

Development and archaeology

a short guide

All too often, archaeology comes as an unwelcome additional cost at a late stage in a project's development. In the following pages we hope to explain why archaeology might be important to you, and how you can deal most effectively with it.

This is a general introduction to archaeology and planning, for those in the development, architectural, building, public utility, and property management professions. For detailed guidance contact your local council's archaeology officer or planning department.

Contents

What has archaeology got to do with my business?

How does the system work? Archaeology and planning permission

How can Archaeological Services help me?

What are they talking about? An archaeological glossary

What has archaeology got to do with my business?

The short answer to this frequently-asked question is ‘PPG 16’. Planning Policy Guidance Note 16, *Archaeology and Planning*, was published by the government in 1990. The policy states that damage to or destruction of archaeological evidence as a result of development work is the responsibility of the developer. So, if your house extension / pipeline / road scheme / new housing project will affect an archaeological site, then minimising the impact of your work is your responsibility.

Who says that my scheme will affect any archaeology?

The local council’s archaeology officer (curator) checks all planning applications for their area every week, and checks development sites against the local Sites and Monuments Record. If there are recorded remains there, or if the development is in a potentially sensitive area, the curator will ask the Planning Committee to put a condition on the planning consent for your scheme. The curator will tell the planners when the condition has been satisfactorily discharged, and they will then grant consent for the work to proceed.

Can I pay someone to dig it all out and clear the way?

There is now a presumption among curatorial archaeologists, both locally and nationally, that archaeological remains are best left in place. This preference for what is called ‘preservation *in situ*’ means that wherever possible the curator will try to have the development adjusted to avoid the deposits. This might mean altering piling or foundation designs or re-locating services. Only where this is impossible will they recommend ‘preservation by record’, which means the full recording and removal of the archaeology.

Is there some way of finding out what’s there without digging?

On many sites, geophysical surveys can be carried out; these can give a fairly detailed picture of what’s below the surface without the need for excavation. Most archaeological contractors sub-contract this work to geophysical specialists. In other cases, especially in towns, a detailed desk study may throw some light on the history of a site before any work on the ground begins.

What is the curator likely to require?

The curator’s specification will depend on what is known to exist at the site and on the scheme of works that is being proposed. Often they will ask for a phased programme, starting with an assessment of the site’s potential. This might be achieved by examination of documents and maps (a desk study), or by site evaluation through geophysical survey, coring or auger survey, or trial trenching. If the results of these produce positive evidence of archaeology, further work will usually be requested. This might involve re-design work on the part of the developer, or larger-scale excavation or recording by the archaeological contractor.

Where development work involves alteration or demolition of buildings, the curator may specify survey work at a variety of levels of detail, and may also require that samples of mortar or other materials are collected and analysed.

In some cases, the curator may simply ask for a watching brief, a programme of monitoring during excavation or building work. Archaeologists will watch each stage of the work and record or sample deposits or features as they are exposed. This is usually the least disruptive form of archaeological intervention.

In specifying work to be carried out, the curator will always demand that off-site post-excavation work is completed. This is the study and analysis of the material found in the excavations; a number of specialists in different fields may be involved in this sort of work. Most archaeological contractors don't employ specialists, so the majority of this work is subcontracted to other organisations or individuals.

The contractor will submit a final report on the investigations to the developer. The curator may require that the results are published in a local or national archaeological journal.

The curator will often provide a list of archaeological contractors who work in their area, but *they will not make any recommendations* to developers, for fear of law suits from unsuccessful bidders.

This is all very well for the archaeologists; what benefits do I get?

For the developer, the chief benefit to be weighed against the cost and delay that archaeological work may cause is the grant of planning permission. In larger projects, a carefully-designed campaign of archaeological investigations, integrated with a development scheme, can be of great benefit in clearing the route ahead of the work, reducing uncertainty about the overall programme, and identifying potential problems at an early stage. This sort of work is carried out by an archaeological consultancy.

