ARCHAEOLOGICAL MANAGEMENT SOLUTIONS

SERVICES BROCHURE

PROJECT MANAGEMENT & CLIENT REPRESENTATION
DESK BASED ASSESSMENTS · GEOPHYSICAL SURVEYS
ARCHAEOLOGICAL SITE WORKS · LIDAR ANALYSIS;
HISTORICAL RESEARCH · PUBLICATIONS AND
DISSEMINATION · QUALITY ASSURANCE

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INTRODUCTION

AMS is an independent consultancy that provides a full range of archaeological services, including project management and client representation, desk-based assessments, Environmental Impact Assessments, pre-development testing, monitoring and excavation. We also offer specialist services including geophysical surveys, GIS/mapping, LiDAR analysis, historical research and publication and dissemination services.

Our unique multidisciplinary team of archaeologists, project managers and historians brings together many years accumulated experience within the public and private sectors. Our consultants have worked throughout Ireland and internationally across a wide range of development types including road and rail infrastructure, power generation, flood relief, water supply schemes, mining and public amenities.

Our clients include state and semi-state bodies, local authorities, architectural and engineering consultancies, as well as private developers. We have a proven track record of providing a superior service and delivering cost savings on projects involving complex heritage issues through our pragmatic and collaborative approach.

CORE SERVICES

At AMS, we specialise in:

- Project Management, including the design, procurement and management of archaeological investigations, mitigation and post-excavation works, preparing contract documents, supervision of site works on behalf of the client, and liaison with the Statutory Authorities;
- Desk-based Assessments, including Environmental Impact Assessment (EIA);
- Archaeological Site Works, including pre-development archaeological testing, monitoring and excavation; and
- Post-excavation works and dissemination services.

Our core services are outlined below.

PROJECT MANAGEMENT

We are a recognised market leader in undertaking the role of Project Archaeologist on major projects in Ireland and the UK, including high-profile developments such as the New Children's Hospital in Dublin and the Abbey Creative Quarter in Kilkenny, along with numerous flood relief schemes and road developments. AMS staff have acted as Project Archaeologists for the NRA/ TII, the RPA, and most recently for the OPW and Kilkenny County Council.

In effect, we provide clients with in-house archaeological expertise for the duration of a project, helping to achieve cost and programme certainty while maximising the value-for-money delivered by archaeological contractors.

Project management services include:

- preparing archaeological strategies and specifications
- cultural heritage risk identification and management
- contract preparation, tender reviews and procurement
- obtaining necessary licences
- management of monitoring, excavation and post-excavation works
- liaison with statutory and local authorities, landowners and other stakeholders
- assisting clients to meet their statutory and planning requirements
- managing Health and Safety issues as PSDP and PSCS.

DESK-BASED ASSESSMENTS

Archaeological sites and built heritage structures are generally protected by law, and proponents need to ensure they act legally when encountering these constraints in their projects.

AMS has the capability to identify and manage the risks presented by heritage constraints by carrying out professional desk-based cultural heritage assessments. These assessments include reviewing published heritage databases and other sources to identify known constraints and evaluating the potential impact of a proposed project. We also undertake specialist research to identify previously unknown constraints, including historical research and analysis of historical maps and aerial photography as well as geophysical and LiDAR data.

Where archaeology and built heritage pose a risk to your project, we can develop and manage timely and cost-effective solutions in consultation with your design team, from the initial pre-planning stages throughout the lifecycle of your project.

Site Inspections and Field Surveys

To supplement our desk-based assessments, we routinely carry out archaeological site inspections and field surveys to identify, assess and record archaeological sites and monuments and areas of archaeological potential. We also undertake architectural heritage surveys to locate and record buildings and other structures of heritage value.

Impact Assessments

Our Environmental Impact Assessment (EIA) team is here to help you prepare the Cultural Heritage chapter of your Environmental Impact Assessment Report (EIAR). Our consultants have years of experience writing impact assessments for archaeology and architectural heritage, and are fully up to date with the EU's new Directive for the preparation of EIARs.

