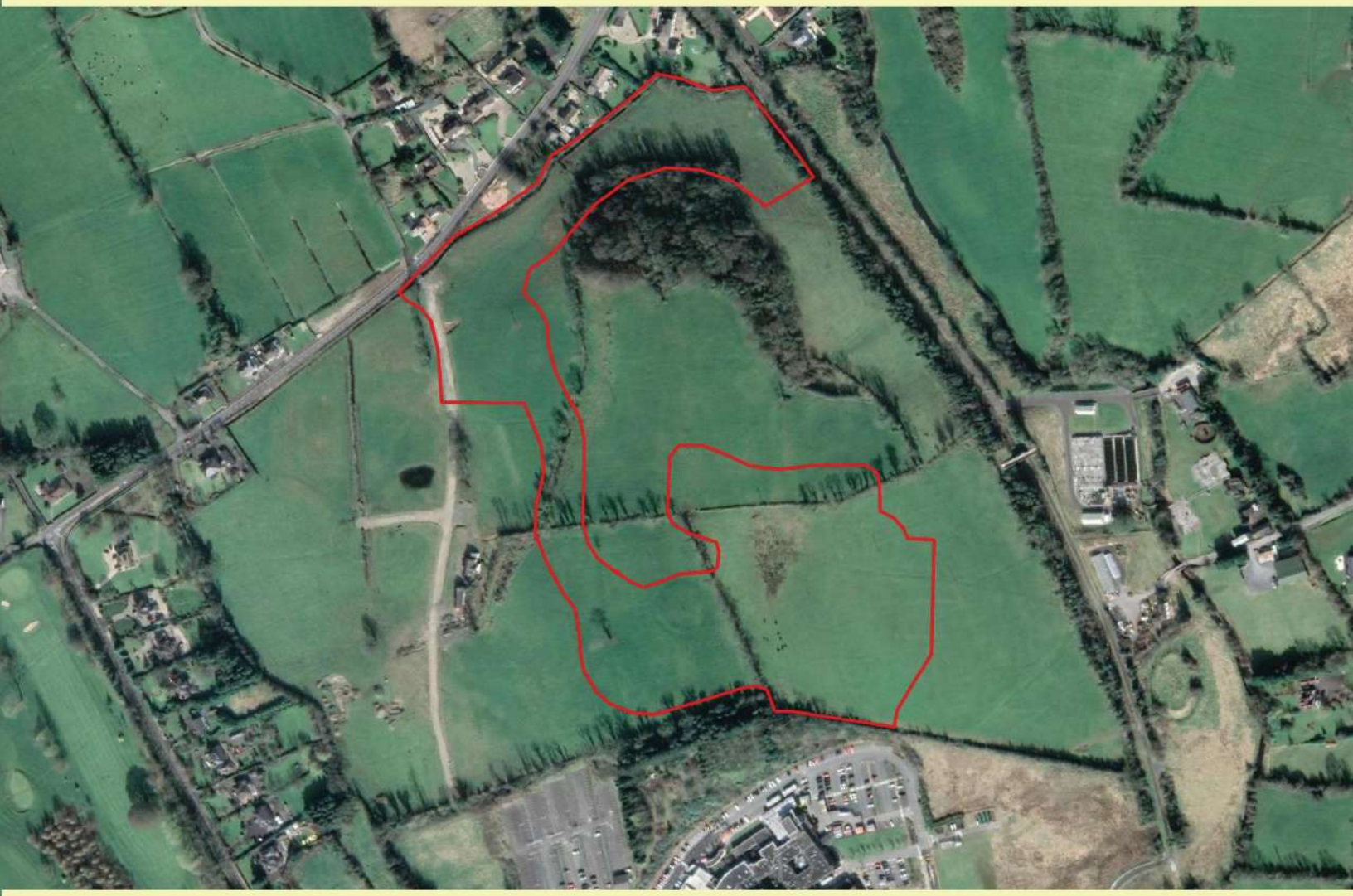
Underwater Archaeological Assessment consists of a programme of works carried out by a specialist underwater archaeologist, which can involve wade surveys, metal detection surveys and the excavation of test pits within the sea or riverbed. These assessments are able to access and assess the potential of an underwater environment to a much higher degree than terrestrial based assessments.

APPENDIX 5 GEOPHYSICAL SURVEY

Geophysical Survey Report
Lisdaran, Cavan, Co. Cavan

License No.: 24R0501
RMP: CV020-057, Ringfort-rath

ITM: 641200, 806300



Ger Dowling, PhD MIAI
October 2024

Summary

This report details the results of an archaeogeophysical survey (Licence No.: 24R0501) of lands at Lisdaran townland, Cavan, Co. Cavan. An area of approximately 8 hectares was targeted for investigation, involving high resolution magnetic gradiometry. The investigation was conducted as part of a preliminary (pre-planning) archaeological investigation.

The survey mapped the boundary of ringfort-rath CV020-057 and yielded potential evidence for internal structures and features. A range of other features of potential archaeological interest were identified in the wider area of the ringfort-rath and include possible burnt spreads and what may be an early field system/s. Features associated with agriculture in recent centuries were also revealed.

Survey details

Site Name: Lisdaran
Townlands: Lisdaran
County: Cavan

Parish: Urney
Barony: Loughtee Upper

RMP/SMR Nos: CV020-057, Ringfort-rath
ITM (centroid): 641200, 806300

Land use: Pasture
Geology: Dark muddy limestone and shale (Ballysteen Formation)
Soils: Coarse loamy drift with siliceous stones (Clashmore Series)

Detection License No.: 24R0501
Planning Reference No.: N/A

Survey Type & Instrument: Fluxgate Gradiometer – Five-channel magnetometer
Sample/Transverse Interval: 0.10m/0.5m

Area Surveyed: *c*.7.5 ha
Survey Date: 14 October 2024

License Holder: Ger Dowling
Report Author: Ger Dowling
Report Date: 15 October 2024

Contents

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Abbreviations

AOD	Above Ordnance Datum
CV	Cavan
GPS	Global Positioning System
ITM	Irish Transverse Mercator
nT	nanoTesla (unit of magnetic measurement)
OS	Ordnance Survey
QGIS	Quantum Geographical Information Systems
RMP	Record of Monument and Places
SMR	Sites and Monuments Record

Coordinate System

All GPS coordinates given in this report are in Irish Transverse Mercator (ITM)

1 Introduction

This report details the results of archaeogeophysical survey (Licence No.: 24R0501) of lands at Lisdaran townland, Cavan, Co. Cavan. An area of approximately 8 hectares was targeted for investigation, involving high resolution magnetic gradiometry, though only about 7.5 ha was suitable for survey. The investigation was conducted as part of a preliminary (pre-planning) archaeological investigation.

The site has not previously subjected to geophysical survey and it was hoped that the investigation would identify and map any subsurface archaeology that may be present.

2 Site Location

The survey is located in the townland of Lisdaran, Co. Cavan (Figure 1). The site, which lies on the northern edge of Cavan town, is in the Civil Parish of Urney and the Barony of Loughtee Upper.[1]

[1] Lios Dorráin/Lisdaran | logainm.ie: accessed on 21 September 2024.

3 Survey Background

The survey was conducted was conducted in respect of a pre-planning study (archaeological reconnaissance).

4 Archaeological Background

4.1 Recorded/Known Archaeology

The survey area is the location of ringfort-rath, CV020-057 (Plate 1; Figure 2). The enclosure occupies the summit of a drumlin (*c*.88m AOD) and is defined by a circular area (diam. *c*.27 m) raised to between 0.5m and 0.9m above external ground level; there is no obvious surface trace of the original boundary elements.[2] The wider hinterland of the target site is home to other ringfort-raths and enclosures (e.g., CV020-005; CV020-032; CV020-035; CV020-036; & CV020-058), as well as a church (CV020-050001) and a holy well (CV020-050002).[3]

The survey area is shown as farmland on early historical maps (Figures 3 & 4).

4.2 Previous Investigations

Lands in the immediate area of the survey area were archaeologically test trenched in 2007.[4] A total of 64 trenches were excavated, resulting in the identification of a possible wooden trackway. Two pits, possibly troughs, and a burnt spread were also revealed.

[2] Historic Environment Viewer (arcgis.com): accessed on 21 September 2024.
[3] Ibid.
[4] 17085 « Excavations : accessed on 21 September 2024.

5 Survey Location and Aims

The investigation, comprising high resolution magnetic gradiometry, focused several adjoining fields of pasture that encompass a combined area of about 8 ha (Plates 1 & 2; Figure 5). Steep terrain and other factors reduced the survey area to about 7.5 ha (see Section 8.1 below)

The southern part of the survey area extends over portions of three fields located on the summit of a high drumlin (*c*.88m AOD) that offers extensive views over the surrounding drumlinoid topography (Plates 2 & 3). Apart from a tract of wet, boggy terrain at the northern end of the southeastern field (Plate 4), the summit fields are in pasture and are generally defined by flat to gently undulating topography (Plates 5 & 6). By contrast, the western edge of the survey area is coextensive with the steep, western flank of the drumlin and is bordered, on the east, by a modern paved road (Plate 7). On the north, the lands are flat and extend around the northern slope of the drumlin (Plate 8). The land here appears to have been improved in recent times, and is marked by several metal manholes covers, with a newly built fenced pumping station and adjacent short stretch of modern paved road at the northernmost end of the site (Plate 9). The approximate centre of the site is traversed from northwest to southeast by an overhead electricity cable.

The surrounding area comprises a mixed (sub)urban and rural environment, with Cavan town to the south and pastureland elsewhere.

The underlying bedrock of the locality comprises dark muddy limestone and shale (Ballysteen Formation).[5] The local soils comprise coarse loamy drift with siliceous stones (Clashmore Series).[6]

The geophysical investigation aimed to:

- identify any geophysical anomalies of possible archaeological origin within the specified survey area
- accurately locate these anomalies and present the findings in map form
- describe the anomalies and discuss their likely provenance in a written report
- incorporate all of the above in a report to the Client

[5] Geological Survey of Ireland Spatial Resources, Public Data Viewer Series: https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aaac3c228 [accessed on 21 September 2024].

[6] Irish National Soils Map, 1:250,000k, V1b (2014): http://gis.teagasc.ie/soils/map.php [accessed on 21 September 2024].

6 Survey Methodology and Instrumentation

The survey involved high-resolution magnetic gradiometry survey (Table 1). This technique measures changes in the magnetic properties of the soil and is widely used in modern investigations due to its ability to detect a broad range of sub-surface archaeological remains, including ditches and pits, and 'industrial' features associated with metalworking and pottery production.

