

# Ardclough, Celbridge, Co. Kildare

## Magnetic Gradiometer Survey Report

Client: Vincent Hannon Architects

Licence No: 22R0042

Surveyor: Bart Korfanty, Aidan O'Connell

Authors: Bart Korfanty

Report Date: 25<sup>th</sup> February 2022

Our Ref: 2021\_40



Testing | Surveying | Excavating | Analysing | Conserving | Reporting

## ARDCLOUGH, CELBRIDGE, CO. KILDARE

<b>SITE NAME</b>	Ardclough Rd., Celbridge, Co. Kildare
<b>CLIENT</b>	Vincent Hannon Architects
<b>INVESTIGATION TYPE</b>	Geophysical Survey
<b>LICENCE NO</b>	22R0042
<b>PLANNING REF</b>	N/A
<b>TOWNLAND</b>	Newtown
<b>IRISH TRANSVERSE MERCATOR</b>	696541, 731556
<b>RMP NO</b>	N/A
<b>RPS NO</b>	N/A
<b>ARCHAEOLOGICAL CONSULTANT</b>	Archer Heritage Planning Ltd.
<b>PERSONNEL</b>	Bart Korfanty, Aidan O'Connell
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**SUMMARY**

A magnetic gradiometer survey was carried out at Ardclough, Celbridge, Co. Kildare (696541, 731556). The site covers an area of c. 1.37 ha. High resolution magnetic gradiometer survey was undertaken on c. 0.97 ha, the portion suitable for geophysical survey within the application area. The survey located a variety of magnetic anomalies. A curvilinear trend and a group of spot responses in the southern portion of the surveyed area have the potential to represent buried archaeological features.

The following measures are recommended;

- **Test excavations should be carried out across the site to determine the nature of geophysical findings and whether archaeological features exist that have not left a magnetic trace.**

**NOTE:** All conclusions and recommendations expressed in this report are subject to the approval of The Department of Housing, Local Government and Heritage (DHLGH) and the relevant local authorities. As the statutory body responsible for the protection of Ireland's archaeological and cultural heritage resource, the DHLGH may issue alternative or additional recommendations.

Revision	Status	Date	Prepared by	Reviewed by	Approved by
1	Final	Feb 2022	Bart Korfanty ARCHAEOLOGIST	Aidan O'Connell SENIOR ARCHAEOLOGIST	C. Mc Guinness

## 1. INTRODUCTION

This report presents the results of a magnetic gradiometer survey carried out at the site of a proposed development at Ardclough, Celbridge, Co. Kildare. The report was prepared by Archer Heritage Planning Ltd. on behalf Vincent Hannon Architects. The survey was undertaken on 22<sup>nd</sup> of February 2022 by Bart Korfanty and Aidan O'Connell of Archer Heritage Planning Ltd. The objective of the survey was to identify and describe magnetic anomalies within the site that may represent unrecorded archaeological features or deposits. The subject site covers an area of approximately 1.37 hectares (ha). High resolution magnetic gradiometer survey was undertaken on c. 0.97 ha, the portion suitable for geophysical survey within the subject site. The remainder of the area was not surveyed due to upstanding buildings (cottage along road), vegetation and various building materials stored on site.

## 2. SITE DESCRIPTION

The proposed site is located to the west of the Ardclough Road, Celbridge, Co. Kildare (Centre of site ITM 696541, 731556, Figure 1) at a bend in the River Liffey. It is a greenfield site measuring 1.37 hectares located c. 2km south of Celbridge town. The field is sub triangular in shape with a gentle westward slope.

The subject site opens onto the Ardclough Road towards the NE of the site. The site is delineated to the east by a line of houses and to the south by a field boundary of native hedgerow. There is no physical boundary to the west and north however the limit of the subject site is determined by the zoning line for 'Strategic Open Space' as designated by the Local Area Plan (LAP) for this area, which follows along the River Liffey. The subject site itself has been zoned as a 'New Residential' area.

Local bedrock geology is dominated by dark limestone and shale of Lucan Formation (Geological Survey Ireland, 100K bedrock maps).

