

A Proposed Development at
St Joseph's Road, Portumna, Co Galway

Archaeological Impact Assessment

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Executive Summary

This report has been prepared in advance of a proposed development at St Joseph's Road, Portumna, Co Galway. This study aims to assess the archaeological, architectural and cultural heritage environment which currently exists on and around the proposed development site, evaluate the likely impacts that the proposed development will have on this environment, and recommend suitable mitigatory measures. The study area upon which this report is based extends 500m from the site boundary in all directions and incorporates parts of the townlands of Portumna and Portumna Demesne.

The proposed development site is a field of pasture. The proposed development involves the construction of ca. 41-48 residential units in a series of two-storey buildings, with associated roadways, services and landscaping.

The proposed development site is located on the western fringe of the historic town of Portumna. No known archaeological sites are located within 100m of the proposed development site. A geophysical survey of the site did not identify any anomalies of obvious archaeological potential, though a small number of 'pit-type' responses were recorded.

This report concludes that the proposed development will have no impact on any known element of the archaeological or architectural heritage of the area.

This report further concludes that the archaeological potential of the proposed development site is quite low and so the site should be considered suitable, in archaeological terms, for development.

This report recommends that if An Bord Pleanála decides to grant planning permission for the proposed development, the design team should then liaise with the National Monuments Service to ascertain if further archaeological mitigation is required on the site.

1 Introduction

1.1 General

1.1.1 This report has been prepared for Simon J Kelly Architects in relation to their work, undertaken on behalf of Galway County Council, on a proposed residential development at St Joseph's Road, Portumna, Co Galway.

1.1.2 This report was prepared in February 2025 by Dr Rory Sherlock, Consultant Archaeologist, following a site visit and a short programme of documentary research.

1.2 Site Location

1.2.1 The proposed development site lies on the northern side of St Joseph's Road in the townland and town of Portumna, Co. Galway, at ITM 584881, 704572.

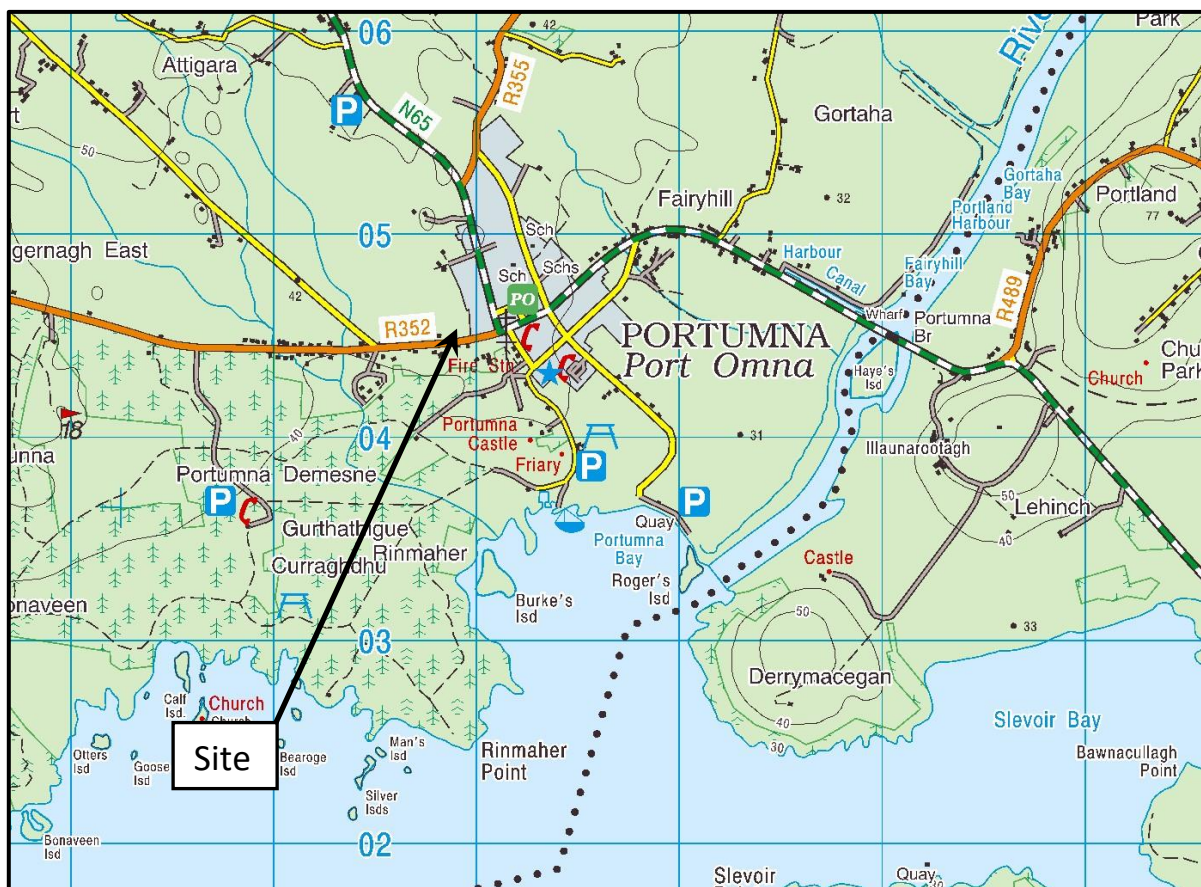


Figure 1: Site Location: The site is situated on St Joseph's Road in the town of Portumna, Co Galway (Ordnance Survey Ireland Licence No. CYAL50292372 – ©Ordnance Survey Ireland / Government of Ireland)

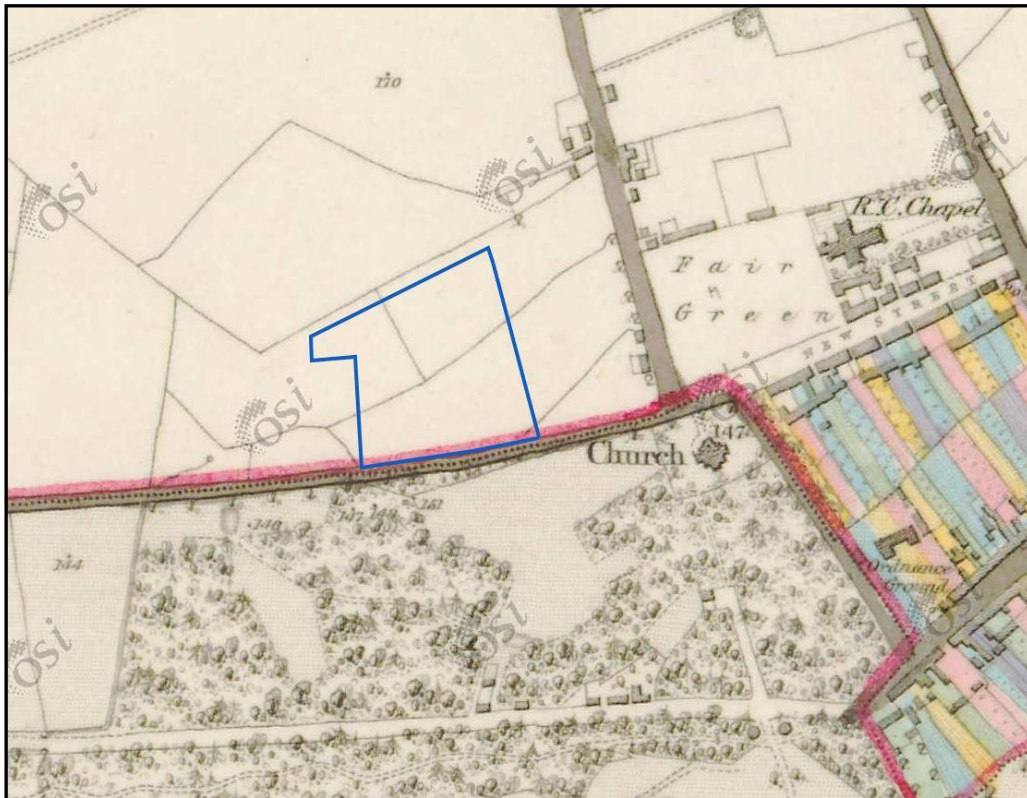


Figure 2: Location Map (extract from OS 6" map - 1st ed. from 1843) with site indicated by blue outline (Ordnance Survey Ireland Licence No. CYAL50292372 – ©Ordnance Survey Ireland / Government of Ireland)