The magnetic survey was conducted using a five-channel fluxgate gradiometer system, combining a Sensys MAGNETO MXPDA and Sensys FGM650 probes, with cm-precision GPS (Trimble R12 antenna and TSC5 controller) georeferenced to Irish Transverse Mercator and Ordnance Datum. Mounted on a cart and pulled by a quad bike, the system records magnetometer and GPS data simultaneously into a single data file. The data capture strategy involved logging readings every 0.10m intervals along transects spaced 0.5m apart, with a maximum traverse width of 2.5m. The sampling strategy produces a high-resolution dataset, giving clarity to any archaeological features detected.

The highly accurate positioning of the survey data provides strong confidence when integrating the geophysical results with other datasets such as aerial imagery in GIS, and also ensures repeatability should further investigation of anomalies (e.g., test excavation) be required.

Table 1. Geophysical survey details

Technique	Instrumentation	Sensor spacing	Sample rate	Survey Area	Number of recorded data
Magnetic Gradiometry	Five-channel fluxgate gradiometer array	0.5m	100 Hz	*c*.7.5 ha	1,510,235

7 Data Management, Processing and Interpretation

Gradiometry data was logged to a laptop computer and archived daily to an external hard drive. The collated data was processed using the following methodology:

- Real-time positioning of magnetometer data based on GPS measurements;
- Processing (track correction and equalisation) of collated magnetometer data; and
- Export of georeferenced greyscale images at optimum visual range

The magnetometry and GPS data were georeferenced through Sensys proprietary software (Geoserver 2.00-01 followed by DLMGPS 4.01-13) and processed in Sensys MAGNETO 3.01-17 software. The processed data was subsequently imported into QGIS for final image production (Figures 6–8). Final geophysical datasets have been formatted as raster data models/GeoTiffs (projected to ITM, EPSG:2157) to enable subsequent geospatial analysis. Fieldwork, data processing and reporting adhered to the most up-to-date guidelines for conducting archaeogeophysical surveys.[7] All geophysical raster datasets will be digitally archived to best practice.[8]

[7] Schmidt A., Linford P., Linford N., David, A., Gaffney C., Sarris A., and Fassbinder J. 2016. *EAC Guidelines for the Use of Geophysics in Archaeology*: *Questions to Ask and Points to Consider*. EAC Guidelines 2. [Online] Available from: https://f64366e3-8f7d-4b63-9edf5000e2bef85b.filesusr.com/ugd/881a59_fdb1636e95f64813a65178895aea87cf.pdf

[8] Niven, K. 2012. *Raster Images: A Guide to Good Practice*. Archaeology Data Service/Digital Antiquity, Guides to Good Practice. [Online] Available from: http://guides.archaeologydataservice.ac.uk/g2gp/RasterImg_Toc; & Schmidt, A. and Ernenwein, E. 2012. *Guide to Good Practice: Geophysical Data in Archaeology*. Oxford: Oxbow.

8 General Considerations and Complicating Factors

8.1 Access and Ground Conditions

The survey area comprises neighbouring tracts of pasture located on and around the summit of a high drumlin ridge. Steep terrain in several places on the west and north could not be surveyed due to health and safety concerns. A mature tree located a short distance to the west of ringfort-rath CV020-057 was also avoided by the survey.

8.2 Modern Interference

Numerous small-scale 'ferrous-type', dipolar (positive–negative) responses are evident in the results from the gradiometry survey. These are a common occurrence in magnetic data and in most cases represent modern metal debris and other magnetised material (e.g., fired brick) contained within the topsoil. However, given the presence of ringfort-rath CV020-057 some of the ferrous responses mapped in its locality may reflect objects of archaeological interest.

The overhead electricity cables that traverse the approximate centre of the site from northwest to southeast was a source of magnetic disturbance.

8.3 Former Land Use

Two former field boundaries depicted on early cartographic sources were mapped by the investigation (for historical mapping, see Figures 3 and 4). Traces of past ploughing is discernible in the field surrounding ringfort-rath CV020-057 and the western flank of the drumlin.

8.4 Enhanced magnetic response

An ovaloid area of enhanced magnetic response mapped by the survey in the southeastern field may have an archaeological origin but could also reflect imported material for land reclamation or dumping or be the result of ground disturbance. Similar broadscale responses revealed by the investigation at the northern end of the site likely represent modern buried material and/or be the result of recent ground disturbance.

9 Survey Results

Table 3. Survey results

Site name	Lisdaran		
ITM (centroid)	641200, 806300		
Area surveyed	*c*.7.5 ha		
Figure Numbers	6–8		
Anomaly Number	***Form/nature of anomaly***	***Possible sources(s) of anomaly***	***Interpretative discussion***
1	Discontinuous circular positive anomaly	Archaeology	Ditch of ringfort-rath CV020-057 (*c*.48m in overall diameter N–S). Variations in clarity of boundary likely reflects differing magnetic strength of ditch infill material. No obvious indication for an entrance, though it may be on SE. Surrounds [2] and [3] and may be associated with putative field system [7] some 50m to E, though this is speculative. A slender positive linear and several 'pit-type' responses mapped both inside and immediately outside ringfort-rath [1] may represent associated features (e.g., ditch segments and pits/spreads), some possibly containing burnt/fired material in their fills.
2	Short strongly enhanced positive linear	Archaeology	Possible spread or short 'ditch-type' feature. Magnetic strength (up to 45nT) suggests presence of significant quantities of burnt/fired such as might be associated with a hearth- or oven-type archaeological feature. Extends NE from perimeter ditch of [1] for about 4.5m.
3	Two, short closely-set positive linears	Possible archaeology	Two short 'ditch-type' features. May represent outline of structure or building of some kind, with potential dimensions of 6.5m N–S by 6m E–W. Tentative interpretation.
4	Circular area of enhanced magnetism	Possible archaeology	Possible burnt spread (*c*.10m in diameter N–S). A number of 'pit-type' responses [5] mapped short distance to E may be associated features (e.g., pits/spreads).

5	Several closely-set 'pit-type' responses of varying magnitude	Possible archaeology	Possible discrete spreads of burnt/fired material. Located about 7m E of [4] and 5m W of [6].
6	Slender positive curvilinear	Possible archaeology/ agricultural/natural	Possible footing of small structure, *c*.8m NW–SW by 6m NE–SW. Perhaps defined by narrow ditch or trench. Interpretation is highly tentative. Agricultural and/or natural origin also conceivable.
7	Faint, integrated array of slender linear and curvilinear positive magnetic anomalies	Possible archaeology/ agricultural	Potential network of narrow ditches/trenches located on drumlin summit. May represent relict field system/s. Difficult to discern with clarity but mapped over area measuring about 50m N–S by 75m E–W. Not marked on early historical maps. Antiquity unknown. Located about 50m to E of [1] but relationship, if any, is uncertain.
8	Short, weak positive–negative linear	Agricultural	Relict field boundary. Recorded on early historical maps.
9	Faint, diffuse negative linear	Agricultural	Relict field boundary. Depicted on first-edition 25-inch Ordnance Survey Map (1888–1913).
	Positive tends	Possible archaeology/ agricultural	Possible ditches/drains.
	Multiple, weak, closely spaced, parallel, positive–negative linears	Agricultural	Former cultivation.
10	Ovaloid area of magnetic enhancement	Possible archaeology/ agricultural/ modern	May reflect imported material (e.g., gravel) for land reclamation or dumping or be the result of ground disturbance. An archaeological origin cannot be discounted. Corresponds to tract of wet, boggy terrain.
	Several areas of magnetic enhancement	Modern	Likely represents presence of imported material (e.g., gravel) for land reclamation or dumping or be the result of ground disturbance. Mapped along northern perimeter of site.
	Multiple 'ferrous-type' responses	Modern/natural	Ferrous debris and other weakly magnetised material.
	Areas of magnetic disturbance	Modern	Interference from overhead electricity cables.

10 Conclusion

The geophysical survey at Lisdaran has revealed several features of archaeological and potential archaeological interest. These are all located on the drumlin summit and include the boundary of ringfort-rath CV020-057 [1], whose discontinuous positive magnetic signature is suggestive of a ditch that contains variable quantities of magnetic material in its fill. There is no obvious evidence for an entrance, though this may be on the southeast. Internal activity is indicated by a short 'ditch-type' anomaly [2] that extends from the perimeter ditch and is defined by a particularly strong magnetic signature (up to 45nT) that likely attests to the presence of enhanced magnetic (possibly burnt/fired) material in its fill. This may be a hearth- or oven-type feature, for instance. The possible presence of an internal structure or building [3] is also suggested by the survey results but interpretation is cautious without further data.

A range of circular and arcuate anomalies and 'pit-type' responses [4–6] recorded by the survey about 100m northwest of ringfort-rath CV020-057 hint at the existence of additional archaeological features. These include a possible burnt spread [4] and potentially associated features [5], as well as what might be a small structure of some kind [6]. Once again, however, further work (e.g., test trenching) is required to determine the exact nature and significance of the latter anomalies. Similarly, several, seemingly integrated, slender linear and arcuate anomalies [7] mapped by the investigation about 50m to the east of ringfort-rath CV020-057 may denote an early field system/s, though this is speculative. Indeed, although not depicted on early cartographic sources, a relatively recent for this putative field system/s cannot be ruled out. A large ovaloid area of magnetic enhancement [10] corresponds to a tract of wet, boggy terrain and while an archaeological origin is possible, this may, in fact, represent more recent activity perhaps involving deposition or ground disturbance.

Anomalies of more recent origin attest to past land division and cultivation, with modern ground disturbance indicated by the dataset from the northern part of the survey area.

10.1 Statement of Indemnity

The geophysical properties of sub-surface features must contrast sufficiently with the surrounding soils/background variation to enable them to be detected and mapped using geophysical methods. As such, the clarity and definition of buried features can vary considerably, with some having well-defined signatures while others are only barely visible, or not discernible, in geophysical imagery. A lack of geophysical anomalies cannot be taken to imply the absence of archaeological features.

The interpretations presented here are invariably provisional and further work (e.g., test trenching) is required to fully assess the nature and archaeological potential of the anomalies identified by the present investigation.