## 3. ARCHAEOLOGICAL BACKGROUND

### 3.1 *Brief Historical Background*

Celbridge is situated in northeast Kildare on the River Liffey. The village derives its name from a corruption of its Irish name Cill Droichead meaning 'the church at the bridge' and up to the eighteenth century, the village was known as 'Kildrought', and this remains the parish name, indicating an early medieval church site at this location, of which there is no evidence except that it was associated with Mochúa (otherwise Crónán), who had founded the monastery at Clondalkin before or during the eighth century AD (Doherty 2001, 182–9). The earliest evidence for the existence of a borough at Celbridge is from the beginning of the fifteenth century, when the earl of Kildare was enfeoffed (given land in exchange for service) with the manor of Kildrought, although an early thirteenth-century charter suggests the presence of a church and mill in this location. As a consequence of the Silken Thomas

rebellion in 1534 and the Baltinglass rebellion in 1580, the manor was forfeited by earl of Kildare, and eventually passed to John Dongan in 1587, whose family retained the seat until the seventeenth century (Doohan 1984).

The Priory of St. Wolstan's was founded in the early thirteenth century AD by Adam de Hereford, for Canons of the Order of St. Victor, in memory of St. Wulfstan or Wolstan, Bishop of Worcester, who was canonized by Pope Innocent III at the same time. De Hereford granted the lands to Richard, the first Prior, the lands...and...church of Donacomper', which was already in existence. The priory increased its land holdings over the following century, being granted lands at Castledillon, the manor of Donacomper, as well as the churches (and therefore tithes) of Stacumny, Donaghmore and Killadoon. By the time of its dissolution in 1536, the priory held significant lands between Straffan and Lucan, including the townland of Ballymakealy (Cane 1919).

A bridge, three mills and 'one stone house ... intended for a malt house', were recorded in the Civil Survey in 1654, while the 1659 census recorded a population of sixty-three for Kildrought and a further thirty-four at Castletown. The development of the village was significantly enhanced by the granting of a weekly market and two annual fairs in 1674. In 1722, the famous Castletown House was built by William Connolly the Speaker of the Irish House of Commons. It was designed by Italian architect Alessandro Galilei (1691–1737). In the early nineteenth century the town had approximately 2400, with approximately 1650 resident within the town. At this time it consisted of 270 houses owned by the Rt. Hon. W. Connolly, speaker of the Irish House of Commons. The village's main industry was woollen manufacture and various mill and factory buildings were erected in the village at the beginning of the nineteenth century employing 600 people (Lewis 1837).

The area has a mixed tradition of Gaelic and English townland names. The toponym Celbridge is a corruption of Cill Droichead, 'the church at the bridge', with the original name Anglicised in the original parish name of Kildrought. Oldtown is referred to as Old Grange in a 1660 Book of Survey and Distribution; Aghards seems to also have an early English derivation although its origin is not clear.

### **3.2 Local Archaeological Sites**

The Record of Monuments and Places (RMP) is a statutory inventory of archaeological sites protected under the National Monuments Acts 1930-2004 (Section 12, 1994 Act), compiled and maintained by the Archaeological Survey of Ireland (ASI). The inventory concentrates on pre-1700 AD sites and is based on a previous inventory known as the Sites and Monuments Record (SMR) which does not have legal protection or status (see [www.archaeology.ie](http://www.archaeology.ie) for further details). There are no recorded monuments located within the site boundary. The RMP's in wider area surrounding the development site are listed in the table below and indicated in Figure 1.

RMP/SMR No.	Class	Townland	ITM Reference
KD011-006---	Church	KILLADOON	695850, 731414
KD011-006001-	Graveyard	KILLADOON	695850, 731414
KD011-016--	Castle - unclassified	SIMMONSTOWN	697561, 732000
KD011-019--	Castle - tower house	NEWTOWN (Donaghcumper ED)	696775, 732014
KD011-026--	House - 17th century	CELBRIDGE ABBEY (Celbridge ED)	696544, 732206
KD011-029--	Enclosure	SIMMONSTOWN	697410, 732037
KD011-030--	Enclosure	SIMMONSTOWN	697600, 732127
KD011-037--	Mill - unclassified	NEWTOWN (Donaghcumper ED)	696667, 732117
KD011-038--	Mill - unclassified	NEWTOWN (Donaghcumper ED)	696666, 732120
KD011-063--	Enclosure	SIMMONSTOWN	697288, 732263
KD011-066--	Barrow - ditch barrow	CELBRIDGE ABBEY (Celbridge ED)	696243, 731914
KD011-067--	Barrow - ditch barrow	CELBRIDGE ABBEY (Celbridge ED)	696287, 731956

Table 1: RMP/SMR sites in vicinity of the development.