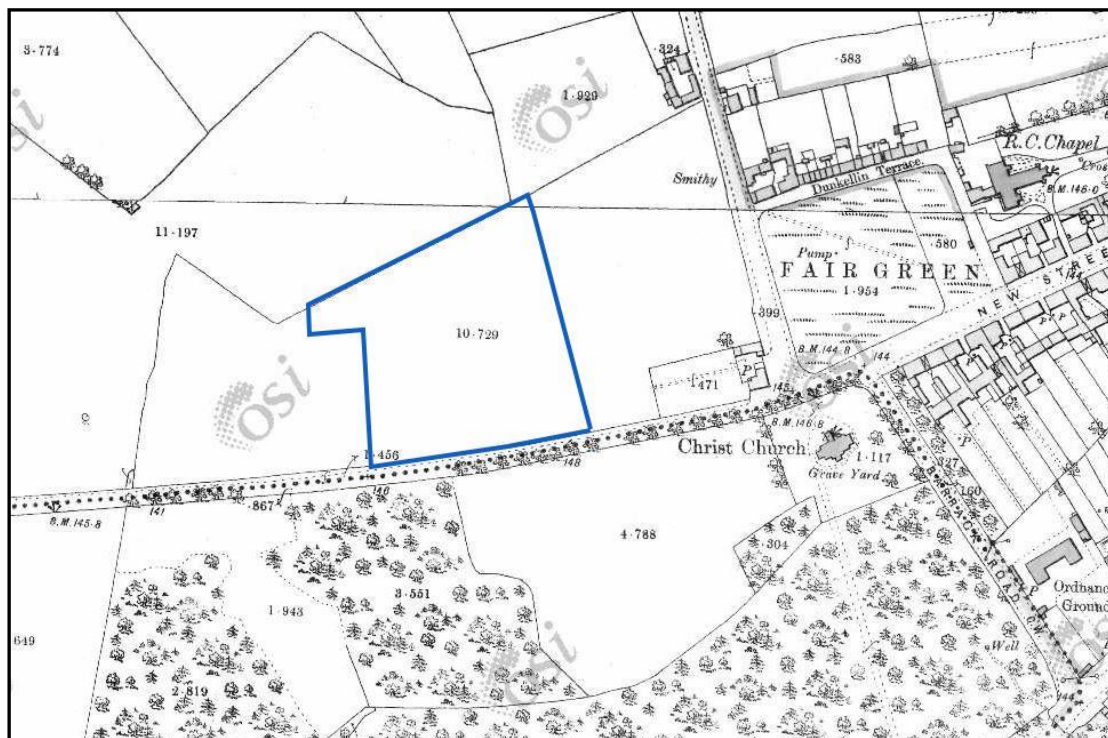


Figure 3: Location Map (extract from OS 25" map from 1894) with development site outlined in blue (Ordnance Survey Ireland Licence No. CYAL50292372 – ©Ordnance Survey Ireland / Government of Ireland)



Figure 4: Location Map (extract from OS 1:2,500 town map from 1929) with part of site shown (blue outline) (Ordnance Survey Ireland Licence No. CYAL50292372 – ©Ordnance Survey Ireland / Government of Ireland)



Plate 1: Aerial view of the proposed development site (outlined in blue)
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1.3 Study Area

- 1.3.1 The study area upon which this report is based extends 500m from the site boundary in all directions and incorporates parts of the townlands of Portumna and Portumna Demesne.

1.4 Objectives and Methodology

1.4.1 Objectives

This study aims to assess the archaeological, architectural and cultural heritage environment which currently exists on and around the proposed development site.

1.4.2 Desktop Research Methodology

The desktop research element of this study utilised several documentary and cartographic sources, and the main sources consulted may be summarised as follows:

- National Monuments Service's online Historic Environment Viewer
- Sites and Monuments Record (SMR) & Record of Monuments and Places (RMP)
- Unpublished archive of the Archaeological Survey of Ireland
- National Inventory of Architectural Heritage
- NIAH Survey of Historic Gardens and Designed Landscapes
- Record of Protected Structures for County Galway
- Excavations Bulletin
- Aerial Photographs
- Cartographic Sources

1.4.3 Fieldwork Methodology

A site inspection by a professional archaeologist is a key component of any Archaeological Impact Assessment Report. During the site inspection the archaeologist records any known monuments and also seeks to identify and record any hitherto unrecorded features of archaeological or cultural heritage significance. The archaeologist walks the site, records the current land use, notes any inaccessible areas, and takes a series of photographs to illustrate the report. The site under consideration in this study was visited by the author on 03/01/2025.

2 The Receiving Environment

The site of the proposed development is a field of pasture and the site boundary is generally defined by modern walls and fences, some of which are overgrown with vegetation.

2.1 Legislative Status and Planning Context

- 2.1.1 No part of the site lies within a Zone of Notification for an archaeological site or monument.
- 2.1.2 No structures on the site of the proposed development are listed by the National Inventory of Architectural Heritage.
- 2.1.3 No structures on the site of the proposed development are listed in the Record of Protected Structures for Co Galway.

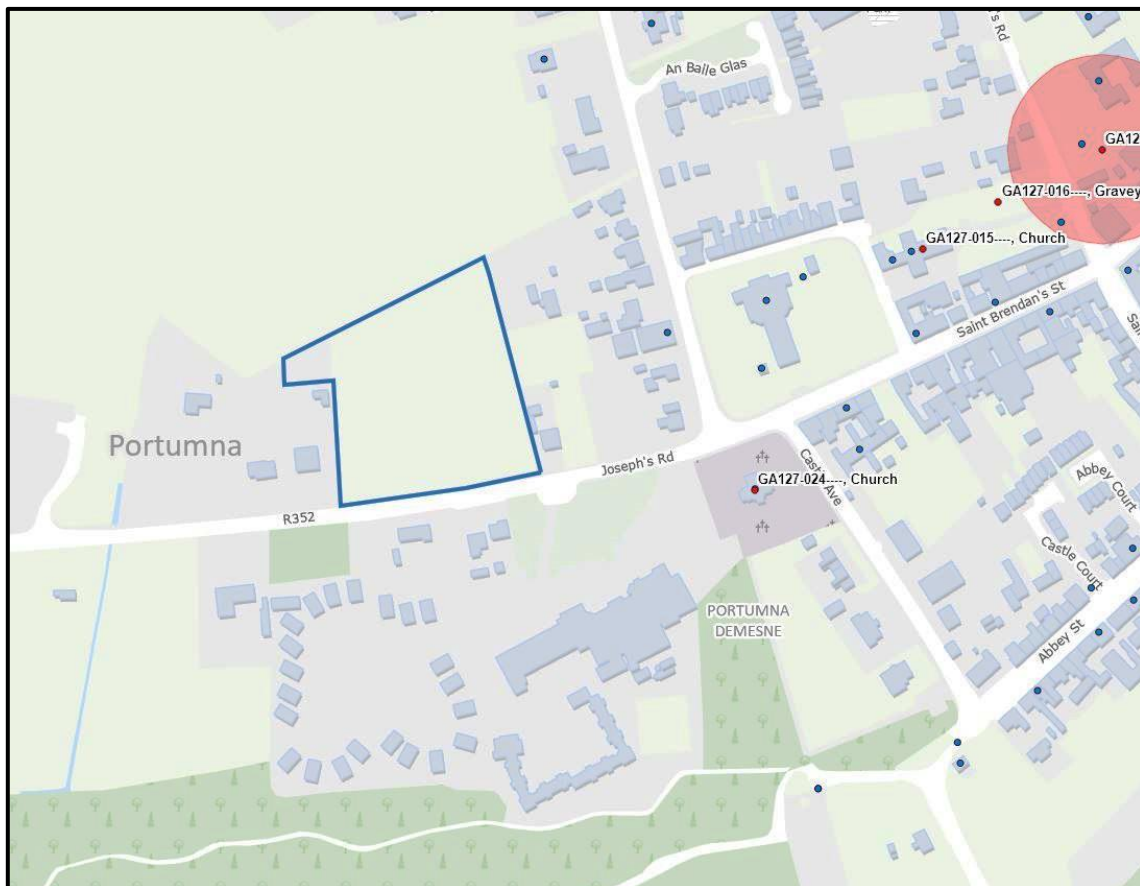


Figure 5: Site Location Map (OSI Street Map from Historic Environment Viewer) – the proposed development site is outlined in blue. Also shown are known archaeological sites (red dots – see Section 2.2) and their Zones of Notification (pink overlay).

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2.2 Known Archaeological Sites in the Area

2.2.1 In summary, no known archaeological sites or monuments lie within 100m of the boundary of the proposed development site (Figure 5).

2.2.2 The archaeological sites and monuments located within 500m of the proposed development site are listed in the Sites and Monuments Record (RMP) for County Galway as follows:

- A church (GA127-024---) lies *circa* 127m east of the proposed development site in Portumna Demesne townland.
- A church (GA127-015---) lies *circa* 250m east of the proposed development site in Portumna townland.
- A graveyard (GA127-016---) lies *circa* 270m east of the proposed development site in Portumna townland.
- A designed landscape feature (GA127-014---) lies *circa* 400m east of the proposed development site in Portumna townland.
- A walled garden (or bawn) (GA127-018001-) associated with Portumna House (aka Portumna Castle) lies *circa* 485m southeast of the proposed development site in Portumna Demesne townland. (Note: Portumna House itself, a National Monument, lies just outside the study area at a distance of 550m from the proposed development site).

2.2.3 The closest recorded archaeological monument to the proposed development site, Christ Church (GA127-024---), is somewhat unusual in that it does not have an associated Zone of Notification (Figure 5), though it is listed in the Record of Monuments and Places (RMP). This may be explained by the nature of the site – it is a Victorian-era Church of Ireland church and would not, therefore, be generally considered suitable for listing in the Sites and Monuments Record (SMR), which generally (though not exclusively) covers monuments pre-dating AD 1700. There is no evidence to suggest that it was built on the site of an earlier church – the building's entry in the National Inventory of Architectural Heritage ([NIAH](#)) states that it was built in 1832 on a site donated by the Earl of Clanricarde, and the unpublished file on the site in the archive of the Archaeological Survey of Ireland offers no evidence to support its inclusion in the SMR. In summary, one could suggest that Christ Church is correctly listed by the NIAH (see Section 2.4) below, but the reasoning behind its inclusion in the SMR is unclear.