11 Figures

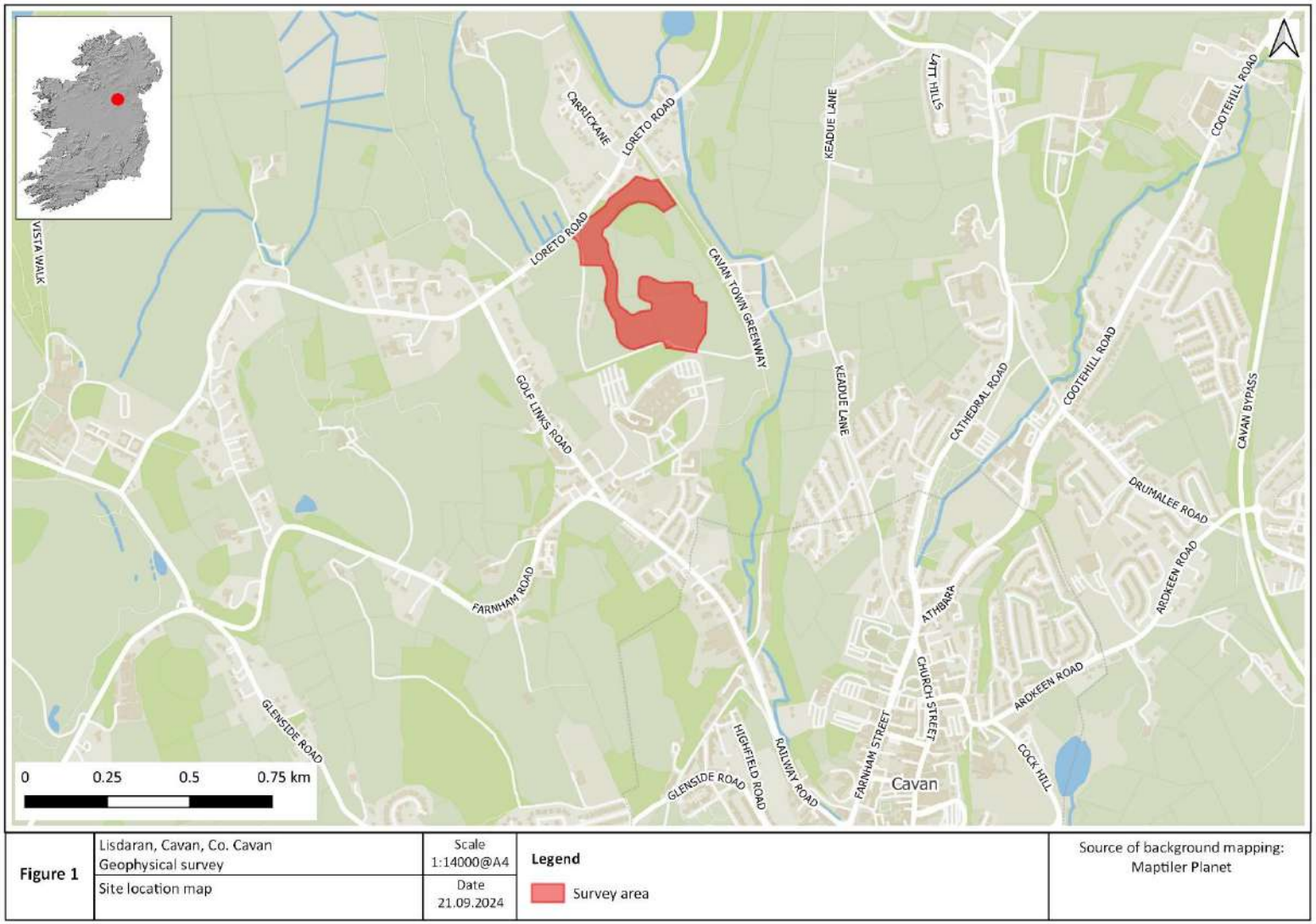


Figure 1. Site location map, showing survey area highlighted in red.

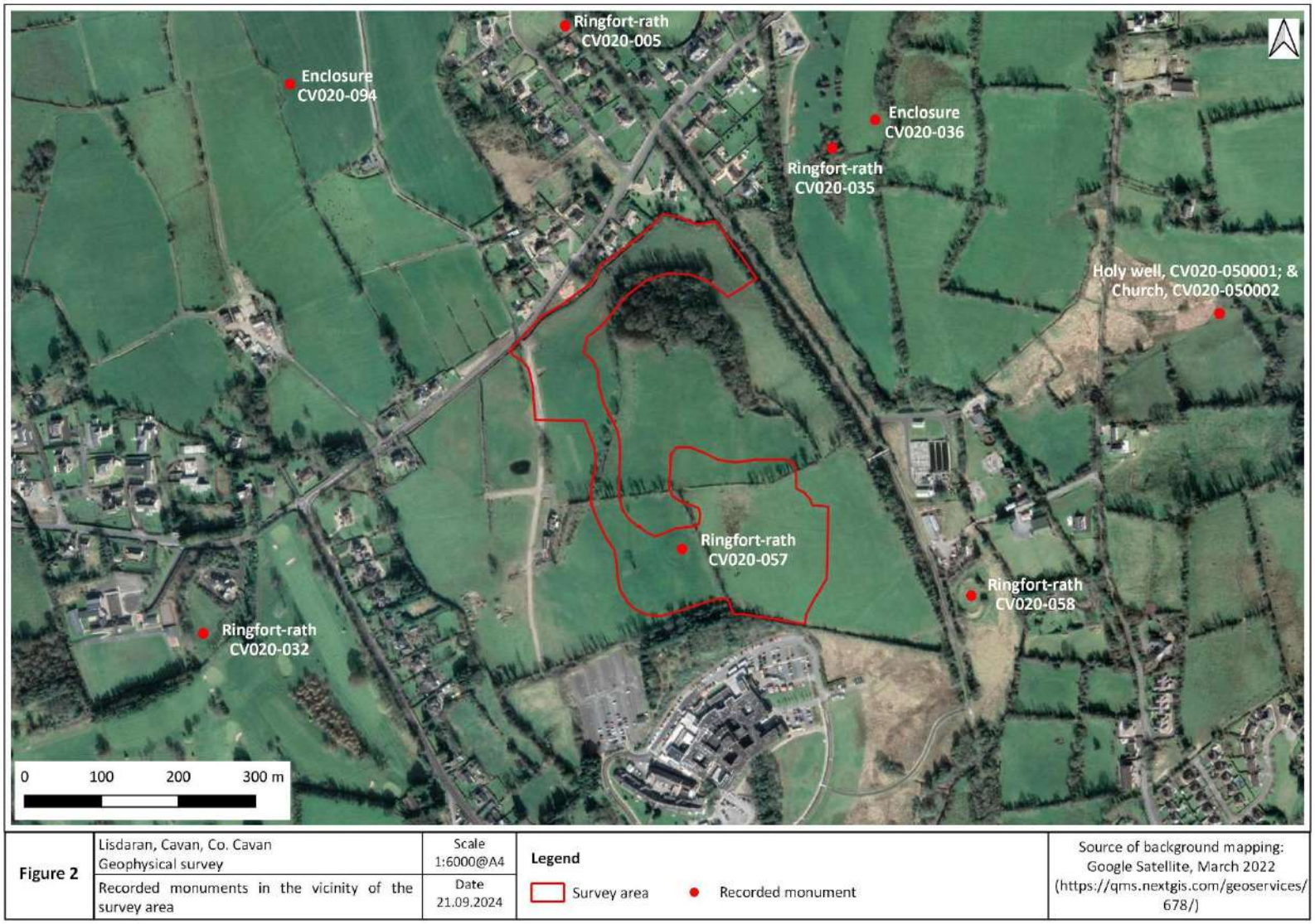


Figure 2. Location of recorded archaeological sites in the vicinity of the survey area.

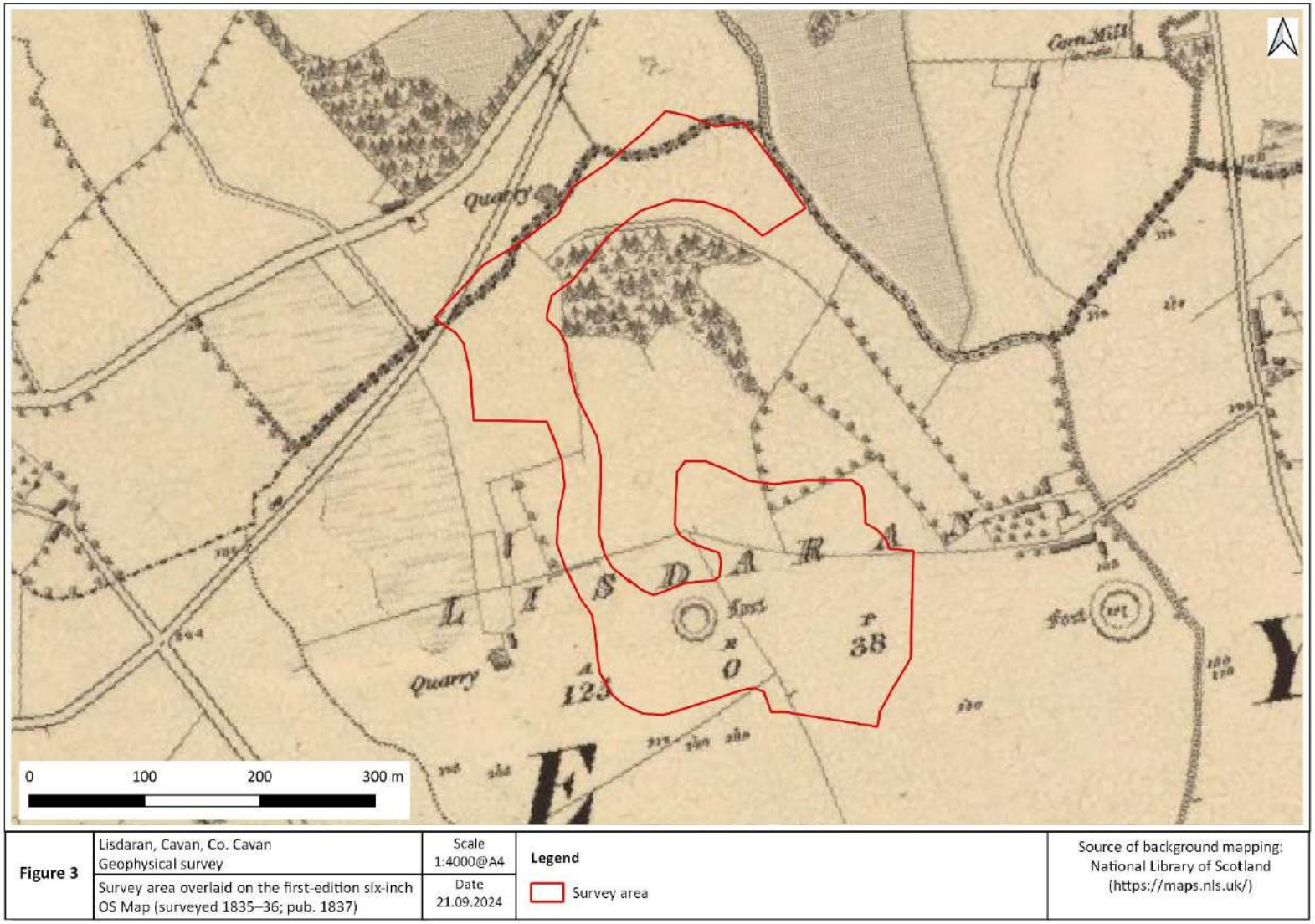


Figure 3. The survey area overlaid on the first-edition six-inch Ordnance Survey Map (surveyed 1835–36; published 1837).