#### 4. GROUND CONDITIONS

The main constraint on survey methodology was the presence of modern buildings along Ardclough Road, vegetation (gorse to west of area) and various building materials stored on the site (to rear of cottage). The survey was conducted with the exclusion of these areas. Weather conditions at the time of the survey were overcast. Grass height was uniform and <5 cm high. There were five locations where site investigation steel pipes were concreted in to the ground. Those spots were removed from the data set to prevent obscuring more subtle readings associated with possible archaeological features. Survey grids were designed to maximize the coverage of the available area.

#### 5. SURVEY METHODOLOGY

A total area of 0.97 ha was surveyed comprising 7 individual grids (7 No. 40 m x 40 m grids) with some of the grids surveyed only partially due to constraints such as fencing and vegetation. A Bartington Grad 601-2 magnetic gradiometer was used to collect data (Bartington Instruments, 2018). The instrument was calibrated on site at regular intervals during the survey. Data collection followed a standard procedure with 'zig-zag' or 'parallel' traverses 1 m apart with 4 samples per meter (0.25 m intervals). Grid orientation was NW-SE for all grids. The complete survey grid was set out using a GNSS VRS survey unit ( $\pm 2$  cm positional accuracy) prior to the survey.



Raw data were processed using Geoplot 4.0 software (Geoscan Research 2018). Minimal processing of raw data was undertaken. This was limited to zero mean traverse and de-spike functions. Greyscale and XY trace plots were created for each grid to assist interpretation. Greyscale images indicated the relative strength (nT) of the magnetic anomalies at each measurement point. The XY trace plots presented data as trace or graph line for each traverse. Each traverse is displaced down the image to produce a stacked profile effect.

Interpretation of the recorded magnetic signals is provided. The interpretation methodology separates magnetic anomalies into several categories.

- Archaeology – used when there is a clear geophysical response and anthropogenic pattern.
- Archaeology? – used for features which give a strong response but which form no discernible pattern or trend.
- Modern ferrous – dipolar response caused by ferrous material.
- Increased magnetic response – areas dominated by indistinct anomalies which may have some archaeological potential.
- Trend – used for low amplitude or indistinct linear anomalies (negative and positive).
- Geology – used for diffuse edged spreads considered to relate to shallow geological deposits.
- Disturbance – used for response that can be often associated with objects visible on the ground (fences, rubbish, electrical posts and such).

## 6. GRADIOMETRY RESULTS

The survey of this area did not register the presence of any clear features that can be definitively described as archaeological (Figure 3). Elongated linear responses (green) might be associated with agricultural activity. The curvilinear response (to south of area) accompanied by a cluster of small spot responses (cyan) was interpreted as possibly archaeological in origin.

Mean magnetic response across the area was +0.02 nT. Randomly distributed localised spikes of between 25 and 40 nT across the site are likely to be naturally occurring magnetised minerals. Localised strongly dipolar magnetic anomalies indicate modern material spread across the site (red).

## 7. CONCLUSIONS

The geophysical survey at Ardclough, Celbridge, Co. Kildare located a variety of magnetic anomalies. Most of these related to modern objects and/or geology registered by the device. A small number of

linear trends possibly relates to modern agricultural activity. A curvilinear elongated response accompanied by a cluster of smaller responses was interpreted as possibly archaeological.

The following measures are recommended;

- **Test excavations should be carried out across the site to determine the nature of geophysical findings and whether archaeological features exist that have not left a magnetic trace.**

**NOTE:** All conclusions and recommendations expressed in this report are subject to the approval of The Department of Housing, Local Government and Heritage (DHLGH) and the relevant local authorities. As the statutory body responsible for the protection of Ireland's archaeological and cultural heritage resource, the DHLGH may issue alternative or additional recommendations.