2.3 Recent Archaeological Excavations

2.3.1 A search through the online database of archaeological excavations (www.excavations.ie) uncovered fifteen records of archaeological investigations relating to Portumna, of which several were within the study area:

- In 2005, Carmel Duffy undertook a programme of archaeological monitoring of groundworks associated with an extension to the Shannon Oaks Hotel, but no material of archaeological interest was uncovered (Duffy 2005). This site is on the southern side of St Joseph's Road, to the rear of the hotel, and is less than 150m from the proposed development site.
- A series of archaeological investigations have been undertaken at Portumna Castle over recent decades, some of which were within 500m of the proposed development site:
 - Heather King's work at the site in 1994 involved monitoring of the excavation of six service trenches to the east of the bawn (i.e. outside the current study area) and two service trenches immediately inside the northern wall of the bawn (i.e. just within the current 500m study area). King summarised her findings as follows:
 - *'No archaeological features or finds were recovered apart from a setting of brick in the extreme north-west corner of the bawn which may represent the edging for a flower-bed or a path and is of uncertain date.'* (King 1994)
 - Donald Murphy's work at the site in 1995 involved excavations in the basement of the castle (outside the current study area), but also included the excavation of the driveway from the outer gate to the courtyard gate (i.e. within the study area, 270m to 415m from the development site) which here described as follows:
 - *It measured 147.5m in length and 4 to 4.6m in width and would appear to be quite late, probably dating from around the end of the 18th century. This would fit in well with the dates for the Adam gate which stands at the north end of the drive (the outside gate), and the outer courtyard gatehouse which stands at the south end of the drive. The drive consisted of a compacted hard core base and thin overlying layer of gravel. It has a maximum thickness of 0.12m and lies directly on the natural boulder clay. The driveway, though carefully constructed, does not appear to be impressive and may have been used only for a short period of time. Nevertheless it was in use long enough for traces of wheeled vehicles to be left in it. Along the centre of the drive three tracks were visible, running in a north-south direction. These were barely visible when first exposed and measured 0.20 to 0.25m in width and 50mm deep. The three tracks appeared to be cut into the top gravel layer and represent the use of horse-drawn vehicles over a period of time.* (Murphy 1995)
 - Further work undertaken by Donald Muphy in 1997 included excavations in the kitchen garden of the castle, located 430m from the proposed development site. The

works exposed gravel pathways, a French drain, planting pits, and postholes for timber garden buildings (Murphy 1997).

- Dave Pollock undertook three archaeological test trenches on the site of a new car park in the castle grounds in 2018 (Pollock 2018). He noted evidence for a wall and ditch at the northern end of his area, located c. 320m from the current development site, which he considered to be early modern in date.
- Dave Pollock undertook further work on the castle grounds in 2021, when he supervised the removal of the footings of a section of the outer courtyard wall to facilitate its reconstruction (Pollock 2021). He considered the wall, located c. 470m from the current development site, to date to the later 18th or 19th centuries, but also noted the presence of an earlier bank and ditch which he thought might predate 1600.
- Dave Pollock undertook further work on the castle grounds in 2022, when he monitored resurfacing works just outside the 'Morrison Gate' (Pollock 2022), located c. 260m from the proposed development site. Here he found evidence for square stone piers associated with an earlier gateway on the site.
- In 2005, Melanie McQuade undertook a programme of archaeological monitoring of groundworks in a 28m by 23m area at St Joseph's Convent on St Brigid's Avenue (McQuade 2005). This site is on the eastern side of St Brigid's Avenue, 370m from the proposed development site, and no material of archaeological interest was uncovered.

2.3.2 In summary, research has found evidence for only one archaeological investigation undertaken within 200m of the proposed development site, and this work uncovered nothing of archaeological interest.

2.4 National Inventory of Architectural Heritage

2.4.1 A total of 37 structures within the study area are listed in the National Inventory of Architectural Heritage. These are listed in Table 1, but may be summarised as:

- The former Hibernian Bank premises (NIAH Ref. 30343006) on St Brendan's Road, which was built *circa* 1905, lies 86m east of the proposed development site.
- A three-bay two-storey house (NIAH Ref. 30343003) on St Brendan's Road, which was built *circa* 1910, lies 124m northeast of the proposed development site.

- Christ Church (NIAH Ref. 30343024), at the intersection of St Brendan's St, St Brendan's Rd, and St Joseph's Rd, which dates to 1832, lies *circa* 127m east of the proposed development site.
- Saint Brigid's Catholic Church (NIAH Ref. 30343007), at the corner of St Brendan's St and St Brendan's Rd, with its associated bell tower (NIAH Ref. 30343009) and monument (NIAH Ref. 30343008), dates to 1958 and lies *circa* 150m east of the proposed development site.
- The old Portumna National School (NIAH Ref. 30343004) on St Brendan's Rd, which dates to c.1860, lies *circa* 173m northeast of the proposed development site.
- A house and former business premises (Keane's) (NIAH Ref. 30343025) on St Brendan's St, which dates to c.1780, with an associated 10-bay outbuilding to the rear (NIAH Ref. 30343026), lie *circa* 190m east of the proposed development site.
- A house and former business premises (Stronge's) (NIAH Ref. 30343016) on St Brendan's St, which dates to c.1820, lies *circa* 247m east of the proposed development site.
- Saint Brigid's (old) Catholic Church (NIAH Ref. 30343011) on St Brigid's Rd, with its associated presbytery (NIAH Ref. 30343010) and mausoleum (NIAH Ref. 30343012), date to 1825-1870 and lie *circa* 240m to 355m east of the proposed development site.
- Various elements of the Portumna Castle complex, including gateways (NIAH Ref. 30343036; 30343039; 30343047), gate lodges (NIAH Ref. 30343037; 30343038), and a walled garden (NIAH Ref. 30343050), lie 270m to 490m southeast of the proposed development site, though Portumna House itself lies outside the 500m study area.
- Two post boxes (NIAH Ref. 30343019; 30343002), situated on St Brendan's St and on St Brendan's Road respectively, lie 305m and 440m from the proposed development site.
- A house and business premises (NIAH Ref. 30343027) on St Brendan's St, which dates to c.1800, lies *circa* 330m east of the proposed development site.
- A series of houses on Abbey Street and Dominic Street (NIAH Ref. 30343041; 30343042; 30343043; 30343035; 30343044; 30343045; 30343046), which range in date from 1780 to 1880, lie *circa* 340m to 450m southeast of the proposed development site.
- A cast-iron water pump (NIAH Ref. 30343033), situated on Abbey Street, lies c.358m southeast of the proposed development site.
- A five-bay two-storey former bank premises (NIAH Ref. 30343034), situated on Abbey Street, lies c.375m southeast of the proposed development site.

- Saint Joseph's Convent (NIAH Ref. 30343014), with an associated school (NIAH Ref. 30343013) and garden monument (NIAH Ref. 30343015), lie 380m to 411m east of the proposed development site on St Brigid's Road.
- A house and former business premises (Clossick's) (NIAH Ref. 30343028) on the corner of St Patrick's St and St Brendan's St, which dates to c.1850, lies *circa* 386m east of the proposed development site.
- Portumna Courthouse (NIAH Ref. 30343021), with a former prison to the rear (NIAH Ref. 30343020), which date to c.1847, lie *circa* 386m east of the proposed development site.

2.5 NIAH Survey of Historic Gardens and Designed Landscapes

- 2.5.1 The demesne associated with Portumna Castle in Portumna Demesne townland is listed in the NIAH's Survey of Historic Gardens and Designed Landscapes (Site ID: GA4906). The northern boundary of the demesne lay directly across the street from the proposed development site (Figure 2) and though this area was developed in the late 20th century for modern housing and an hotel, one section of the demesne wall appears to survive in a much-reduced state.

2.6 Record of Protected Structures

- 2.6.1 Twenty-nine structures within the study area are listed as Protected Structures by Galway County Council. These have already been listed in Sections 2.2.2 and/or 2.4.1 above and they may be summarised (and cross-referenced with the NIAH and the SMR) as follows:

<i>Site Name or Description</i>	<i>Street</i>	<i>NIAH No.</i>	<i>RPS No.</i>	<i>SMR No.</i>	<i>Distance to proposed development site</i>
Hibernian House	St Brendan's Rd	30343006	----	----	86m
House	St Brendan's Rd	30343003	3758	----	124m
Christ Church	St Joseph's Rd	30343024	472	GA127-024	127m
Saint Brigid's Church	St Brendan's St	30343007	465	----	150m
St Brigid's Church (Monument)	St Brendan's St	30343008	----	----	190m
St Brigid's Church (Bell Tower)	St Brendan's St	30343009	----	----	150m
Portumna National School	St Brendan's Rd	30343004	----	----	173m
House - Keane	St Brendan's St	30343025	3767	----	190m
Outbuilding	St Brendan's St	30343026	----	----	190m
Convent / Presbytery	St Brigid's Rd	30343010	466	----	240m
St Brigid's Catholic Church (old)	St Brigid's Rd	30343011	467	GA127-015	260m
Mausoleum	St Brigid's Rd	30343012	----	----	355m
M.C. Stronge – house	St Brendan's St	30343016	3762	----	247m