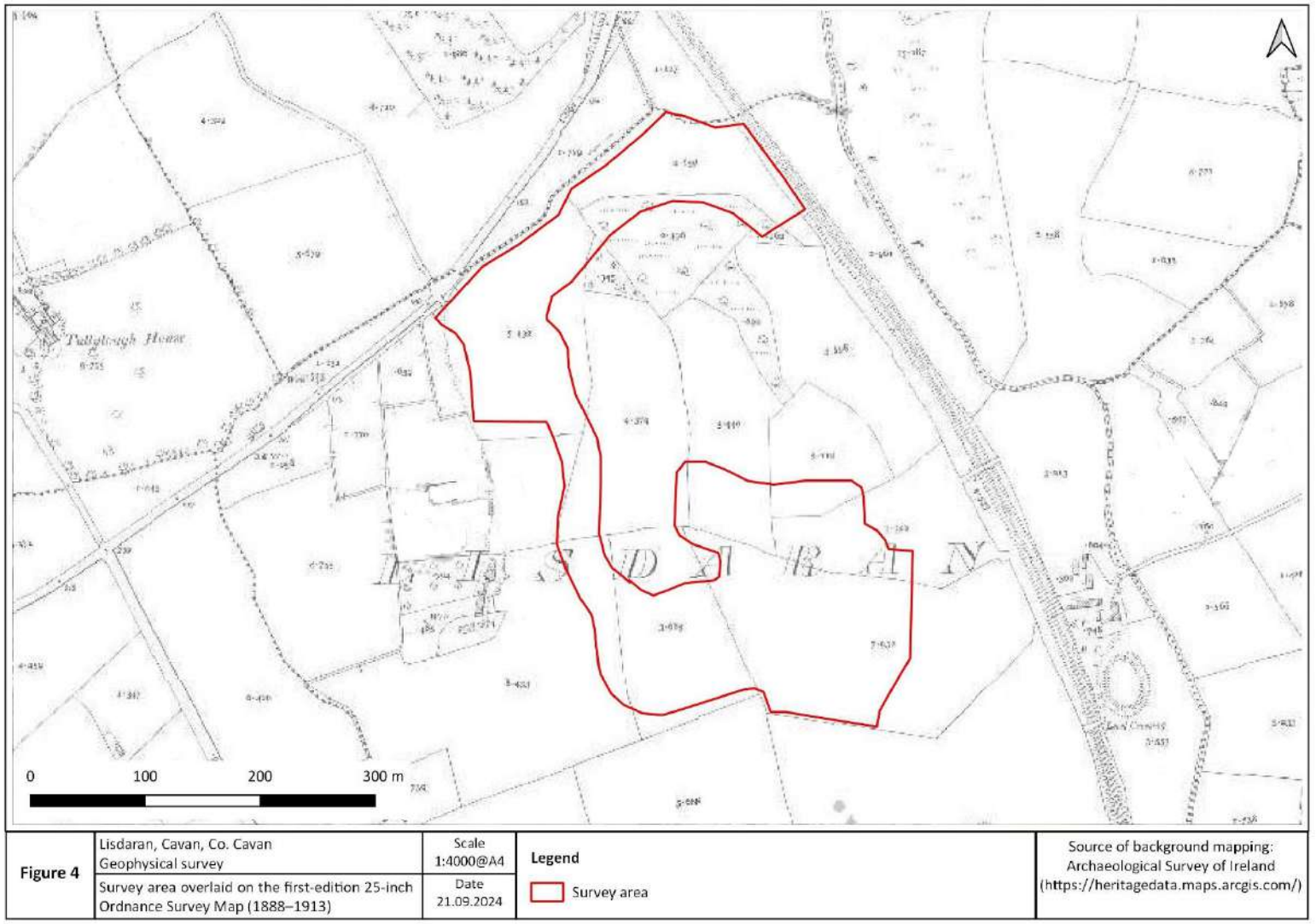


Figure 4. The survey area overlaid on the first-edition 25-inch Ordnance Survey Map (1888–1913).

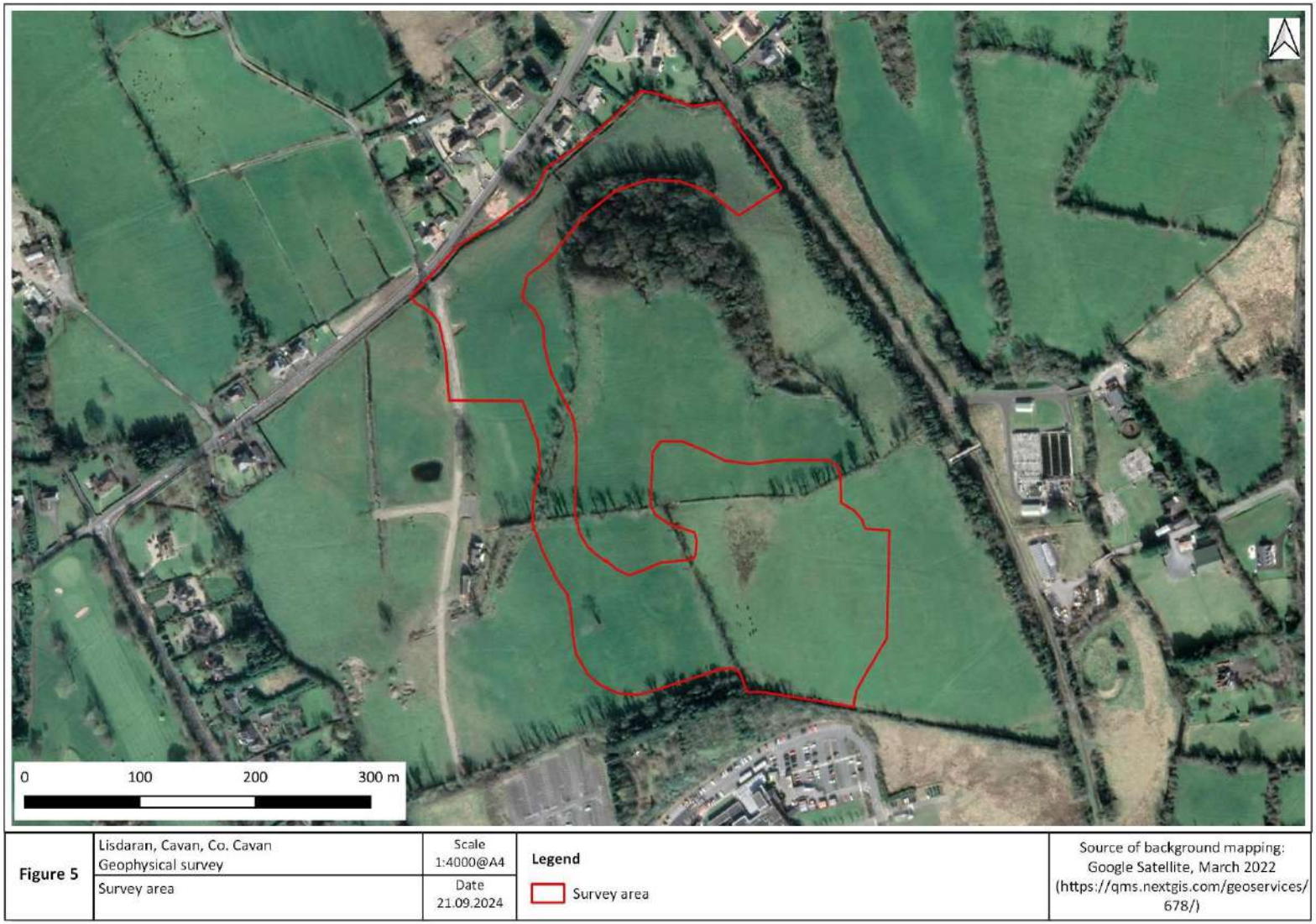


Figure 5. Survey area.

Figure 6. Greyscale image of gradiometry results.