Archaeology generates a great deal of public interest, and an excavation or survey project can make an extremely effective public relations opportunity. Where a programme of work runs over a longer period, the developer can benefit from media attention throughout the work. And, though valuable treasures are rather rare, all finds from archaeological work remain the property of the landowner.

What does an archaeological consultant offer?

An archaeological consultant will provide a wide range of advice and services, and act as an intermediary between the developer, the curator and planning authority, and archaeological contractors and specialists.

The consultant should be involved in the early stages of a proposed project, as timely warning of archaeological interest may avoid expensive delays and re-design work later on. The archaeological implications of a proposed scheme will be assessed before a planning application is submitted, and project

designs and specifications will be drawn up where necessary. The consultant will negotiate with the planning authority and the curator over archaeological investigations and mitigation strategies, and can act as an expert witness at public enquiries. The consultant can also act for the developer in the selection and appointment of contractors and specialists, and provide day-to-day management of archaeological projects in the field. They may also advise on the public presentation of the scheme, both during and after work at the site.

How does the system work? Archaeology and planning permission

Each proposal for development at an archaeological site is considered individually by the curator. However, most applications and archaeological conditions follow a standard pattern. Some commonly-applied approaches are described here and overleaf. Many of the terms used below are listed in the glossary at the end.

Where a site is known to exist, a tightly-focused scheme of work will usually be required. In other cases, when the curator suspects that archaeological evidence may survive, a phased scheme will be proposed. This may start with a *desk study* or a small-scale site *evaluation*. The results of this will be considered by the curator and further work will be requested where the results are positive.

The curator will normally supply a detailed *specification* for each phase of work: he / she may also provide a list of contractors, but without making recommendations as to quality or competence. In other cases, the curator may provide an outline *brief* for the work, and ask the developer or their archaeological contractor to submit a project design.

An archaeological consultant can draw up a scheme of work on the developer's behalf before the planning application is submitted. This will be agreed with the curator; the consultant will manage the project on the developer's behalf, and negotiate further work or mitigation measures as necessary. This approach can give the developer a greater degree of control over the application process, and allow archaeological work to be more easily integrated into the project as a whole.

How can Archaeological Services help me?

Archaeological Services Durham University has a unique advantage in being able to offer a truly integrated range of services to its clients. The full range of archaeological work can be provided from a single point of contact, so the costs and delays of sub-contracting are avoided. Many other archaeological contractors make use of our specialist services such as geophysical survey and the Environmental and Conservation Laboratories; Archaeological Services' clients benefit from direct access to these facilities without overhead costs.

Archaeological Services has a proven record of work with industry, and a real awareness of the developer's priorities and objectives. Our flexible workforce and efficient work practices ensure a quick response and rapid turnaround, and our broad experience and strong academic base ensure that work is of proven quality.

consultancy project management
 pre-application advice and impact assessments
 feasibility studies
 desk-based assessment
 design of projects and mitigation strategies
 negotiation with curators and planning authorities
 expert witnessing at public enquiries
 presentation and public relations work

contract services desk-based and field assessment
 topographic survey
 fieldwalking and auger survey
 geophysical survey
 recording and analysis of buildings
 trial and area excavation
 environmental sampling
 site monitoring schemes

specialist services analysis of environmental samples
 specialist examination of materials
 technical illustration and scientific imaging
 conservation
 scientific dating

public relations on- and off-site interpretation
 web-page preparation
 media contacts and presentations

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What do they mean? An archaeological glossary

These terms are commonly found in briefs and specifications for archaeological work. Terms in *italics* appear elsewhere in the glossary.