Gates/railings/walls	Portumna Castle	30343036	3775	GA127-018	270m
Gate lodge	Portumna Castle	30343037	473	GA127-018	275m
Gates/railings/walls	Portumna Castle	30343039	473	GA127-018	316m
Gate lodge	Portumna Castle	30343038	474	GA127-018	325m
Post Box	St Brendan's St	30343019	3763	----	305m
House	St Brendan's St	30343027	----	----	330m
House	Abbey St	30343041	3778	----	340m
Water pump	Abbey St	30343033	3772	----	358m
House	Abbey St	30343042	3779	----	366m
Bank/financial institution	Abbey St	30343034	3773	----	375m
House	Abbey St	30343043	3780	----	380m
House	Abbey St	30343035	3774	----	417m
Forde - House	Abbey St	30343044	463	----	434m
House	Abbey St	30343045	475	----	440m
House	Dominic St	30343046	476	----	452m
House / Shop – Clossick	St Patrick's St	30343028	3768	----	386m
St Joseph's Convent	St Brigid's Rd	30343014	468	----	402m
St Joseph's Convent school	St Brigid's Rd	30343013	469	----	411m
St Joseph's Convent – garden structure	St Brigid's Rd	30343015	----	GA127-014	380m
Prison / Jail	Clonfert Avenue	30343020	471	----	414m
Portumna Courthouse	Clonfert Avenue	30343021	471	----	421m
Walled Garden	Portumna Castle	30343050	473	GA127-018	428m
Gates/railings/walls	Portumna Castle	30343047	473	GA127-018	490m
Post Box	St Brendan's Rd	30343002	3757	----	440m

2.7 Cartographic Evidence

- 2.7.1 Taylor and Skinner's map of the Portumna area (Figure 6), published in 1777, shows nothing on the site of the proposed development, as the buildings of the main street do not extend west of the Loughrea Road.
- 2.7.2 The Ordnance Survey 6" map from the 1843 (Figure 2) shows no features of archaeological significance on the site of the proposed development, but it does show several field boundaries within the site which have since been removed.
- 2.7.3 The Ordnance Survey 25" map from 1894 (Figure 3) shows no features of archaeological significance on the site of the proposed development. The field boundaries shown within the site 1840s had been removed by the time this map was created in the 1890s.



Figure 6: Extract from Taylor & Skinner's map of Portumna from 1777 (west is at top), with site indicated

2.8 Planning History

2.8.1 Galway County Council's online planning database records one previous planning application on the proposed development site:

- Padraic Hynes's application (Planning Ref. No. 95651) for permission to construct 32 houses on the site, which was submitted to the local authority in 1995, was rejected due to issues with zoning and service capacity.



Plate 2: View of the proposed development site from the gateway at the south-eastern corner

3 Site Description

- 3.1 The site of the proposed development is a field of pasture (Plate 2) which extends to *circa* 1.53ha. The site boundary is generally defined by modern walls and fences, though a stone wall defines part of the roadside boundary and the northern boundary is quite overgrown. The grass in the field was generally short on the day of the site inspection, except for a small area in the north-western corner where the grass had not recently been cut for forage.
- 3.2 The field is somewhat undulating, with a rise in elevation along the southern (roadside) boundary, but no features of archaeological interest were noted during the site inspection.



Plate 3: View of the proposed development site from the northern boundary looking southeast



Plate 4: View of the proposed development site from the southern boundary looking northwest

4 Geophysical Survey

4.1 Galway County Council commissioned Dr Ger Dowling to undertake a geophysical survey of the proposed development site. The survey, using high-resolution magnetic gradiometry, was undertaken in April 2025 and the most notable features to emerge were related to an old field boundary which crossed the site, which is visible on the Ordnance Survey 6" map from the 1840s (Figure 2), and a series of linear anomalies which derive from ploughing. Other features, which were described as producing a 'ferrous-type' response, are likely to relate to stray pieces of metal or other debris, but several 'pit-type' responses were also noted, particularly in the north-western part of the field (Plate 6).

4.2 The surveyor's conclusions stated that the survey:

"did not identify any anomalies of obvious archaeological potential. A number of 'pit-type' responses mapped by the survey may represent small, discrete archaeological features, such as pits/deposits, though this is highly tentative; the recorded anomalies may equally reflect natural soil variation. A probable former field boundary marked on early historic maps was identified, in addition to traces of former cultivation".

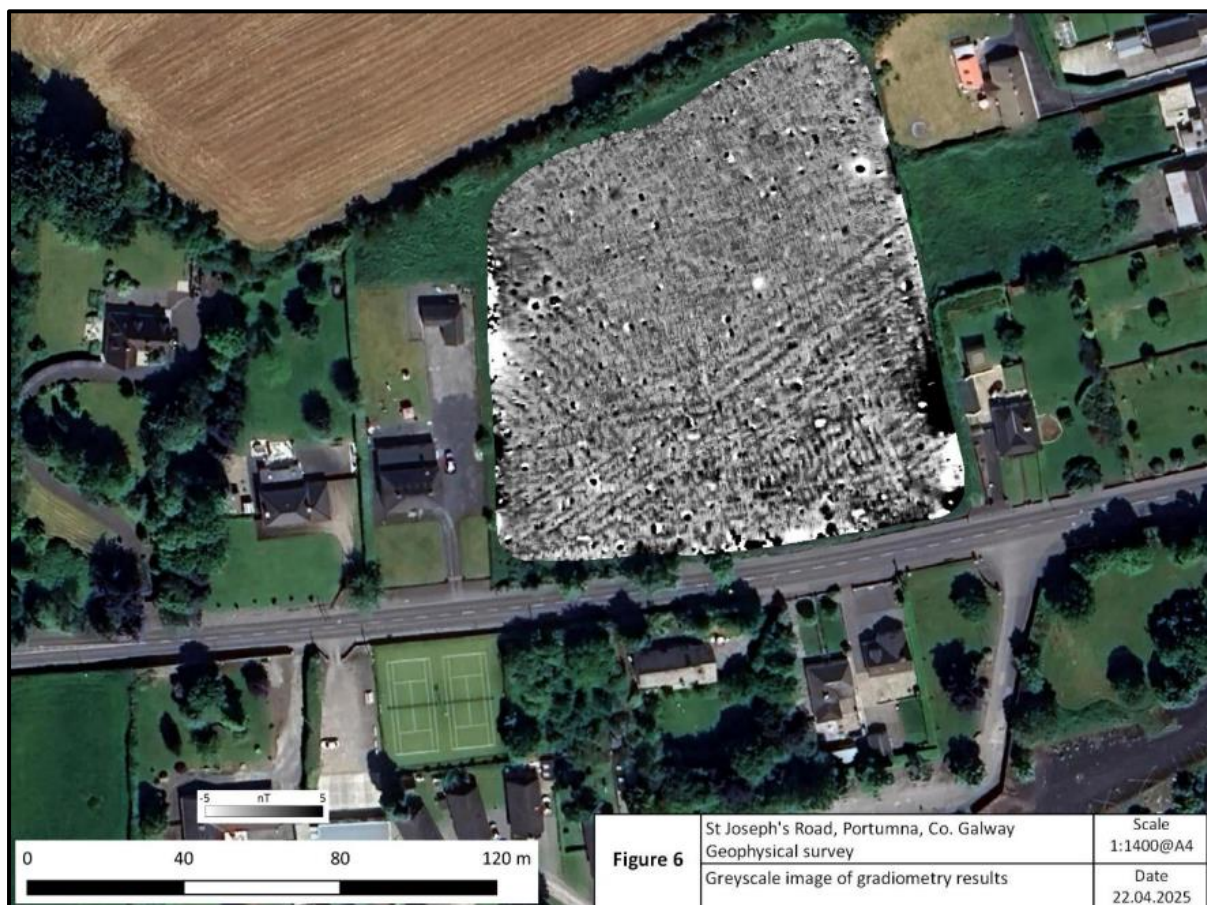


Plate 5: Grayscale image of gradiometry survey results (Dr Ger Dowling)