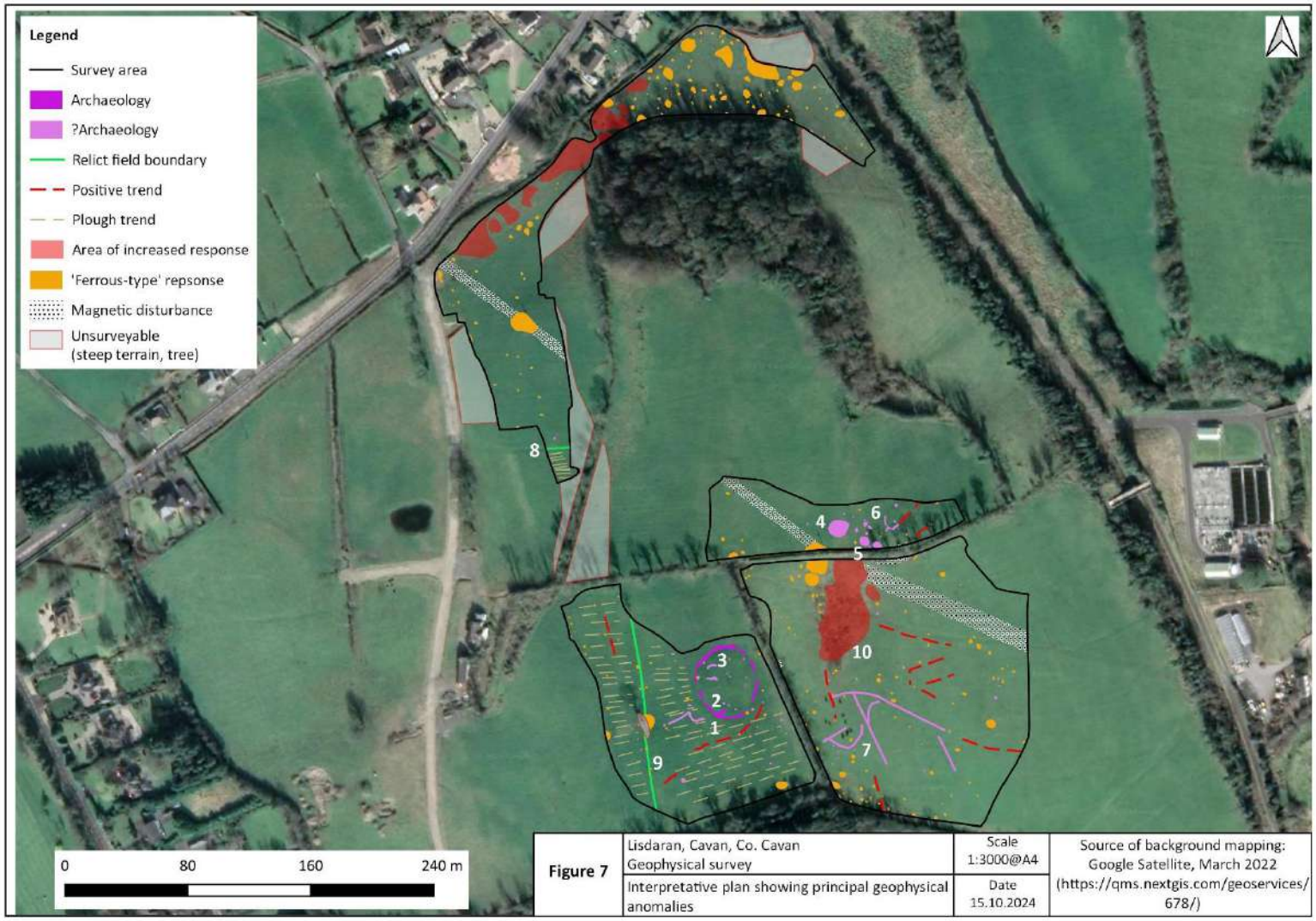


Figure 7. Interpretative plan showing principal geophysical anomalies.

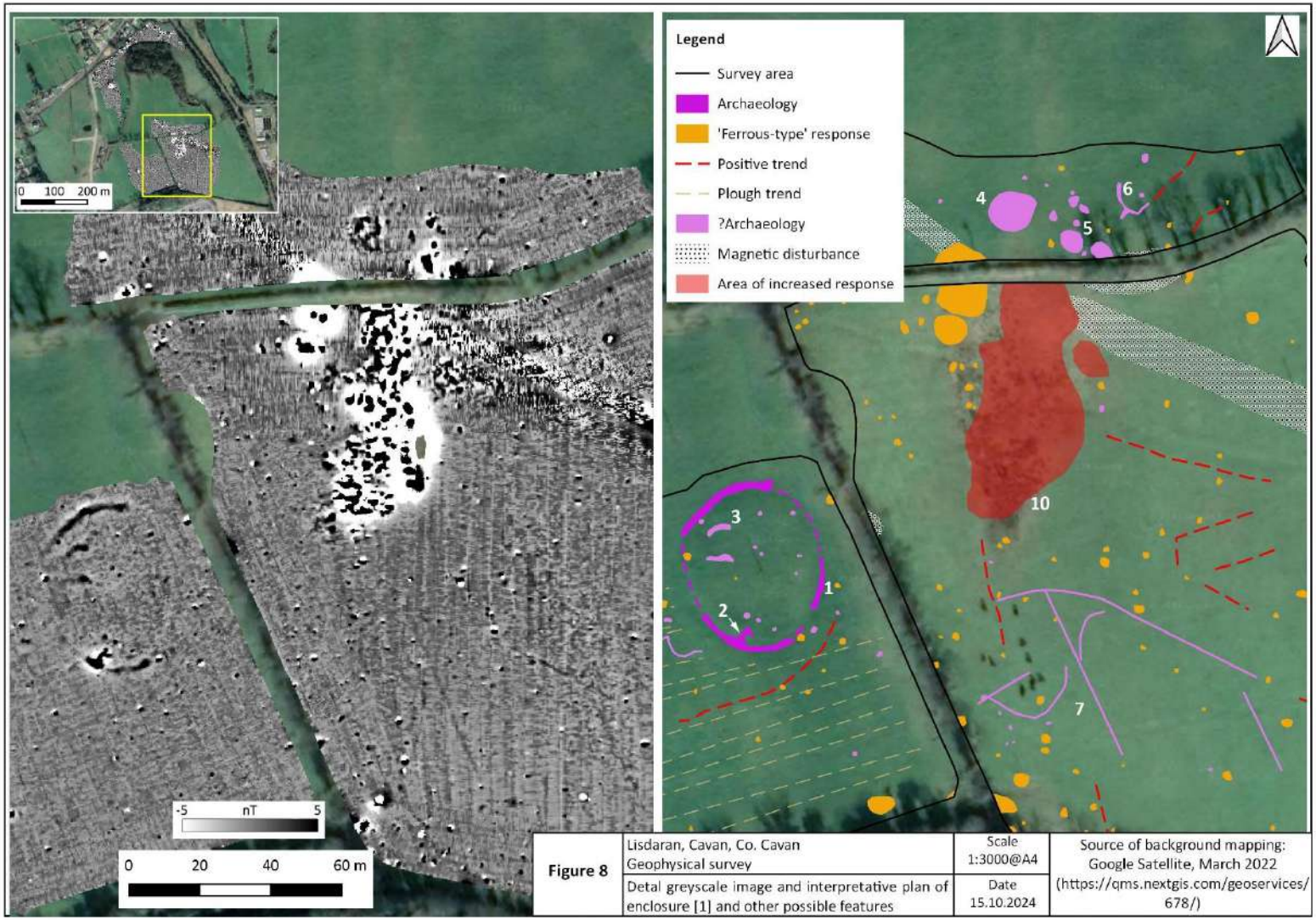


Figure 8. Detail greyscale image and interpretative plan of enclosure [1] and other possible features.

12 Plates

Plate 1. Ringfort-rath (CV020-057) from the north. The electricity pole stands in the approximate center of the fort.

Plate 2. View south towards Cavan town from the southern part of the survey area.

Plate 3. View west from ringfort-rath CV020-057.

Plate 4. Tract of boggy terrain, viewed from the west.

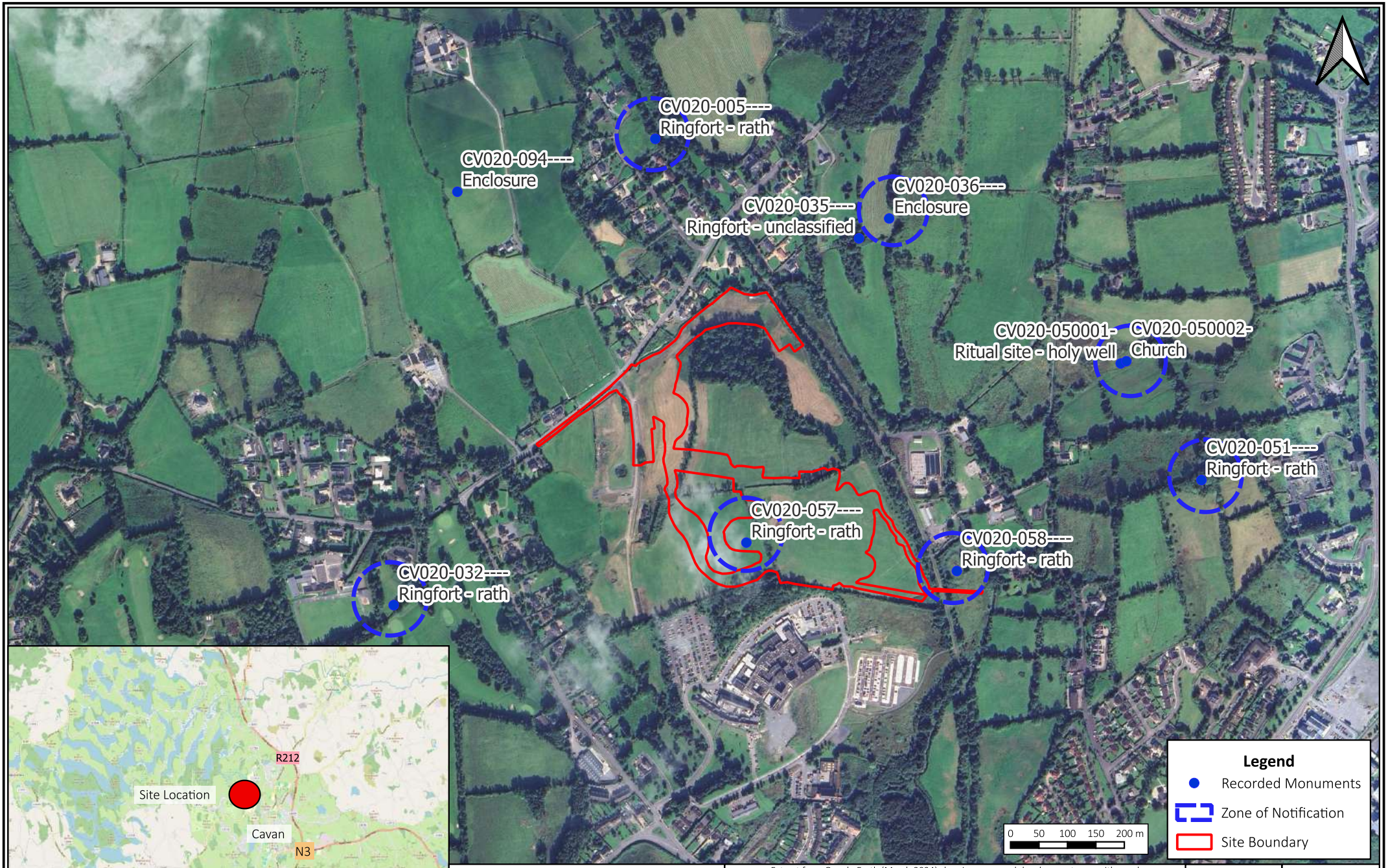
Plate 5. Northern field in southern part of the site, looking northeast.

Plate 6. Looking west across center of southeastern field in the southern part of the site.

Plate 7. Steep western flank of drumlin, with modern paved road on left of image, looking north.

Plate 8. View east across the northern end of the survey area.

Plate 9. Northernmost part the survey area, looking northeast.