ARCHAEOLOGICAL SITE WORKS

We have a team of licensed field archaeologists and excavation directors with the qualifications, skills and expertise needed to design and implement archaeological investigation and mitigation strategies. Our team includes some of the most experienced and respected field archaeologists in Ireland. Along with our wider network of specialists, this allows us to offer a full range of fieldwork services including:

- archaeological monitoring
- archaeological test-trenching
- archaeological excavation
- management of environmental remains
- osteoarchaeology (treatment of human remains)
- on-site management and supervision

In 2018, AMS won the first TII funded Quality/Price tender award (Quality : Price Ratio 70:30) for Archaeological Consultancy Services (Stage [i] to [iv]) for the N69 Listowel Bypass, tendered by Kerry County Council.

Post-excavation Works

Our consultants also have expertise in the management of post-excavation work, including:

- paleoenvironmental analysis
- radiocarbon dating
- finds management
- artefact conservation

Historic Building Recording

AMS has the skills and equipment needed to carry out historic building recording, whether as part of an architectural heritage assessment or in order to preserve a structure by record. This includes preparing written descriptions, measured drawings, photographic archives and digital models using 3D photogrammetry technology.

SPECIALIST SERVICES

We also offer a range of specialist services including:

- Geophysical Surveys
- GIS/Mapping Services
- LiDAR Interpretation Services
- Local History Research
- Publication and Dissemination

These services are outlined in more detail below.

GEOPHYSICAL SERVICES

What is Geophysics?

Geophysics is a non-invasive survey method that allows the detection and mapping of archaeological, geological and modern man-made features beneath the ground surface. The techniques most commonly used by archaeologists include:

- Magnetic survey
- Earth resistance survey
- Electromagnetic survey

The information gathered can help archaeologists locate and map buried archaeological remains, without disturbing them through excavation. Geophysics can also help target excavations more strategically, delivering better value-for-money to clients.

AMS provides the following geophysical services:

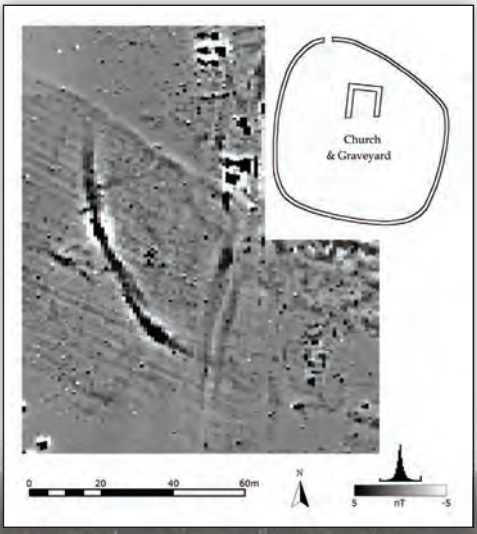
- Magnetic surveys
- Earth resistance surveys
- Expert interpretation of survey results
- Production of high-quality plans and reports

We assess each site individually to determine the most appropriate and cost-effective survey strategy.

Past projects

Ger Dowling of AMS has undertaken geophysical surveys at numerous sites, including:

- Drumanagh, Co. Dublin
- Lambay, Co. Dublin
- Dún Aillinne, Co. Kildare
- Lough Gur, Co. Limerick
- Brugh na Bóinne, Co. Meath
- Hill of Lloyd, Kells, Co. Meath
- Tara, Co. Meath
- Glendalough, Co. Wicklow
- Ferns, Co. Wexford
- Annegray, Haute-Saône, France
- N51 Dunmoe Phase 2 Scheme, Co. Meath