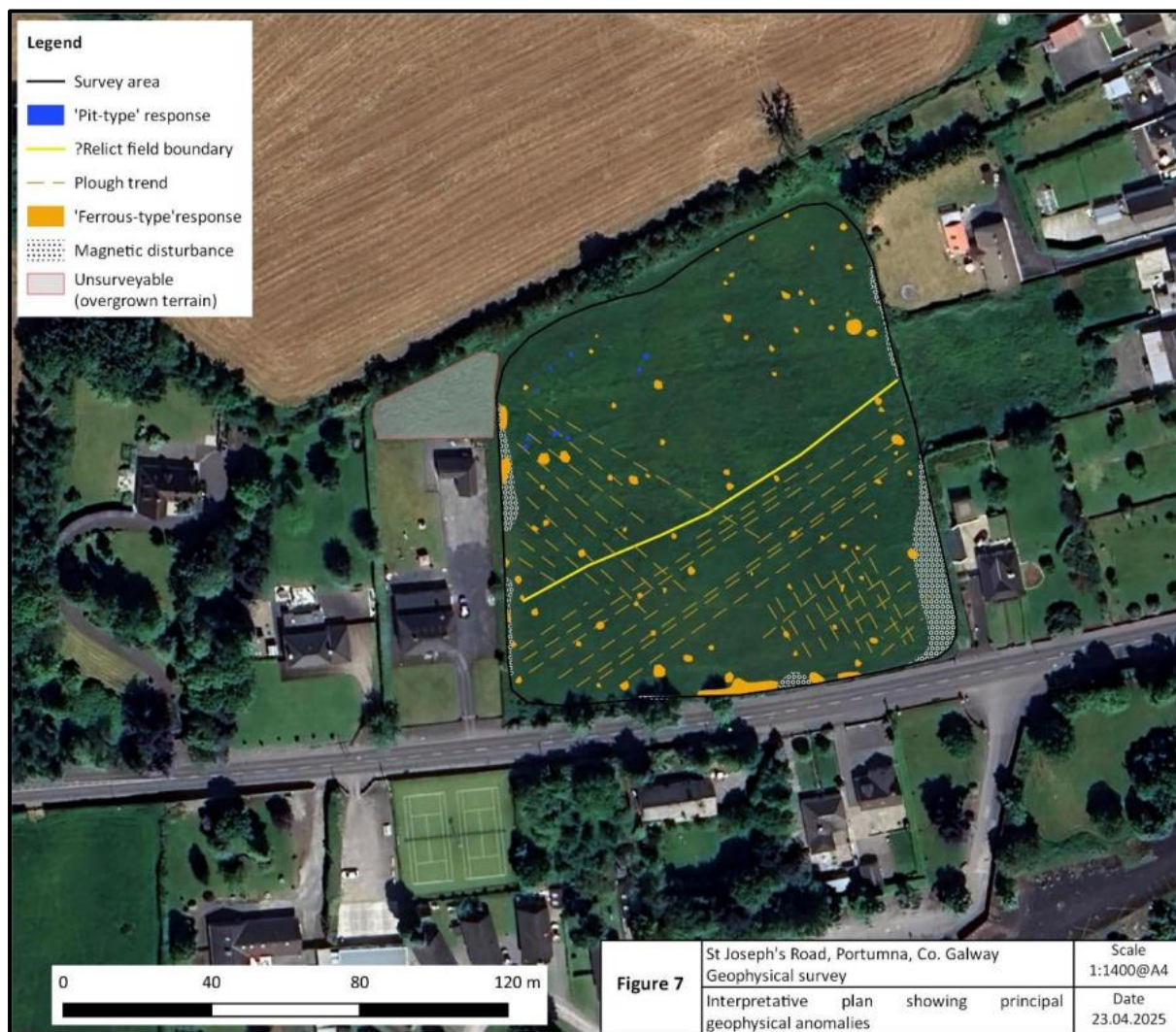


Plate 6: Interpretative plan showing principal geophysical anomalies (Dr Ger Dowling)

5 The Proposed Development

- 5.1 The current proposal for the site involves the construction of 44 residential units with associated services, roadways, parking and landscaping. The development will be accessed from St Joseph's Road via a new entrance to the west of the existing gateway, and separate pedestrian routeways will facilitate access and egress at the south-western and south-eastern corners of the complex. The proposed structures are a mixture of single-storey and two-storey buildings.
- 5.2 The proposed development will involve significant groundworks, since the construction team is likely to strip much of the site of topsoil prior to the excavation of foundations and service trenches, and the creation of site roadways.



Figure 7: Simplified proposed site layout (Simon J Kelly Architects) with various house-types shown by colour

6 Archaeological Impact Assessment

6.1 *The impact on nearby upstanding monuments*

6.1.1 The nearest upstanding monument listed by the Archaeological Survey of Ireland is a church which stands *circa* 127m from the proposed development site. The church was built in 1832 and it is listed by the National Inventory of Architectural Heritage, but it is not clear why it is included in the Sites and Monuments Record (which generally lists sites pre-dating AD 1700). In any case, the church will not be physical or visually impacted by the proposed development, since intervening properties will act as a suitable buffer zone between the church and the proposed development.

6.1.2 The most significant monument in the area is Portumna House (aka Portumna Castle), which is a National Monument (No. 515) in the ownership of the State. This early 17th-century fortified house stands over 540m from the proposed development site and so it lies outside the study area for this report, though structures associated with the house, including gateways, gate lodges and a walled garden, do lie within the study area at distances of 270m to 490m from the proposed development site. These features will not, however, be impacted by the proposed development in any way, as they are screened from the site by a ruined hotel and by dense woodlands.

6.1.3 **PROPOSED MITIGATION:** No mitigation is required to protect the nearby archaeological sites and monument from impacts associated with the proposed development.

6.2 *The impact on underlying archaeological strata*

6.2.1 The impact of a proposed development on hitherto unknown underlying archaeological strata cannot be fully assessed by a desk-based report, but it is worth noting that no evidence for archaeological features was found on the site during the desk-based research or the site visit undertaken during the preparation of this report.

6.2.2 A geophysical survey of the site, using high-resolution magnetic gradiometry, found no clear evidence that the proposed development site contains features of archaeological potential. Several 'pit-type' responses were noted by the surveyor and these may be archaeological in nature, but they could also derive from natural variations in the soil.

6.2.3 The results of the programme of desk-based research, the site visit, and the geophysical survey, suggest that the archaeological potential of the proposed development site is quite low and so the site should be considered suitable, in archaeological terms, for development.

6.2.4 **PROPOSED MITIGATION:** If An Bord Pleanála decides to grant planning permission for the proposed development, it is proposed that the design team should then liaise with the National Monuments Service to ascertain if further archaeological mitigation is required on the site. Such mitigation, if required, could include targeted test-trenching to investigate the geophysical anomalies identified, or archaeological monitoring of the planned groundworks.

6.3 The impact on standing buildings

6.3.1 There are no standing buildings on the site of the proposed development and so none will be directly impacted by the proposed development.

6.3.2 The nearest Protected Structures to the site, which are protected under the Planning and Development Act 2000, are a house on St Brendan's Road (NIAH 30343003; Protected Structure 3758) and Christ Church (NIAH 30343024; Protected Structure 472), both of which are just over 120m from the boundaries of the proposed development site. Due to the intervening distance, and the modest height of the proposed buildings (up to two storeys, like the Protected Structures themselves and like many other buildings in the area), neither of these buildings will be impacted physically or visually by the proposed development.

6.3.3 **PROPOSED MITIGATION:** No mitigation is required to protect the architectural heritage.

7 Conclusions and Recommendations

7.1 Conclusions

- 7.1.1 This report has described the archaeological context of a proposed development site at St Joseph's Road, Portumna, Co Galway. The nearest upstanding monument to the site, a 19th-century Church of Ireland church located over 120m from the proposed development site, is protected under the National Monuments Act 1930 (as amended).
- 7.1.2 The Archaeological Impact Assessment within this report has concluded that the proposed development will have no impact on the nearby church, since intervening properties will act as a suitable buffer between the proposed development and the church.
- 7.1.3 The Archaeological Impact Assessment within this report has concluded that the archaeological potential of the proposed development site itself is quite low and so the site should be considered suitable, in archaeological terms, for development. If An Bord Pleanála decides to grant planning permission for the proposed development, it is proposed that the design team should then liaise with the National Monuments Service to ascertain if further archaeological mitigation is required on the site.
- 7.1.4 The Archaeological Impact Assessment within this report has concluded that the proposed development will have no negative impact on the architectural heritage of the area.

7.2 Recommendations

- 7.2.1 If An Bord Pleanála decide to grant approval for the proposed development, it is recommended that the design team should liaise with the National Monuments Service to ascertain if further archaeological mitigation is required on the site.

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Appendix A: Geophysical Survey Report – Dr Ger Dowling

Geophysical Survey Report

St Joseph's Road, Portumna, Co. Galway

License No.: 25R0136

RMP/SMR: N/A

ITM (centroid): 584880, 704570



Ger Dowling, PhD MIAI
April 2025

Summary

This report details the results of an archaeogeophysical survey (Licence No.: 25R0136) of lands at St Joesph's Road, Portumna townland, Portumna, Co. Galway. The investigation was conducted as part of a pre-planning archaeological assessment.

The investigation, comprising high resolution magnetic gradiometry, was implemented over an area of approximately 1.5 hectares. No features of clear archaeological potential were recorded by the survey. Several 'pit-type' response mapped by the investigation may represent small pits/deposits, though this is speculative. Evidence for former land division and cultivation was revealed.

Survey details

Site Name: St Joesph's Road
Townlands: Portumna
County: Galway

Parish: Lickmolassy
Barony: Longford

RMP/SMR No.: N/A
ITM (centroid): 584880, 704570

Land use: Pasture
Geology: Dark limestone and shale ('calp') (Lucan Formation)
Soils: Coarse loamy drift with limestones (Mullabane Series)

Detection License No.: 25R0136
Planning Reference No.: N/A

Survey Type & Instrument: Fluxgate Gradiometer – Five-channel magnetometer
Sample/Transverse Interval: 0.05m/0.5m

Area Surveyed: c.1.5 ha
Survey Date: 22 April 2025

License Holder: Ger Dowling
Report Author: Ger Dowling
Report Date: 23 April 2025

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Abbreviations

GA	Galway
GPS	Global Positioning System
ITM	Irish Transverse Mercator
nT	nanoTesla (unit of magnetic measurement)
OS	Ordnance Survey
QGIS	Quantum Geographical Information Systems
SMR	Sites and Monument Record
RMP	Record of Monument and Places

Coordinate System

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

1 Introduction

This report details the results of an archaeogeophysical survey (Licence No.: 25R0136) of lands at St Joesph's Road, Portumna townland, Portumna. The survey, comprising high resolution magnetic gradiometry, was implemented over an area of approximately 1.5 hectares. The investigation was carried out as part of a pre-planning archaeological assessment.