AP site	An archaeological site known from aerial photographs. These sites may be soil marks or <i>cropmarks</i> that are only visible from the air..
AP rectification	The creation of plans from oblique air photographs. This is usually done through computer programmes such as Airphoto.
Archiving	All of the finds, drawings, photographs, and records from an archaeological investigation form the site archive. Archiving is a shorthand term for the preparation, packaging, and transfer of this material to the appropriate museum for long-term storage.
Assessment	A programme of work designed to determine what archaeological resources exist at a particular site. May consist of a <i>desk study</i> , or limited site work such as <i>geophysical survey</i> , <i>trial trenching</i> or <i>auger survey</i> , or a combination of these and other methods. See also <i>post-excavation assessment</i> .
Auger survey	The collection of soil samples by means of a hollow or screw auger. Used to determine the depth and nature of deposits below the surface.
Brief	A framework for an archaeological project, provided by or agreed with a <i>curator</i> . The term is sometimes used in the same sense as <i>specification</i> .
Building survey	The recording and analysis of standing buildings, both ruined and still in use. The level of detail recorded will vary according to circumstances.
CBA	Council for British Archaeology. An independent charity, based in York, that works to advance the study and practice of archaeology in Britain. The CBA website is a useful source of information about curators and contractors: http://www.britarch.ac.uk .
Conservation	The stabilisation and treatment of buried materials and <i>finds</i> to prevent corrosion and decay after excavation.
Consultant	An archaeologist who provides advice and guidance to developers and landowners. The consultant liaises with <i>curators</i> and arranges and regulates work by <i>contractors</i> .
Context	The basic unit of an archaeological site; this might be a layer of soil, a posthole, or a wall. Contexts are numbered, described, and recorded in detail during excavation; during post-excavation, the data from each is combined in a <i>matrix</i> that summarises the development of the site.
Contractor	An archaeologist who carries out fieldwork for clients on a commercial basis. The term 'contractor' covers everything from individuals working from home to large companies with offices in the UK and abroad.
Coring	Extraction of samples from buried soil layers or from peat deposits.
County / district / council archaeologist	The local authority officer who acts as the <i>curator</i> for a county or district. Usually works with an <i>SMR</i> officer, and sometimes with a <i>conservation officer</i> . Some offer contract services as well as carrying out curatorial work: however, questions about conflicts of interest and the subsidisation of contract work mean that this is increasingly rare.
Cropmark site	An AP site that is visible as parch marks in grassland or lines of differential growth in arable crops.
Curator	A person or body, such as a county archaeologist or English Heritage, responsible for the care of the archaeological heritage of an area. The curator may specify work to be carried out in connection with development, commission research work, and make recommendations to local and national government. The curator should also monitor the standard of work done.