## 8. REFERENCES

### 8.1 Bibliography

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### 8.2 Web references

- Archaeological Survey of Ireland [www.archaeology.ie](http://www.archaeology.ie) [accessed February 2022]
- Bedrock 100K Geological Map <https://dcenr.maps.arcgis.com/home/index.html> [accessed February 2022]

## 9. ARCHIVE

A digital archive for this project is available. This includes this report, as well as raw data, gradiometry greyscale and XY trace plots. Contact Archer Heritage Planning Ltd. for further details.

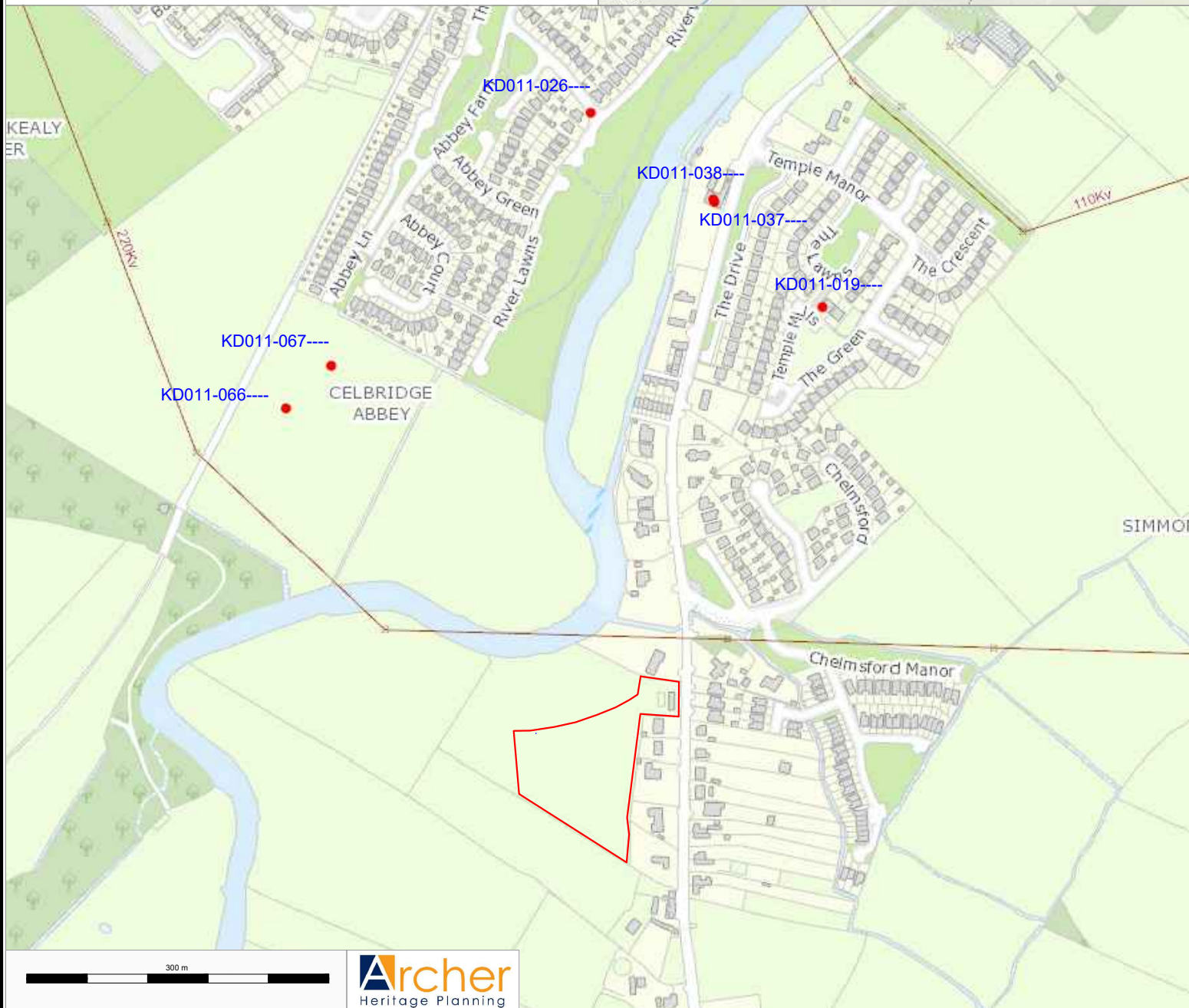
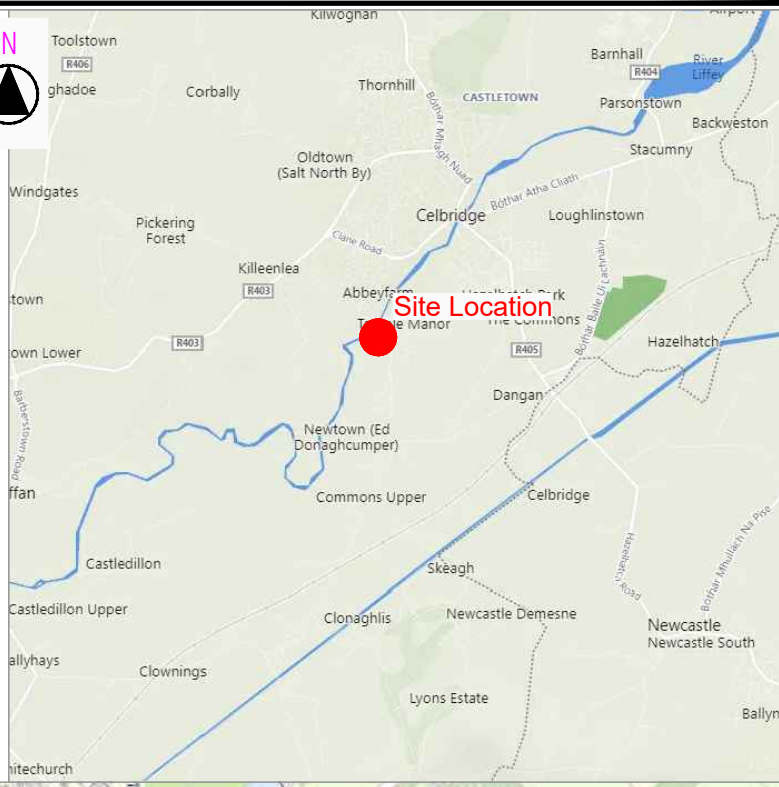
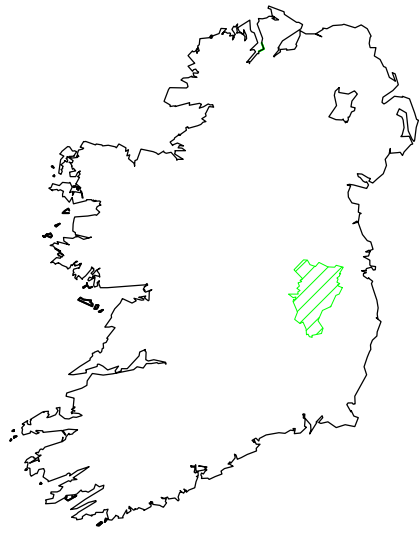