The site has not previously been 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 Portumna, Co. Galway (Figure 1). The site, which lies on St Joesph's Road, just to the west of Portumna town centre, is in the Civil Parish of Lickmolassy and the Barony of Longford.¹

¹ [Port Omna/Portumna | logainm.ie](#): accessed on 13 March 2025.

3 Survey Background

The investigation was undertaken as part of a pre-planning archaeological assessment.

4 Archaeological Background

4.1 Recorded/Known Archaeology

There are no recorded sites or monuments within the survey area (Figure 2).² The nearest known monuments comprise two churches, GA127-015 & GA127-024, one of which has an associated graveyard (GA127-016).³ A Designed Landscape Feature (GA127-014) is also located in the surrounding locality.⁴

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

4.2 Previous Investigations

No recorded archaeological investigations have previously been conducted at the survey area or within its immediate locality.⁵

² [Historic Environment Viewer \(arcgis.com\)](#): accessed on 13 March 2025.

³ Ibid.

⁴ Ibid.

⁵ <https://excavations.ie>: accessed 13 March 2025.

5 Survey Location and Aims

The investigation, comprising high resolution magnetic gradiometry, focused on a tract of open pasture measuring about 1.5 ha (Plate 1; Figure 5).

Bounded by tree-lined hedgerows and low stone walls, the target field lies directly north of St Joesph's Road and east and west of modern domestic dwellings. The topography is flat to gently undulating, with a low, presumably natural, rise situated immediately north of St Joesph's Road (Plate 2). The wider landscape comprises a mixed urban and rural environment, with Portumna town to the east and south, and farmland, mainly pasture, to the north and west.

The underlying bedrock of the locality comprises dark limestone and shale ('calp') (Lucan Formation).⁶ The soils are dominated by coarse loamy drift with limestones (Mullabane Series).⁷

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

⁶ Geological Survey of Ireland Spatial Resources, Public Data Viewer Series:
<https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aaac3c228>
[accessed on 13 March 2025].

⁷ Irish National Soils Map, 1:250,000k, V1b (2014): <http://gis.teagasc.ie/soils/map.php> [accessed 13 March 2025].

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 magnetometer system, combining two Foerster Ferex 4.034 dataloggers and Foerster MG-10-550 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 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 2. 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.1.5 ha	313,633

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;
- Track correction (compensation) of collated magnetometer data; and
- Export of georeferenced greyscale images at optimum visual range

The processed data was imported into QGIS for final image production (Figures 6 & 7). 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 archaeo-geophysical surveys.⁸ All geophysical raster datasets will be digitally archived to best practice.⁹

⁸ 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:

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⁹ 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 a large tract of open pasture. A small area of high, densely overgrown grasses at the northwest of the survey area could not be surveyed (Plate 3). There were no other obstacles to the investigation.

8.2 Modern Interference

Several 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) within the topsoil.

Areas of ferrous disturbance deriving from survey in proximity to St Joesph’s Road and the neighbouring houses were recorded in places along the edge of the survey area.

8.3 Former Land Use

Ploughing associated with former cultivation is apparent in the dataset a series of slender, closely set, positive linear anomalies. These overlap at various orientations and point to different phases of tillage farming at this location in the past.

A probable former land division, seemingly corresponding to a field boundary marked on the first-edition six-inch Ordnance Survey Map (surveyed 1838; published 1841), was also mapped by the survey (see Figure 3).

9 Survey Results

Table 3. Area 1: survey results

Area	St Joesph's Road, Portumna	
ITM (centroid)	584880, 704570	
Area surveyed	c.1.5 ha	
Figure Numbers	6 & 7	
Form/nature of anomaly	Possible sources(s) of anomaly	Interpretative discussion
Several 'pit-type' responses	Possible archaeology/natural	Possible small pits/deposits, some may contain burnt/fired material in their fills. Tentative interpretation. Natural (i.e., soil) origin also conceivable.
Slender positive linear	Possible agricultural	Probable relict field boundary. Appears to correspond to land division marked on first-edition six-inch Ordnance Survey Map (surveyed 1838; published 1841).
Multiple, closely spaced, parallel, positive linears	Agricultural	Former cultivation. Various orientations, some overlapping.
Multiple 'ferrous-type' responses	Modern	Ferrous debris and other weakly magnetised material.
Areas of magnetic disturbance	Modern	Disturbance from adjacent road and houses.

10 Conclusion

The geophysical investigation at Portumna townland did not identify any anomalies of obvious archaeological potential. A number of 'pit-type' responses mapped by the survey may represent small, discrete archaeological features, such as pits/deposits, though this is highly tentative; the recorded anomalies may equally reflect natural soil variation. A probable former field boundary marked on early historic maps was identified, in addition to traces of former cultivation.

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

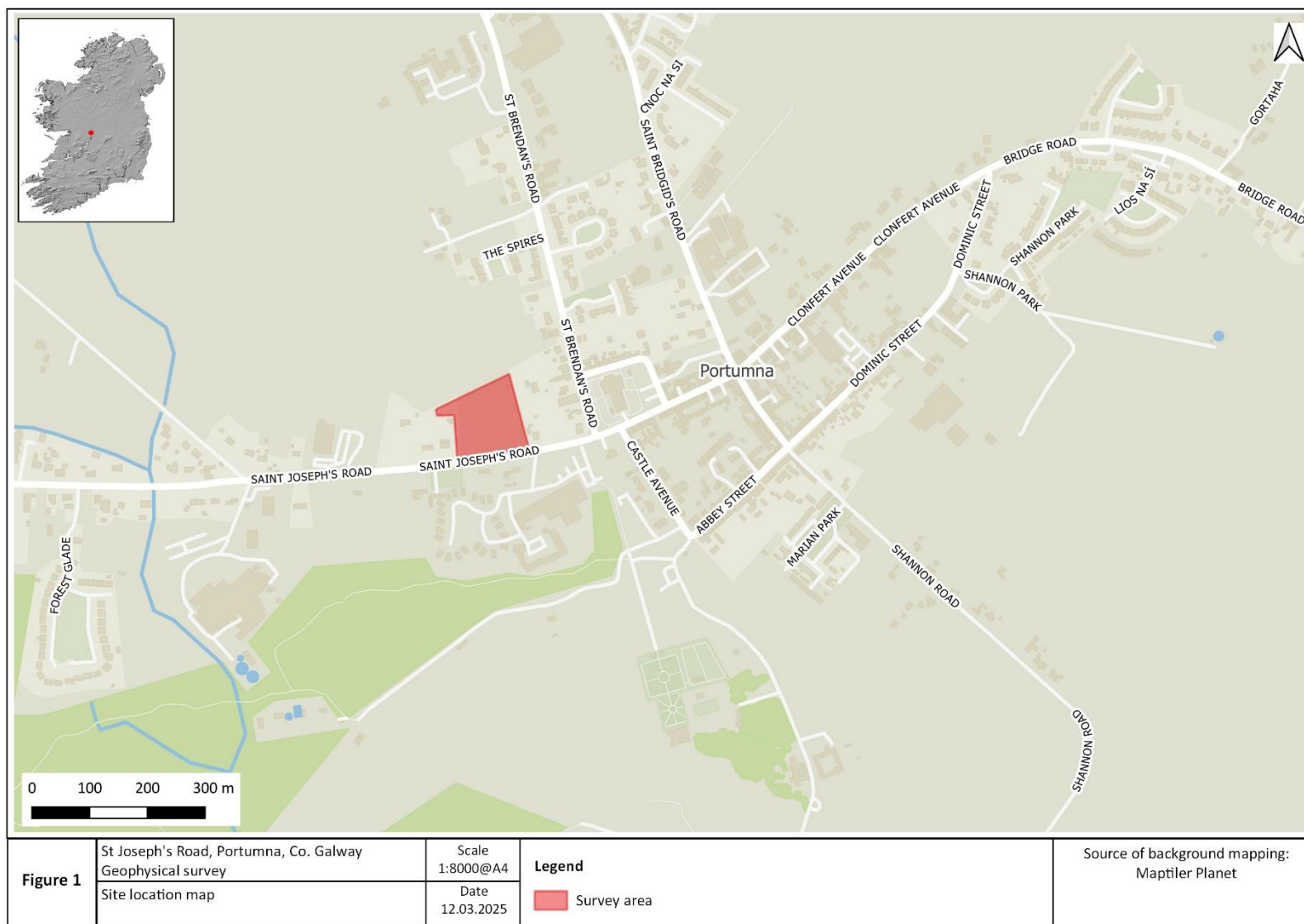


Figure 1. Site location map, showing survey area highlighted in red.