IAC Archaeology

Title	Extract from Google Earth (March 2024) showing proposed development area with nearby archaeology and architectural heritage	Scale	1:2000@A4
Project	Lisdaran, Cavan, County Cavan	Date	19.09.2025
		Job No.	J4429

Drawn By	JS
Checked By	MB
Approved By	FB/MT
Fig. 1	Rev. -

IAC Archaeology

Title	Plan of proposed development	Scale	1:3500@A4
Project	Lisdaran, Cavan, County Cavan	Date	19.09.2025
		Job No.	J4429

Drawn By	JS
Checked By	MB
Approved By	FB/MT
Fig. 2a	Rev. -

Lawn seed

Proposed Grass Areas — Grass areas seed with: 60% (Perennial Ryegrass) + 35% (Slender Creeping Red Fescue) + 5% (Browntop Bent) + Sowing rate: 35g/m2 (350kgs/ha)

Private Gardens — Cutting height: Between 20-50mm

Rough Grass Areas — Grass areas seed with: Cocksfoot* Dactylus glomerata, Rough stalk meadow grass, Poa trivialis, Yorkshire fog Holcus lanatus, Crested dog's tail Cynosurus cristatus, Sheep's fescue Festuca Ovina (uplands), Sweet vernal grass Anthoxanthum odoratum, Meadow foxtail Alopecurus pratensis, Smooth stalk meadow grass Poa pratensis, Creeping bent Agrostis stolonifera, Common bent Agrostis capillaris, Red fescue Festuca rubra

Existing trees to be retained in accordance with BS 5837.

Note
For Existing Trees, sections of Woodland & Hedgerows to be felled to facilitate development refer to Tree Impacts drawing L1004.

HARD LANDSCAPE

PAVING

- Asphalt Carriageway with Concrete Kerb To Engineer's specification
- Asphalt/Brushed Concrete Footpath. To Engineer's specification
- Car Parking Permeable PC Concrete paving To Engineer's specification
- PC Concrete paving setts to property garden paths
- Bound surfacing to public open space footpaths

FURNITURE AND EQUIPMENT

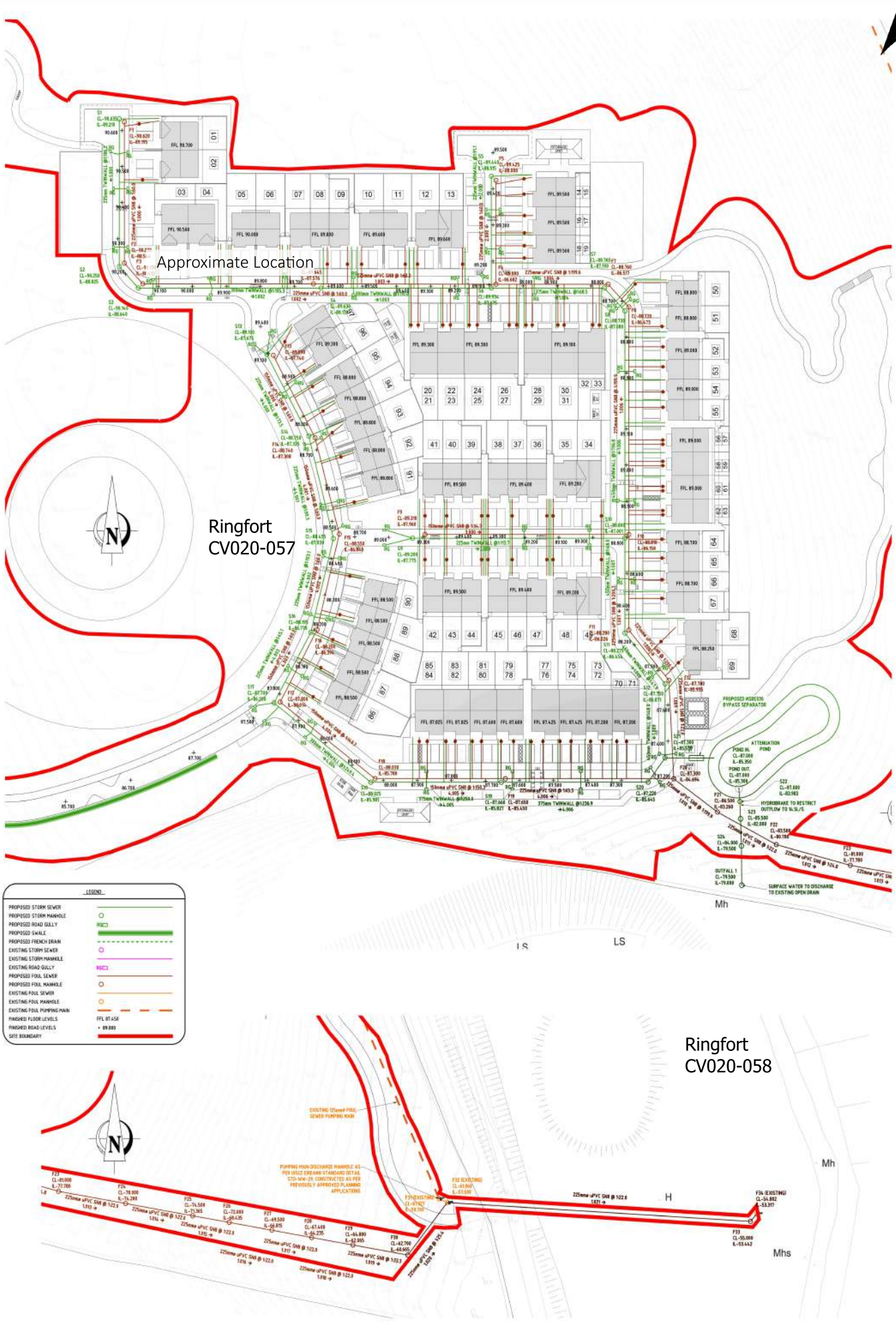
- Picnic tables
- Benches
- Play Equipment. Refer to Dwg L1006
- Natural Play elements (Boulders, Play logs, stepping logs)
- Street Lights. Refer to Architect / M&E consultant.