Desk study	A rapid <i>assessment</i> based on evidence gathered from documents, maps, and other sources, to investigate a particular site or area.
Earthwork survey	<i>Topographic survey</i> of standing archaeological remains. The survey may be carried out by hand or by electronic survey methods, and the results may be shown as contour or hachured plans.
English Heritage	A national parliament-mandated body charged with the protection of the English historic environment. The work of English Heritage includes the conservation and presentation of sites, the formulation of policy and the setting of standards, and the commissioning of archaeological research work. English Heritage now incorporates the former Royal Commission on the Historic Monuments of England (RCHME).
Environmental work	A shorthand term for examination of archaeological evidence of plants and animals. This includes topics such as pollen analysis, animal and fish bone studies, and the examination of plant material and seeds. Much environmental work relies on the extraction of material from soil samples by sieving.
Evaluation	A small-scale excavation or survey project designed to determine the nature and quantity of archaeological evidence at a particular site. The term is sometimes used in the same way as <i>assessment</i> .
Excavation, area	Shorthand term for the full excavation of areas of interest.
Excavation, trial	see <i>trial trenching</i>
Faculty	Permission under Church law for the disturbance or removal of human remains buried on consecrated ground. The law concerning bodies buried on Church land is complex, and so specialist advice should always be sought. Outside consecrated areas, a <i>Home Office licence</i> is required.
Field survey	See <i>earthwork survey</i> .
Fieldwalking	Systematic collection of <i>finds</i> from the surface of ploughed fields. The locations of finds collected in this way are recorded, and the resulting plots of scatters may help to pinpoint past activities.
Finds	All material found during monitoring and excavation. <i>Bulk finds</i> are those materials most commonly recovered, such as pottery and animal bone; more unusual objects are recorded as <i>small finds</i> . All finds are the property of the landowner unless they are assigned to others by a private agreement, or declared Treasure Trove by a coroner.
Geochemical work	Analysis of soil samples collected from sites, for the recovery of evidence of past land use, etc.
Geomagnetic survey	A <i>geophysical</i> technique which uses a very sensitive instrument to detect variations in the magnetic susceptibility of the soil. Also called magnetometer or gradiometer survey. This rapid survey method is useful for the detection of buried features such as ditches, pits, and hearths, as well as foundations, tracks and other surfaces.
Geophysical survey	A general term for non-invasive methods that can allow sub-surface features to be recorded without any ground disturbance. The main techniques are <i>geomagnetic</i> , <i>resistivity</i> , <i>magnetic susceptibility</i> , and more rarely <i>ground-penetrating radar</i> surveys. All require specialist equipment for the collection and processing of the data, and expert analysis of the results. <i>Metal detectors</i> are also used in these surveys.
Ground-penetrating radar	A <i>geophysical</i> technique chiefly used for detecting voids or buried structures. GPR is often inappropriate for British soils, and is usually more expensive than other techniques.
Guardianship	The highest level of protection is afforded to archaeological sites when they are taken into the guardianship of the state. Sites of this kind are managed by <i>English Heritage</i> .
Home Office licence	Permission for the removal or disturbance of human remains. Interference with remains without this licence is a criminal offence under section 25 of the Burials Act 1857. Also called a <i>Section 25 licence</i> .

	Different rules apply on Church land: see <i>faculty</i> .
IFA	Institute of Field Archaeologists, the professional body for British archaeologists. The IFA has published a Standard and Guidance document for most aspects of archaeological work.
Interpretation	Explanation and illustration of the results of archaeological work for the general public. The term is used to cover notices erected at sites during work, leaflets and general publications, permanent display panels, as well as other means of disseminating information such as media interviews and public talks.
Listed building	A structure that has statutory protection under the Listed Buildings and Conservation Areas Act 1990. Work at these sites requires special permission called Listed Building Consent.
Magnetic susceptibility	A rapid <i>geophysical</i> technique that can provide evidence of archaeological activity over large areas. Not suitable for the detailed recording of structures or other small-scale features.
MAP 2	Management of Archaeological Projects , 1991, published by English Heritage. This document sets out standards to which archaeological reports and archives should be prepared.
Matrix	A diagrammatic means of representing the development of an archaeological site. Matrices link each element (or <i>context</i>) in a diagram that can also indicate the phases of use, etc. Though they are used only as a tool in <i>post-excavation</i> analysis, project specifications often require that matrices are presented in project <i>reports</i> .
Metal detectors	Hand-held instruments used for the detection of near-surface metal objects. Used in archaeological work for pinpointing finds within excavation areas and for the recovery of objects from machine spoil, or for rapid survey before trial trenching.
Mitigation strategy	A scheme designed to limit or avoid the damage that might be caused to archaeological deposits by development work. Such schemes might entail re-design work, such as the replacement of strip foundations with a shallower floor slab; or they might propose that the archaeological data is preserved by record, through excavation in advance of building.
NMR	National Monuments Record. The public archive of <i>English Heritage</i> , based in Swindon. The NMR houses vast collections of air photographs, listed building descriptions, and other data, on England and its territorial waters. Project specifications from <i>curators</i> often ask that a copy of the <i>final report</i> on a project be submitted to the NMR.
Photogrammetry	A photographic recording technique chiefly used for buildings. Stereo images are obtained from overlapping pairs of very precisely-aligned photographs. This is a highly accurate technique, but it requires specialist equipment; it is more expensive than other recording methods.
Post-excavation work	The analysis and <i>specialist</i> examination of the material and information recovered from an excavation; also covers <i>report</i> preparation, <i>archiving</i> , and publication.
Post-excavation assessment	Assessment of finds and environmental material recovered from excavation, often on the basis of examination of sub-samples. This is undertaken to assess the importance of the material, and to allow the cost of full analysis and publication to be calculated.
PPG	<i>Planning Policy Guidance Notes</i> . These are central government documents which set out policy on different topics. Archaeology is covered by PPG 16, Archaeology and Planning , PPG 15, Planning and the Historic Environment , and PPG 20, Coastal Planning .
Recording, site	Because excavation is a destructive technique, each element of the site must be recorded as work progresses. The term includes the completion of <i>context</i> records and data sheets for <i>finds</i> and samples: it also covers site drawings, electronic and hand surveys, photographs and videos, and