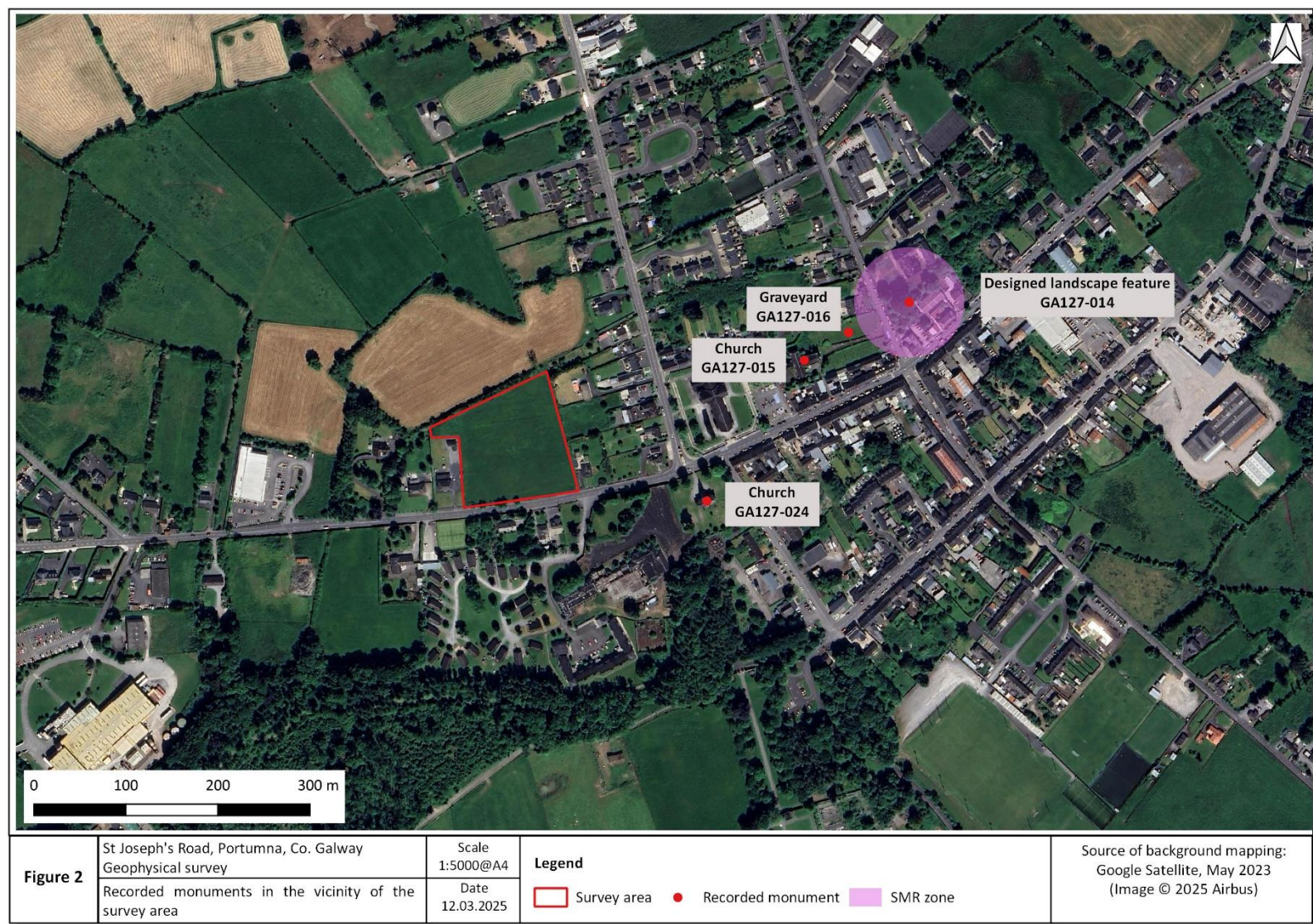


Figure 2. Location of recorded archaeological sites in the vicinity of the survey area.

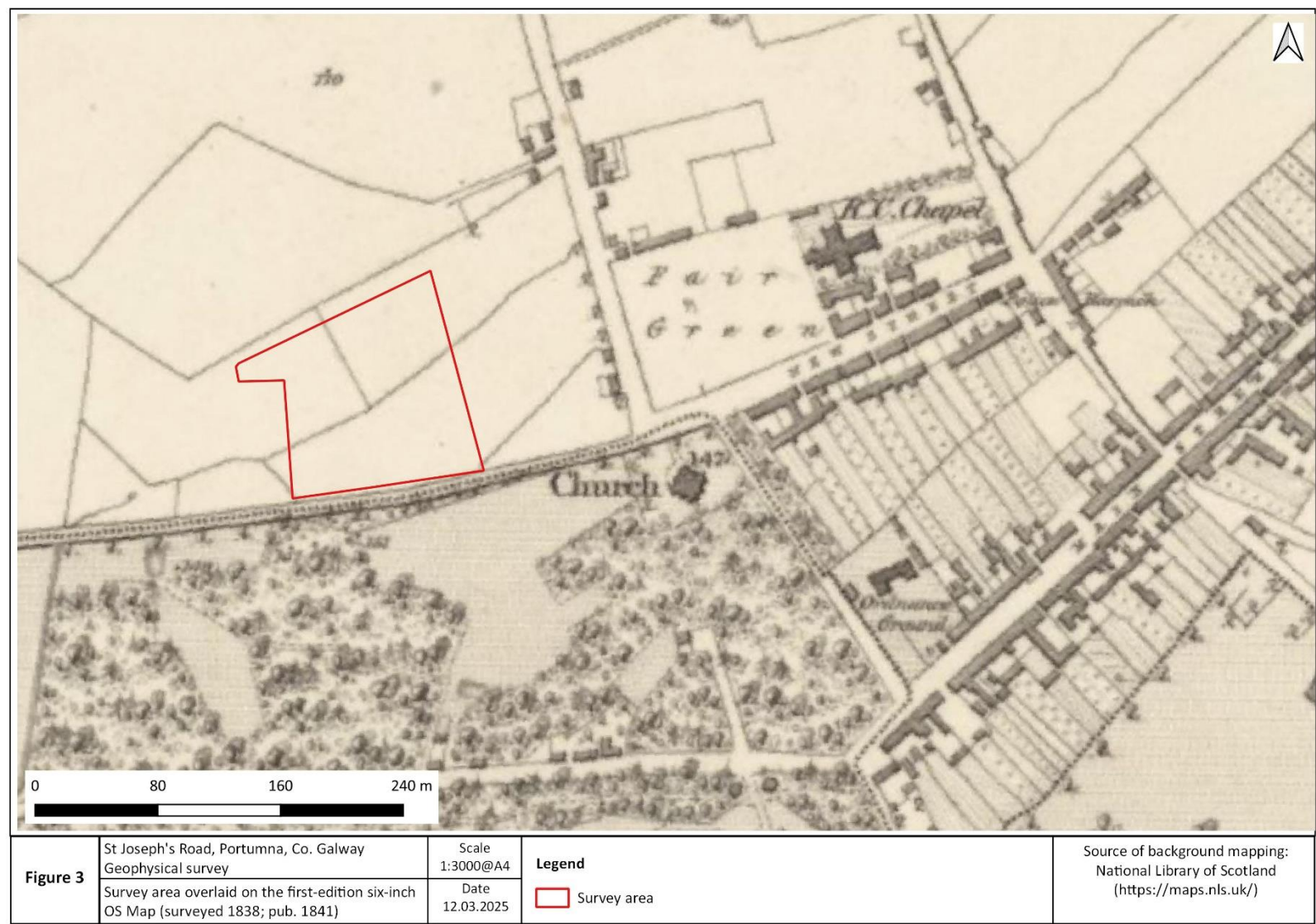


Figure 3. The survey area overlaid on the first-edition six-inch Ordnance Survey Map (surveyed 1838; published 1841).