GIS SERVICES

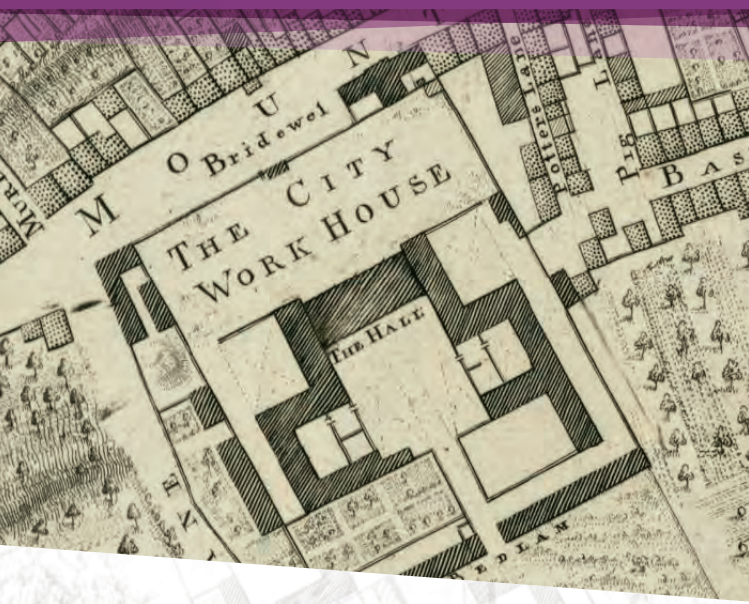
What is GIS?

Geographic Information Systems (or GIS) are computer systems that capture, store, displace and generate geographical information as maps or data. This geographical information takes the form of vector data, raster data or geospatial databases.

GIS allows the archaeologist to digitise and create datasets, generating information that can be shared with other stakeholders as vector data, raster images and maps.

GIS can be used to access and query the large and freely-available heritage datasets from the Irish government, like the Sites and Monuments Record (SMR) and the National Inventory of Architectural Heritage (NIAH). GIS can also be employed with computer-aided design (CAD) technology to view and create vector data relevant to a project or development. It can also be utilised to analyse and model real-world environments for the purpose of identifying or predicting the presence of archaeology.

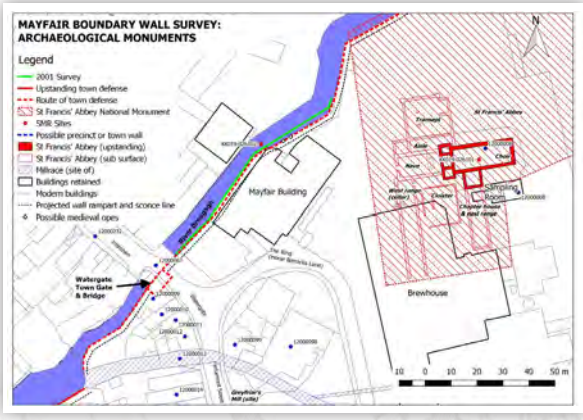
GIS allows the archaeologist to bring together and compare different geographical datasets, created for different purposes, easily and in a cost-effective way, with the



intention of informing archaeological research questions and mitigation strategies.

Archaeologists use many different GIS software packages. Using QGIS (a powerful open-source GIS platform) and other software, AMS employs GIS extensively on projects to view CAD drawings of proposed developments; compare these with previously recorded archaeological sites and monuments records or historical maps; view the product of remote sensing surveys like geophysical surveys, LiDAR or photogrammetry; and to generate maps showing these relationships.

AMS uses maps extensively to share information with clients and statutory authorities, and to illustrate strategy documents, reports and publications.



LiDAR INTERPRETATION SERVICES

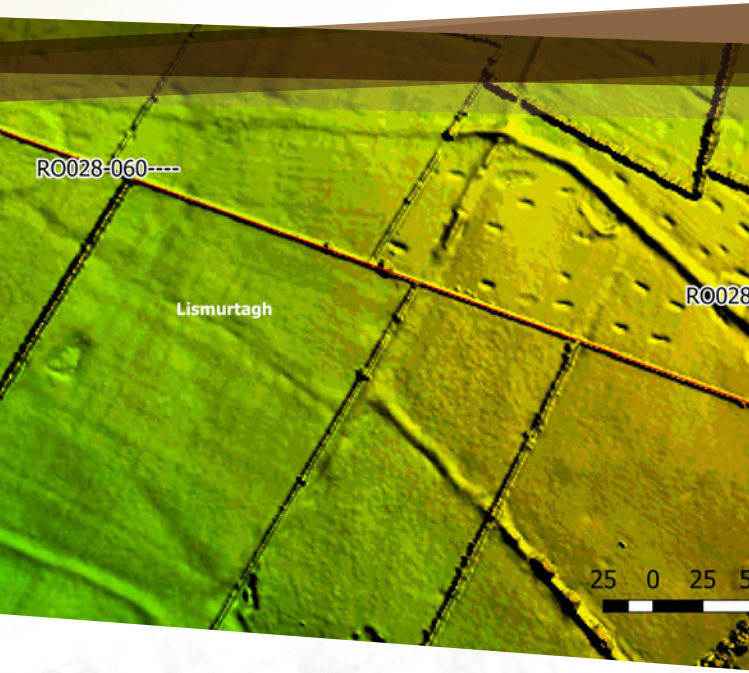
What is LiDAR?