ATTENUATION AND SUDs REQUIREMENTS

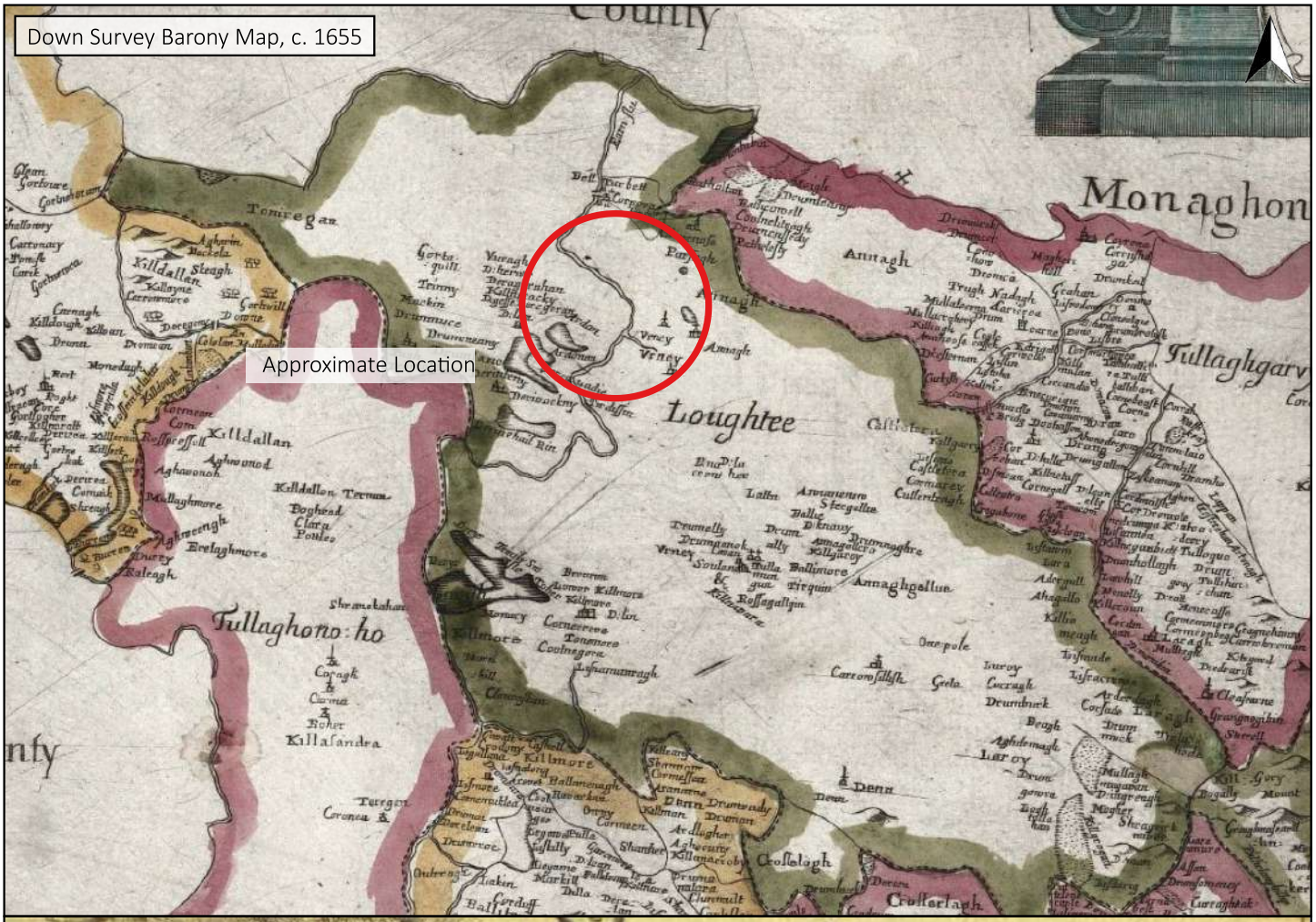
- Attenuation Tanks
- Swales

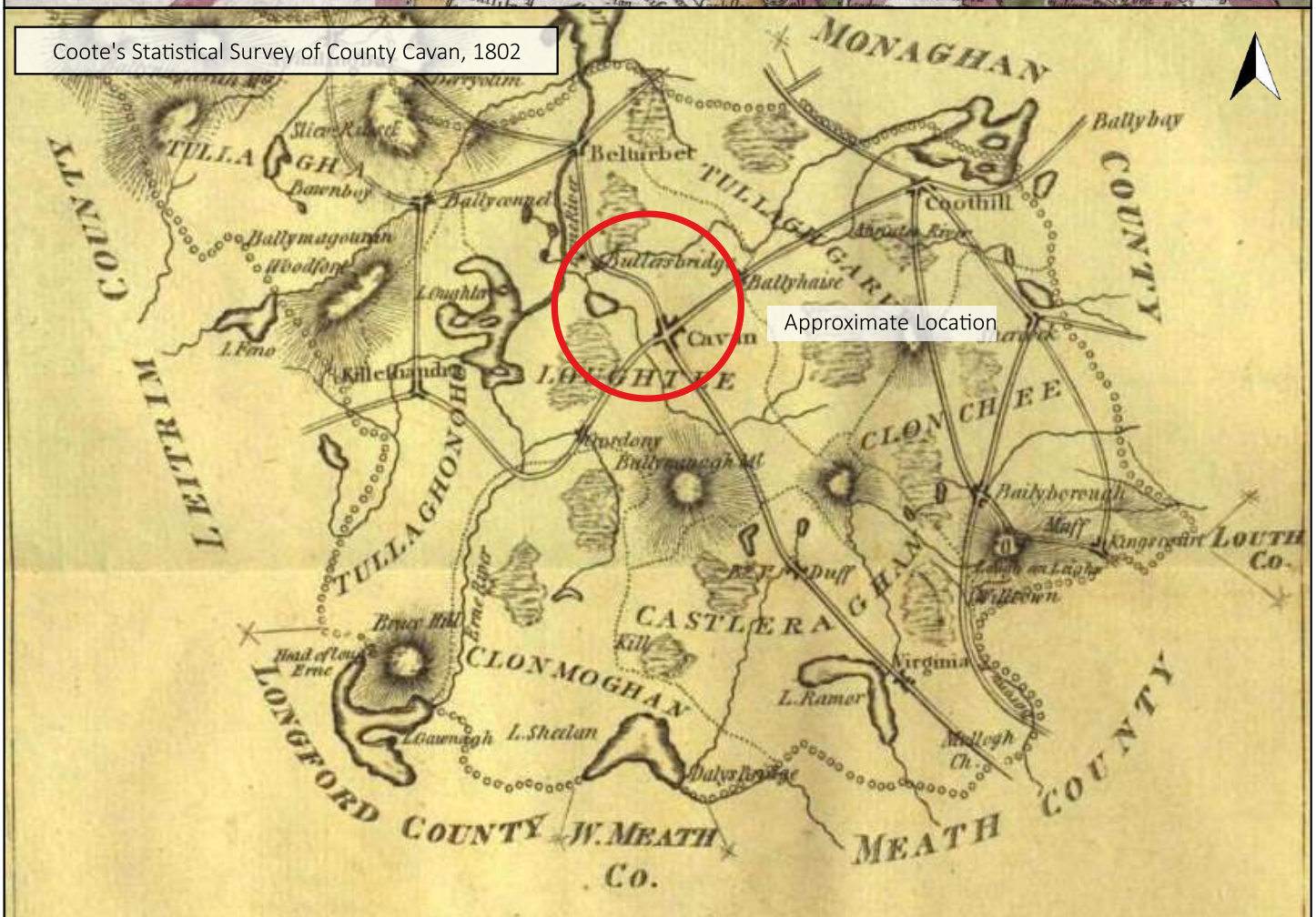
IAC Archaeology

Title	Proposed landscape plan for 'Rath Park' in vicinity of CV020-057	Scale NTS	Drawn By MT
Project	Lisdaran, Cavan, County Cavan	Date 23.09.2025	Checked By MB
		Job No. J4429	Approved By MT
			Fig. 2b Rev. -

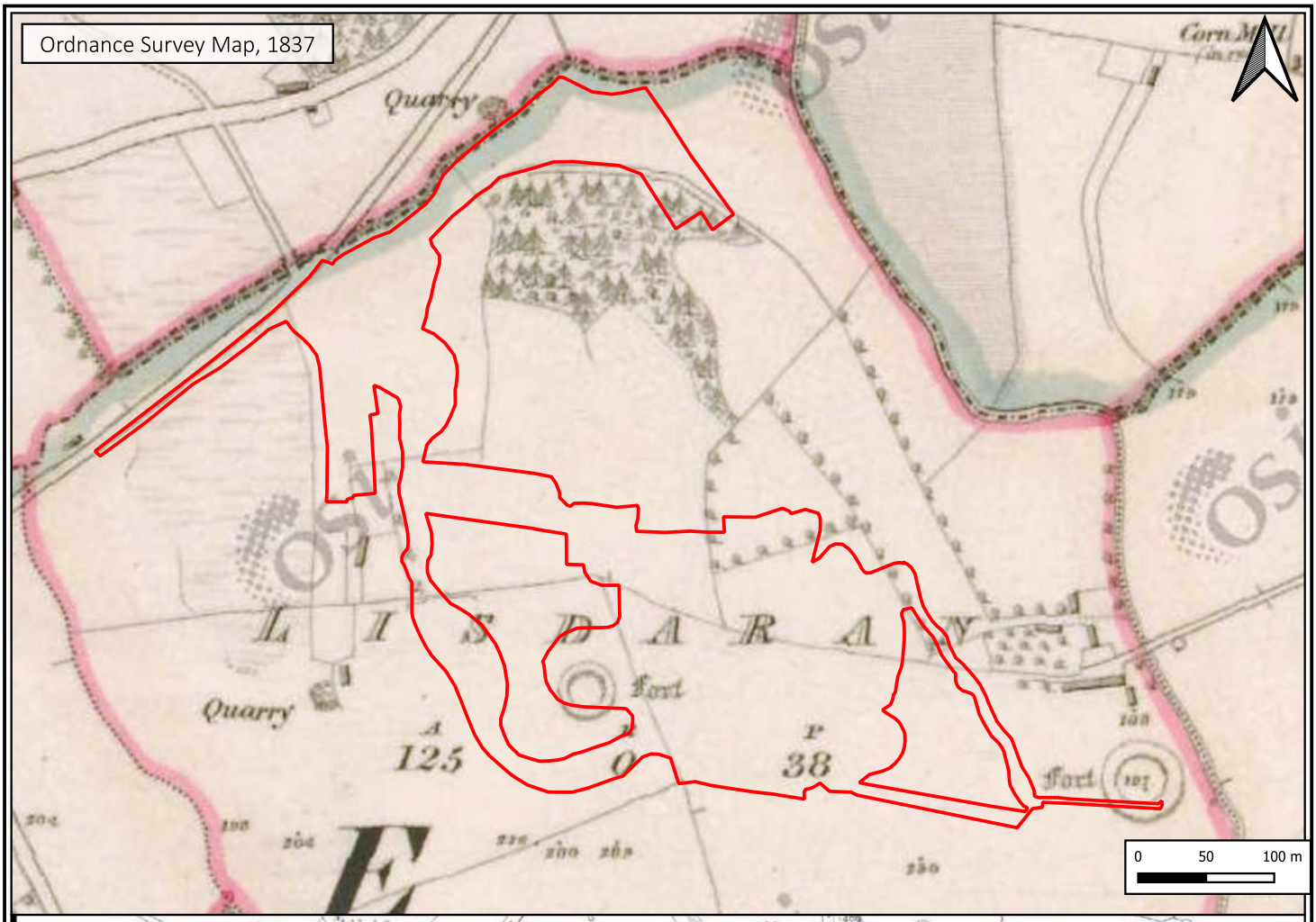


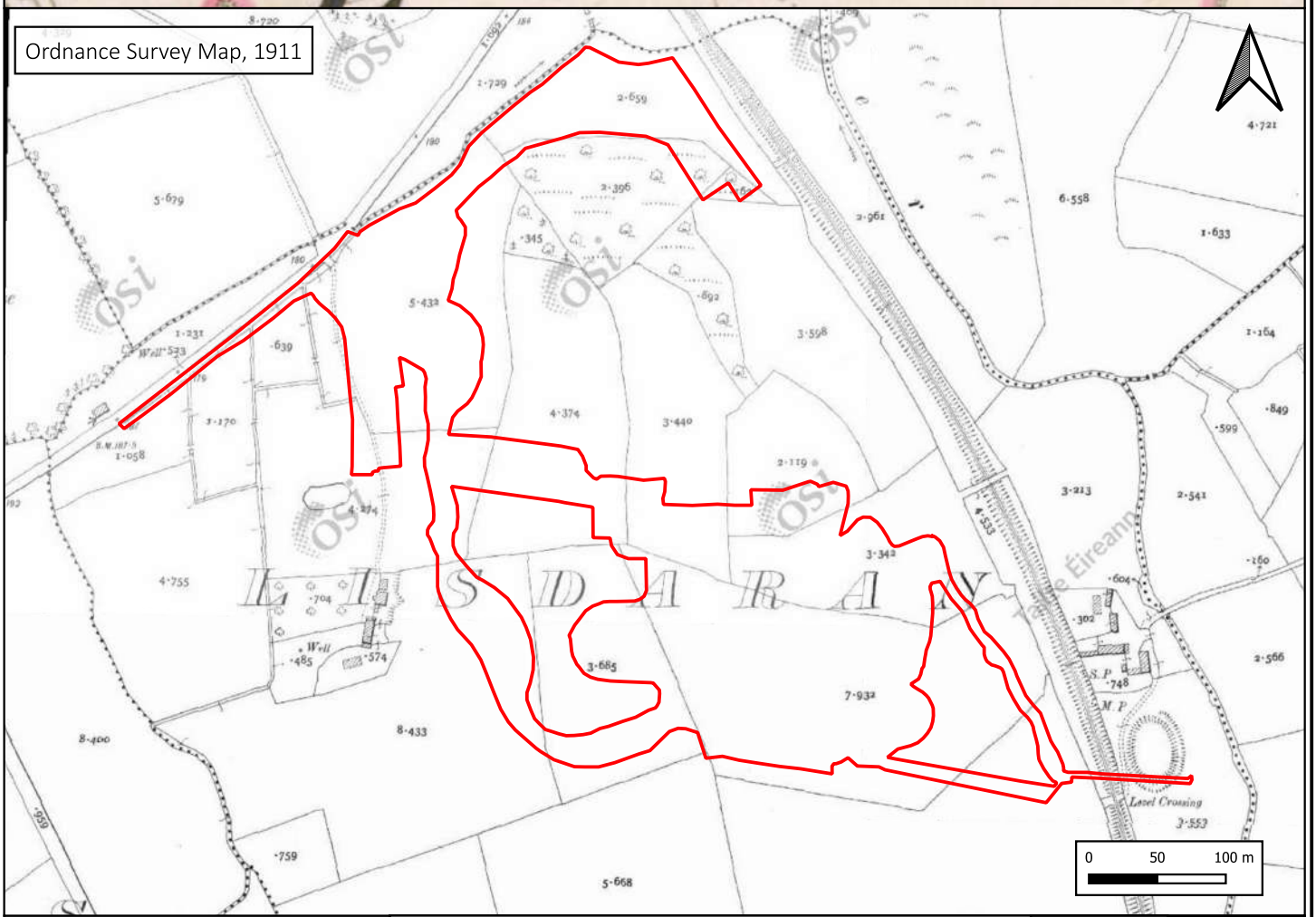
IAC Archaeology	Title: Plan of proposed foul drainage pipeline in vicinity of CV020-058	Scale: NTS	Drawn By: MT
	Project: Lisdaran, Cavan, County Cavan	Date: 23.09.2025	Checked By: MB
		Job No.: J4429	Approved By: MT
			Fig. 2c / Rev. -