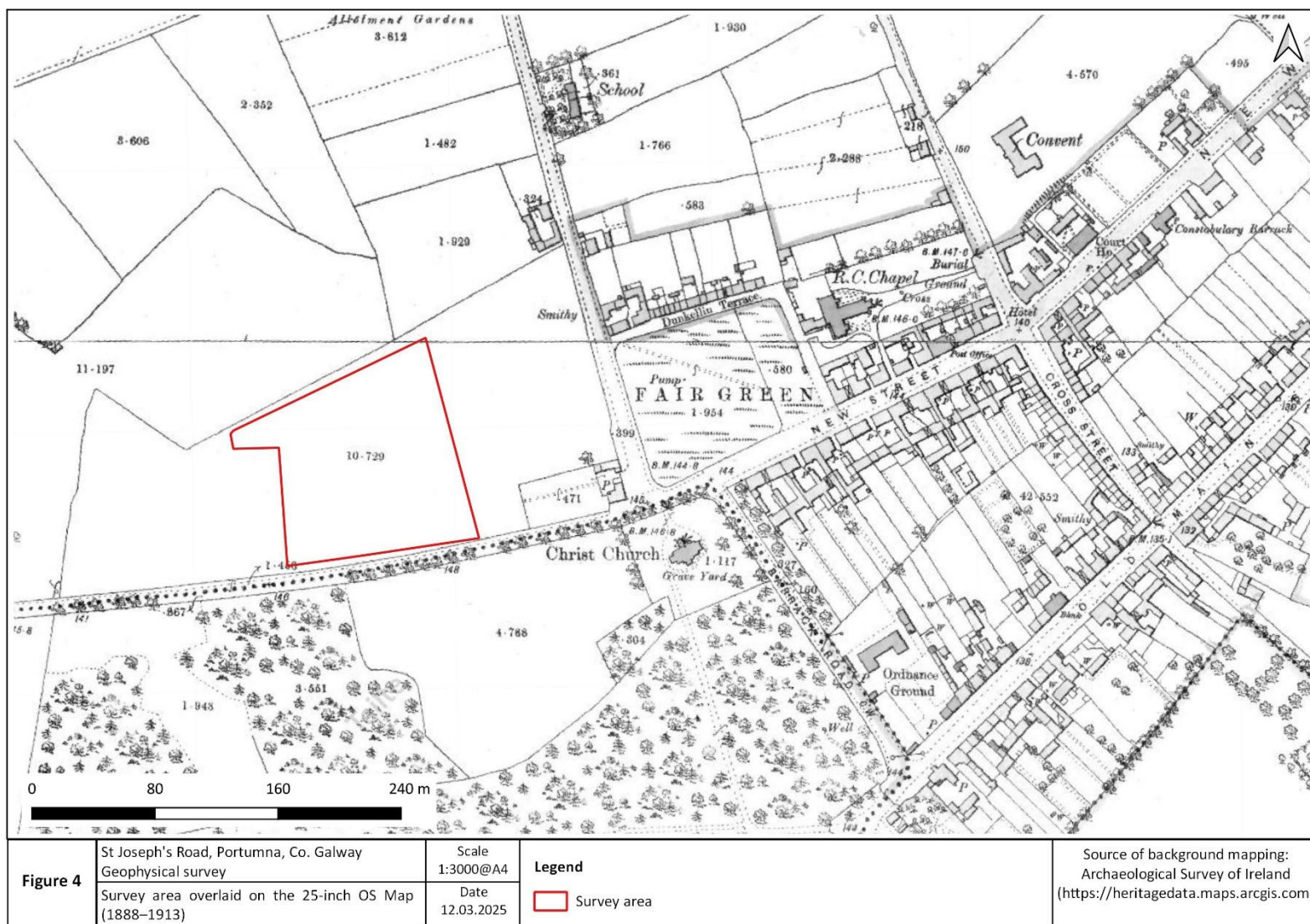


Figure 4. The survey area overlaid on the first-edition 25-inch Ordnance Survey Map (1888–1913).



Figure 5. Survey area.

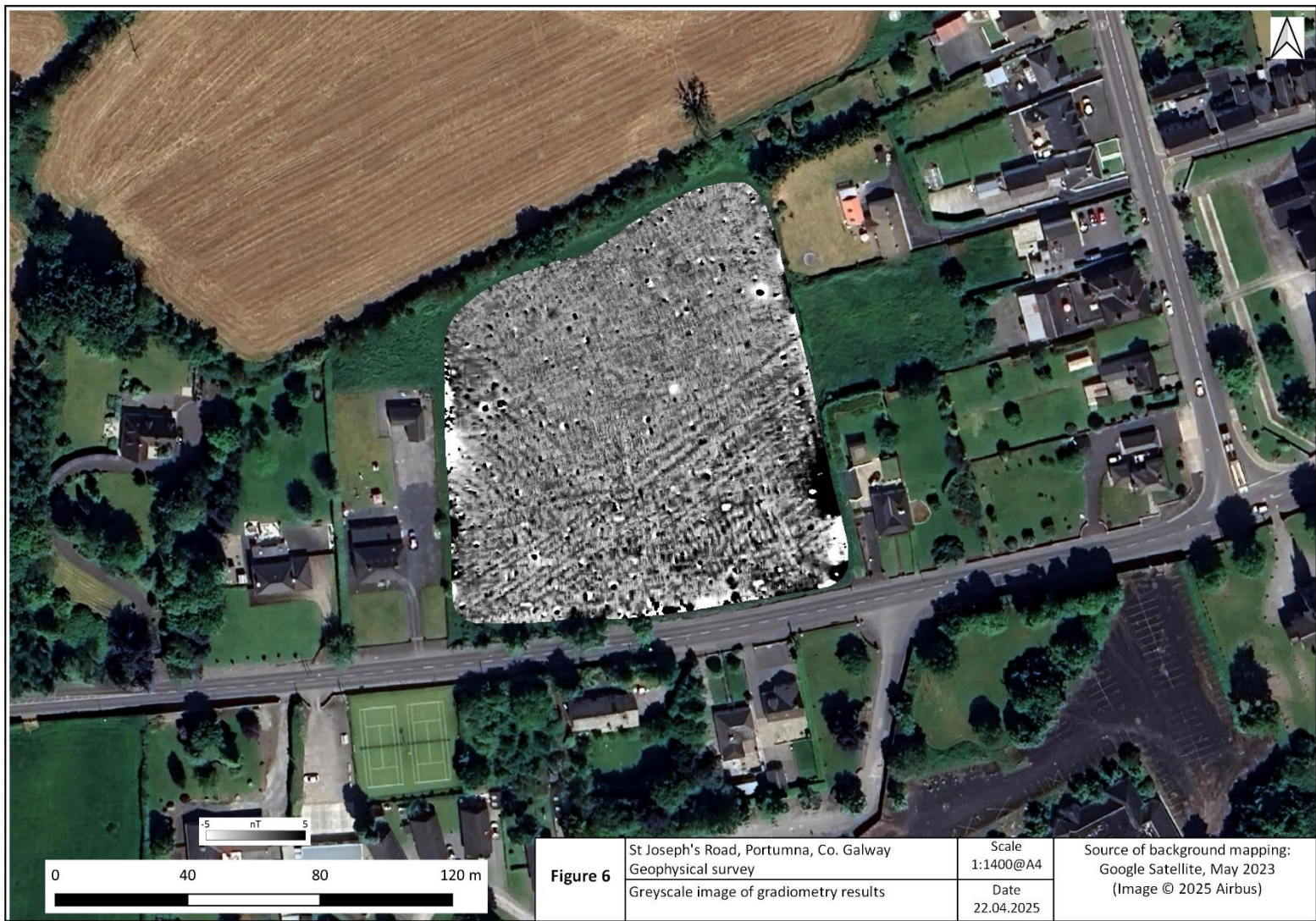


Figure 6. Greyscale image of gradiometry results.

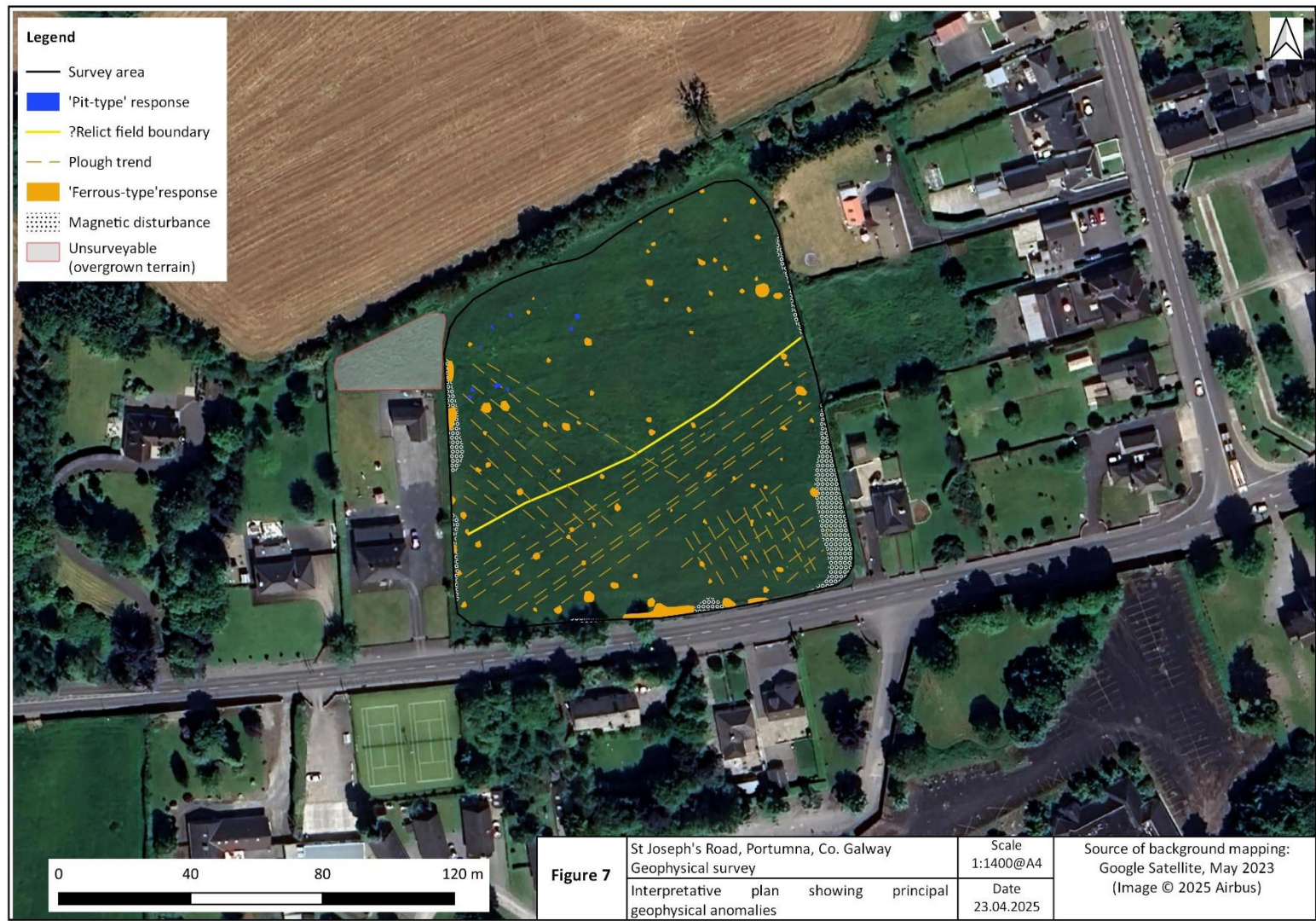


Figure 7. Interpretative plan showing principal geophysical anomalies.

12 Plates



Plate 1. Survey area, looking northwest.



Plate 2. Survey area, looking west.



Plate 3. Overgrown terrain at northwest of survey area, looking west.