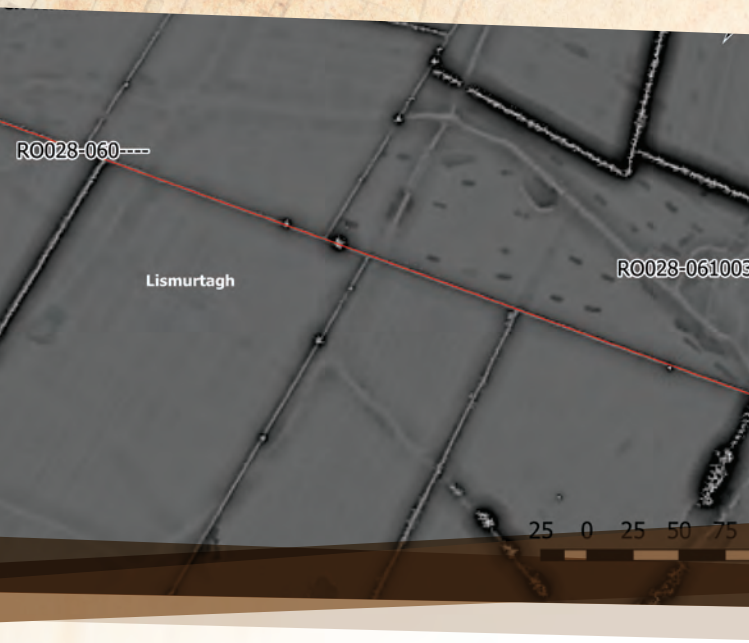
LiDAR (Light Detection and Ranging) is a remote sensing technique used to generate high-resolution 3D models of the ground surface which can help archaeologists identify and record various aspects of the historic environment.

The processed data can be manipulated by a range of techniques and software that can aid in the discovery of low-profile archaeological features, including those hidden beneath woodland canopy.

Some of the main visualisation techniques for LiDAR data include:

- **Analytical hill-shading:** artificial illumination is used to highlight surface changes such as upstanding features (mounds, walls etc.) and sunken features (ditches etc.). Greater illumination can be achieved by calculating analytical hill-shading in multiple directions equally distributed between 0° and 360°.





- **Principal Components Analysis:** a mathematical model that 'summarises' the information of hill-shade models from different directions.
- **Sky-view factor:** measures the portion of the sky visible above a certain point. In this way, flat terrain, ridges and earthworks which receive more illumination are highlighted and appear in light, while depressions appear dark because they receive less illumination.
- **Slope gradient:** represents the maximum rate of change between each data cell and its neighbours and can be calculated either as degree of slope or as percentage of slope. This technique works especially well in combination with hill-shading and also works well on most types of terrain.
- **Openness:** is a proxy for diffuse illumination. Positive Openness is similar to sky-view factor but with a more 'flattened feel', while Negative Openness provides additional information on convex features.

AMS uses the GIS program QGIS to store, manipulate and view LiDAR data. QGIS can be used to compare LiDAR data with other datasets, including CAD plans of developments, historical maps and the Sites and Monuments Record. AMS also employs the software Relief Visualisation Toolbox (RVT) to generate visualisations of LiDAR data, which can then be brought into QGIS for analysis.