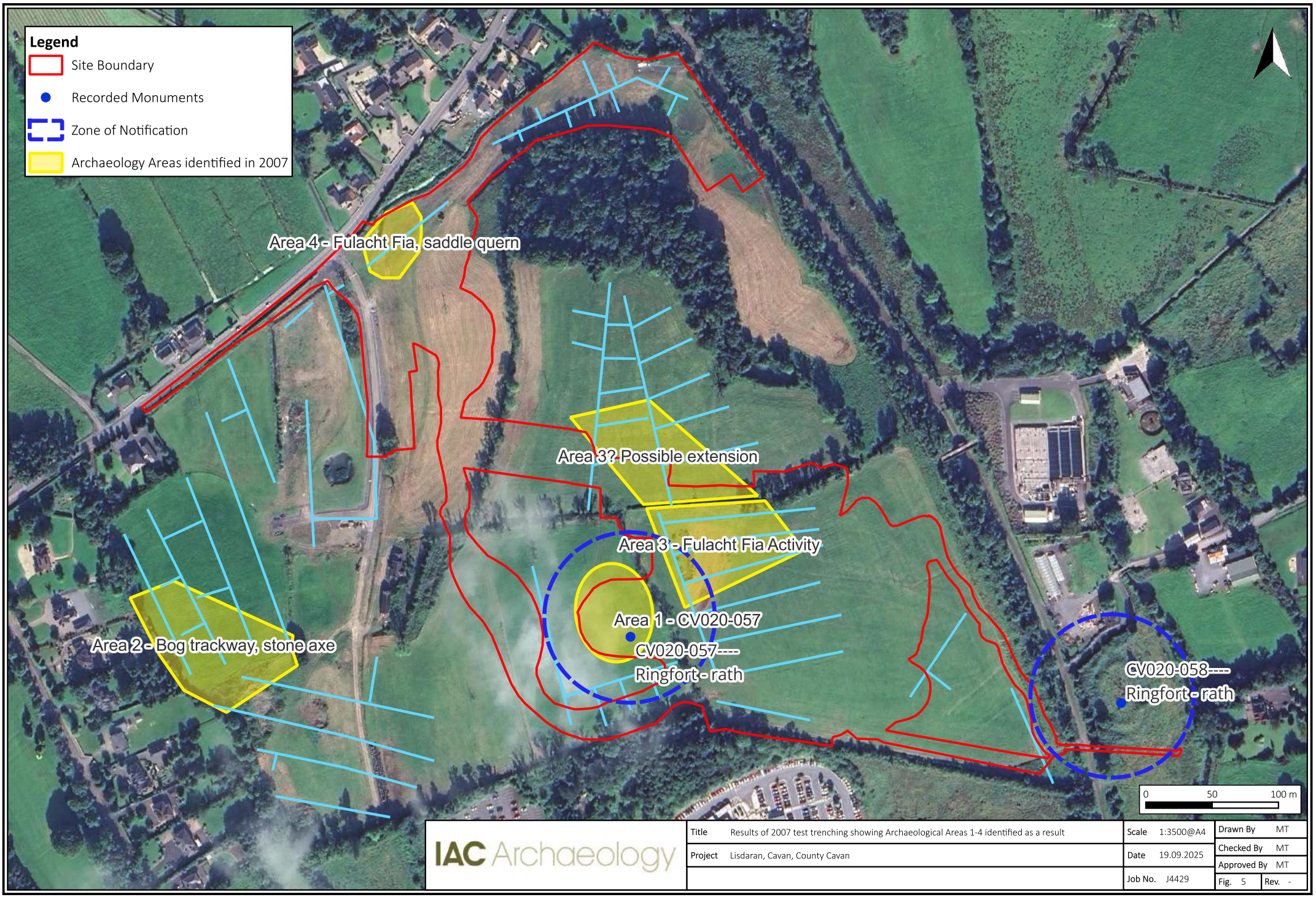
IAC Archaeology	Title: Extracts from Down Survey map (c. 1655) and Coote's map (1802) showing approximate location of proposed development area	Scale: NTS	Drawn By: ED
	Project: Lisdaran, Cavan, County Cavan	Date: 24.10.2024	Checked By: MB
		Job No.: J4429	Approved By: FB/MT
			Fig. 3 Rev. -





IAC Archaeology

Title	Extracts from the ordnance survey maps (1837 and 1911) showing the proposed development area	Scale	As shown	Drawn By	JS
Project	Lisdaran, Cavan, County Cavan	Date	19.09.2025	Checked By	MB
		Job No.	J4429	Approved By	FB/MT
				Fig. 4	Rev. -



IAC Archaeology

Title	Results of 2007 test trenching showing Archaeological Areas 1-4 identified as a result	Scale	1:3500@A4
Project	Lisdaran, Cavan, County Cavan	Date	19.09.2025
		Job No.	J4429

Drawn By	MT
Checked By	MT
Approved By	MT
Fig. 5	Rev. -

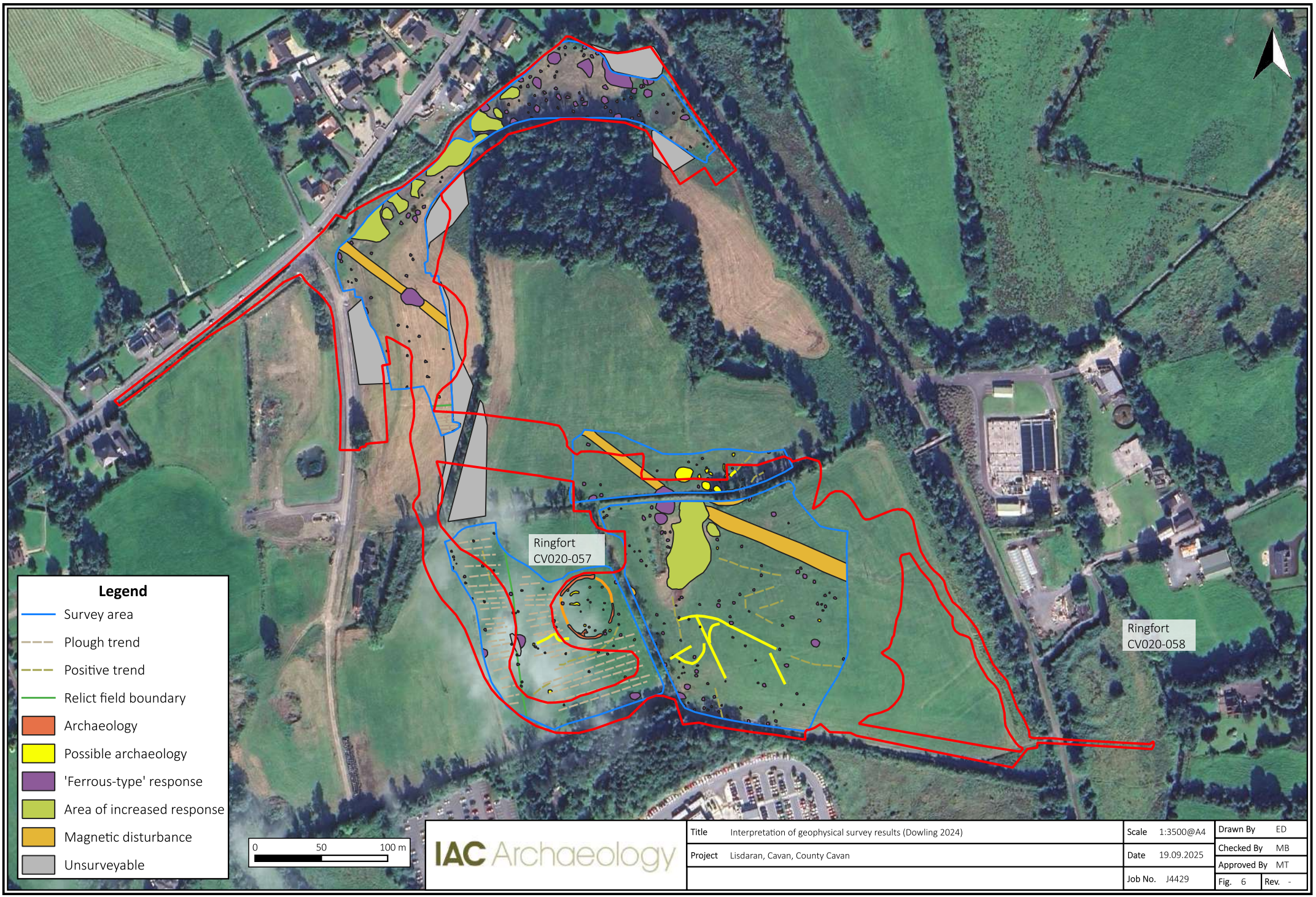

Ringfort
CV020-057
Ringfort
CV020-058
Legend
Survey area
Plough trend
Positive trend
Relict field boundary
Archaeology
Possible archaeology
'Ferrous-type' response
Area of increased response
Magnetic disturbance
Unsurveyable
0
50
100 m
IAC Archaeology
Title Interpretation of geophysical survey results (Dowling 2024)
Project Lisdaran, Cavan, County Cavan
Scale 1:3500@A4
Date 19.09.2025
Job No. J4429
Drawn By ED
Checked By MB
Approved By MT
Fig. 6
Rev. -

Plate 1: Road extending south of L1513, facing south.

Plate 2: Scarped section of hill in Field 1, facing northeast.

Plate 3: Field 1, west of wooded area, facing north.

Plate 4: Field 1, east of wooded area, facing north.

Plate 5: Field 1, north of wooded area, facing east.

Plate 6: Ditch to north of Field 1, facing northeast.

Plate 7: Pumping station in Field 1, facing north.

Plate 8: Field 2, facing southeast.

Plate 9: Ringfort CV027-057, facing east.

Plate 10: Ringfort CV027-057 bank, facing east.

Plate 11: Field 3, facing southeast.

Plate 12: Removed field boundary, facing southwest.

Plate 13: View of ringfort CV020-058 from Field 3, facing east.

Plate 14: Site of possible archaeology in Field 4, facing west.