Bart Korfanty MA

28<sup>th</sup> February 2022



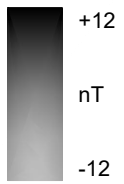
Aidan O'Connell BA



Scale: 1:6000 A4	Origin: NMS	Ardclough, Celbridge. Co. Kildare	Figure 1: Location of site and surrounding RMPs	Geophysical Survey
Date: February 2022	Ref: 2021_40_GS_01			



Magnetic gradient



Scale: 1:1000 A4

Origin: Archer

Date: February 2022

Ref: 2021\_40\_GS\_02

Ardclough, Celbridge, Co. Kildare

Figure 2: Grayscale plot of geophysical anomalies

Geophysical Survey





Key:

-  Site boundary
-  Positive trend/Cultivation
-  Modern/Ferrous
-  Disturbance/Geology
-  ? Archaeology



Scale: 1:1000 A4  
Date: February 2022

Origin: Archer  
Ref: 2021\_40\_GS\_03

Ardclough, Celbridge, Co. Kildare

Figure 3: Interpretation plot of geophysical anomalies

Geophysical Survey

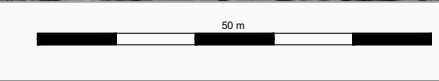






Plate 1: From the entrance, looking S



Plate 2: From the W side, looking E



Plate 3: From the N side, looking S



Plate 4: From the SE corner, looking NW