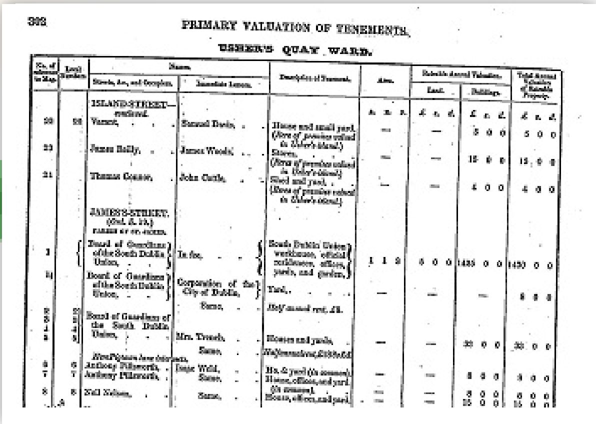
LOCAL HISTORY RESEARCH SERVICES

What is Local History?

Local history sits between national history and family histories/genealogy, and generally deals with the origin and development of local communities. In the context of cultural heritage assessments, local history research aids in the identification and evaluation of heritage values, including archaeological and architectural assets.

Heritage researchers can use a whole range of historical sources, both secondary and primary, to identify these assets and find out more about them. This information can then inform Environmental Impact Assessments, archaeological investigations, mitigation, and dissemination. Secondary sources include local history publications such as books and journal articles, which often deal with places of local interest that may not feature in regional or national histories.

Primary sources cover many different kinds of documents created at the time of an event, such as the letters written during the first Ordnance Survey of Ireland in the first half of the nineteenth century, which can contain information about antiquities that no longer exist or for which local knowledge may have been forgotten.



302 PRIMARY VALUATION OF TENEMENTS.

USHER'S QUAY WARD.

No. and Letters of Reference to Map	Local Numbers	Names: Streets, &c., and Occupiers	Names: Immediate Lessors	Description of Tenement	Area	Rateable Annual Valuation: Land	Rateable Annual Valuation: Buildings	Total Annual Valuation of Rateable Property
		ISLAND-STREET—continued.			A. R. P.	£ s. d.	£ s. d.	£ s. d.
20	20	Vacant,	Samuel Davis,	House and small yard. (Area of premises valued in Usher's Island.)	—	—	5 0 0	5 0 0
22		James Reilly,	James Woods,	Stores. (Area of premises valued in Usher's Island.)	—	—	15 0 0	15 0 0
21		Thomas Connor,	John Curtis,	Shed and yard. (Area of premises valued in Usher's Island.)	—	—	4 0 0	4 0 0
		JAMES'S-STREET. (Ord. S. 18.) PARISH OF ST. JAMES.						
1		Board of Guardians of the South Dublin Union,	In fee,	South Dublin Union workhouse, official residences, offices, yards, and garden,	1 1 2	5 0 0	1425 0 0	1430 0 0
[illegible]		Board of Guardians of the South Dublin Union,	Corporation of the City of Dublin,	Yard,	—	—	—	[illegible]
			Same,	Half annual rent, £[illegible]				
2, 3, 4, 5	2, 3, 4, 5	Board of Guardians of the South Dublin Union,	Mrs. Trench,	Houses and yards,	—	—	30 0 0	30 0 0
			Same,	[illegible]				
		[illegible] lane intersects.						
6	6	Anthony Pilsworth,	Isaac Weld,	Ho. & yard (in common),	—	—	5 0 0	5 0 0
7	7	Anthony Pilsworth,	Same,	House, offices, and yard (in common),				
8	8	Neil Nelson,	Same,	House, offices, and yard,	—	—	5 0 0	5 0 0
					—	—	15 0 0	15 0 0

PUBLICATION AND DISSEMINATION

In collaboration with our clients, we help to raise awareness of new knowledge gained through development-funded investigations. We do this by writing articles for publications such as *Archaeology Ireland* and *Seanda*, and through structured public engagement and outreach programmes using various forms of media, seminars, community consultations, publications, open days and school talks. We also offer report writing and publication services for archaeological contractors, as well as editing and peer review.

QUALITY ASSURANCE

AMS works with clients to facilitate the reduction of risks posed by the presence of cultural heritage: historic buildings, archaeological remains and the historic landscape. We are bound by our commitment and dedication to provide a peerless service that ensures cost-effectiveness, programme certainty and protects our clients' resources at all times.

All reports and plans are subject to our corporate Check, Review and Approve quality-assurance system.

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