	other paper records.
Rectified photography	A <i>building survey</i> method, based on medium- or large-format photographs taken from a square-on position to walls and other features. The photographs can then be printed to a specified scale, or be used as the basis for hand or CAD drawings. The method is quicker than hand survey, but requires specialist equipment for the best results, and so it is fairly expensive.
Report, assessment	A report on an assessment exercise, summarising what has been found and assessing the potential of the wider area. The assessment report may recommend further work on a larger scale, or conclude that no further work is required, or suggest an intermediate course.
Report, final	The full report on a programme of archaeological work. This will contain the full version of any <i>specialist</i> contributions, complete <i>environmental</i> reports, together with discussion and conclusions. As the report is the definitive record of the project, a copy is usually deposited with the <i>SMR</i> and the <i>NMR</i> .
Resistivity survey	A <i>geophysical</i> technique that measures changes in the electrical resistance of the soil. The method is slower than <i>geomagnetic survey</i> , but reveals the same sorts of features.
Sampling, environmental	Collection of bulk soil samples from <i>contexts</i> during excavation. These are usually sieved for the extraction of plant and animal remains.
Sampling strategy	A means of collecting information from large areas. A defined percentage of the site is examined in small areas scattered all over the site. May be used for <i>geochemical</i> work, <i>shovel-pitting</i> , <i>trial trenching</i> , or other investigations.
Scheduled / SAM	A scheduled ancient monument, or SAM, is a site that is protected by inclusion on a list (the Schedule) of monuments covered by the Ancient Monuments and Archaeological Areas Act 1979. Special permission (scheduled monument consent, or SMC) is required for any work on a scheduled site.
Section 25 licence	See <i>Home Office licence</i> .
Shovel-pitting	A <i>sampling</i> method used in pasture or uncultivated land, where <i>fieldwalking</i> cannot be carried out. Small holes are dug to the base of the topsoil, and the soil is sieved for the collection of artefacts.
SMR	Sites and Monuments Record. A computer or paper record of all known sites, monuments, and finds in a particular area. The record is maintained for a particular area by the county, district, borough, city, or National Park authority. Copies of <i>assessment</i> and <i>final reports</i> are sent to the appropriate SMR at the end of any piece of archaeological work. SMRs are public records, but charges may be made for consultation or copying of information in them.
Specialists	Shorthand term for archaeologists, conservators, scientists, and others who contribute to the process of archaeological research and analysis. Pottery and animal bone studies, pathological examination of human skeletons, and scientific dating work are all examples of specialist rôles.
Specification	The detailed statement of work required by or agreed with a <i>curator</i> .
Topographic survey	Production of detailed land surveys of areas of archaeological interest.
Trial trenching	The excavation of small areas, designed to collect information about the nature and development of the site. Trial trenching is usually requested as part of a site <i>evaluation</i> project. Sometimes called test-pitting.
Walk-over survey	Recording of features at a site without detailed <i>topographic survey</i> or excavation. Often used for initial reconnaissance of extensive sites, to highlight areas for more detailed work.
Watching brief	Monitoring by an archaeologist during building or excavation work. Evidence or features are recorded as work progresses.

